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# Analysis of the Function and Structure of the Ministry of Agriculture, Natural Resources and Environment (MANRE) of the Republic of Cyprus

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## Acronyms

AIO	Agricultural Insurance Organization
ANRE	Agriculture, Natural Resources and Environment
AKIS	Agricultural Knowledge and Information System
ALFCS	Analytical Laboratory and Feed Control Section
ARI	Agricultural Research Institute
ARD	Agriculture and Rural Development
BIP	Border Inspection Post
CAP	Common Agricultural Policy
CAPO	Cyprus Agricultural Payments Organization
CFP	Common Fisheries Policy
CLLD	Community Led Local Development
CMO	Common Market Organization
CNDP	Complementary National Direct Payments
CRM	Cyprus Rural Museum
CUT	Cyprus University of Technology
CYBC	Cyprus Broadcasting Corporation
DFMR	Department of Fisheries and Marine Research
DG	Directorate General
DG/EPCD	Directorate General for European Programs, Coordination and Development
DMPHS	Department of Medical and Public Health Services
DLI	Department of Labor Inspection
DoA	Department of Agriculture
DoE	Department of Environment
DoF	Forestry Department
DTPH	Department of Town Planning and Housing
EAGF	European Agricultural Guarantee Fund
EAFRD	European Agricultural Fund for Rural Development
EC	European Commission
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EMAS	Eco-Management and Audit Scheme
EMMF	European Maritime and Fisheries Fund
EMSA	European Maritime Safety Agency
ENRD	European Network for Rural Development
ERDF	European Regional Development Fund
ETS	Emissions Trading System
EU	European Union
EUR	Euro
FADN	Farm Accountancy Data Network

FAO	Food and Agriculture Organization
FAS	Farm Advisory Services
FG	Focus Group (of the Leader subcommittee)
FP7	Framework Program Seven
FVO	Food and Veterinary Office
FYROM	Former Yugoslav Republic of Macedonia
GFS	Game Fund Service
GHG	Greenhouse Gas Emissions
GIS	Geographic Information System
GMO	Genetically Modified Organisms
GSD	Geological Survey Department
HRM	Human Resource Management
IA	Internal Audit
IACS	Integrated Administration and Control System
I(C)T	Information (and Communication) Technology
IPPC	Integrated Pollution Prevention and Control
IS	Interchangeable Staff
LAGs	Local Action Groups
LAH	Laboratory for Animal Health
LCFAO	Laboratory for the Control of Foods of Animal Origin
LDS	Local Development Strategy
LEADER	Liaison Entre Actions de Développement de l'Economie Rurale
LFA	Laboratory for Formulation Analysis
LPIS	Land Parcel Identification System
LsC	Leader subcommittee
MA	Managing Authority
MANRE	Ministry of Agriculture, Natural Resources and Environment
MECIT	Ministry of Energy, Commerce, Industry and Tourism
MoI	Ministry of Interior
MET	Meteorological Service
MLSI	Ministry of Labor and Social Insurance
MS	Member States
NRDP	National Rural Development Program
NRN	National Rural Network
NSP	National Strategic Plan
OECD	Organization for Economic Cooperation and Development
OP	Operational Program
PAPD	Public Administration and Personnel Department
PPL	Plant Protection Laboratory
PPP	Plant Protection Product
PPS	Plant Protection Section

PRL	Pesticide Residue Laboratory
PS	Permanent Secretary
RAS	Reimbursable Advisory Services
SCA	Special Committee on Agriculture
SCI	Sites of Community Importance
SEA	Strategic Environmental Assessment
SGL	State General Laboratory
SPA	Special Protection Areas
TA	Technical Assistance
TEC	Technical Evaluation Committee
UWWTD	Urban Wastewater Treatment Directive
VMPS	Veterinary Medicinal Products Section
VMS	Vessel Monitoring System
VS	Veterinary Services
WDD	Water Development Department
WFD	Water Framework Directive
WHO	World Health Organization
WMO	World Meteorological Organization
WPC	Wine Products Council
WWTP	Waste Water Treatment Plant

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## Executive Summary

1. **The agriculture, natural resources and environment (ANRE) sector has the highest “EU exposure” of all**, as MANRE is responsible for managing and delivering the most sizable portion of the European Union (EU) acquis and EU co-funded programs. It nationally implements about 50% of the European body of law that comes under the European policies for agriculture, fisheries and food. In addition, through approximately 120 legal instruments, it implements a very substantial part of the complex and diverse legislation under the European environmental policy, which also covers water and other natural resources.
2. **The ANRE sector is characterized by great institutional concentration but complex interfaces.** While this is largely the result of historic reasons juxtaposed with the limitations that the Cypriot Constitution imposes, it is a less common institutional model in Europe. Very few European administrations consolidate agriculture, food, rural development, environment and natural resources under a single institutional roof. Many of them have several ministries sharing this portfolio, very often supported by a number of (independent and) specialized agencies. Although the current setup presents some advantages, particularly in a small country (e.g. improved policy coordination and smaller administrative costs), Cyprus has not fully capitalized on them. The functional review reveals a need for introducing strategic coordination and planning at ANRE policy level (currently missing), but also a need for streamlining or revisiting the allocation of various policy areas and functions across the ANRE administration and in articulation with other ministries (e.g. Ministry of Interior, Ministry of Commerce).
3. **The outcomes across the ANRE sector fall within a wide range.** While some of the policy areas or functions are delivered with good results by European benchmarks (e.g. veterinary services), others will require strengthened focus on both strategic and institutional levels. For instance, Cyprus needs to continue strengthening its focus on environment in order to effectively comply with the numerous requirements in this very demanding field. The environmental policy has been steadily gaining prominence at the global and European level. In the last decade, EU accession has been instrumental in elevating environmental issues as a priority on the political agenda of Cyprus. However, the policy implementation is (still) excessively fragmented and under-staffed, while Cyprus is already facing a number of infringement cases, particularly in the sectors of waste management and nature protection (7 out of a total of 43 open infringement cases in 2012, 14 at the end of 2013).

### *Horizontal issues*

4. **The Cyprus administration - MANRE and overall - benefits from strong human capital, consisting of experts that are highly educated and skilled, and have acquired a high level of competence in their respective fields.** They represent an important strength on which Cyprus can continue building during the civil service reform process, provided that some rigidities, particularly in regard to staff mobility and performance assessment are removed. The human resource management (HRM) policies are treated horizontally and will not be further developed in the sector analysis. However, some aspects regarding staffing issues pertaining to the functioning of the Ministry of Agriculture, Natural Resources and Environment (MANRE) departments/structures are included in the present report.
5. **MANRE has capitalized on the opportunities created by the EU accession, and has competently addressed many of its EU membership obligations.** Cyprus has increasingly made use of the EU funding instruments, and has, to some extent, changed its policy and institutional framework to better approximate the respective management structures in other EU Member States. Environmental issues, for instance, were elevated as a priority on the political agenda, while the environmental institutional regime has gained some momentum after EU accession. Nevertheless, more remains to be

done, as evidenced, for instance, by the challenges in meeting some of the key environmental *acquis* obligations. The small size of the country, together with a simple organizational structure in two levels of government (central and local) present opportunities to effectively address gaps that exist.

6. **Cyprus has already embarked on a path of strengthening its strategic planning capacity and budgetary processes.** Just as the rest of the administration, MANRE has been challenged with a deficient strategic planning capacity. As a result, policy formulation has been taking place mainly at department level, leaving room for improved coordination between policy areas (inside and outside of MANRE) and for better coordination and representation in the EU policy fora. As the Government has already committed to introducing strategic planning and program budgeting across the administration, the current review focuses primarily on the institutional and functional adjustments that MANRE may want to consider for implementing these processes. It lays out options for strengthening the capacity of the central level in MANRE (staff and skills) to better manage strategic planning, policy formulation and EU representation. Routes to consider include a clearer division between technical and administrative functions on the central level, strengthening an EU/international relations unit, and setting up a strategic planning unit.

7. **In addition, and in connection to the strategic function, more emphasis will need to be put on using (economic) analysis to inform policy decisions.** Until now, there was limited evidence that analytical tools are used to establish policy priorities in agriculture, natural resources or environment, or to evaluate policy impacts. While such instruments are increasingly required for the EU co-financed policies (e.g. in the case of rural development), consideration could be given to extending them over other policy areas and programs as well.

8. **The MANRE Administration needs to undertake a stronger role in policy formulation and coordination, as well as in strategic planning.** In its current setting, the MANRE Administration is understaffed, while individual responsibilities are diffuse. It serves mainly as a liaison between the technical departments and the Minister. The departments are in charge with preparing, implementing and overseeing most aspects regarding the public policies and services in their respective areas of competence. The central administration, in turn, is responsible primarily for providing policy and political leadership and coordination for all areas falling under the ministry's mandate, while also fulfilling a high level EU representation function.

9. In the future, the MANRE administration could benefit from strengthening its policy coordination function through, for instance, the introduction of (two) Director posts for agriculture, natural resources and environment, who could also be supported by dedicated EU affairs units for the interface with Brussels. These Directors could coordinate the work of the line departments and play a more substantial role in advising and supporting top level management in strategic steering.

10. Setting up a distinctive unit – *Horizontal Strategic Planning and Coordination* – in charge with most administrative and clerical matters would further allow for a more effective delineation of functions at this level. This structure could also take up the coordination of strategic planning in MANRE (in line with the horizontal approach at the Government level), thus additionally helping strengthen the Administration in performing its general functions.

### ***Sector-specific issues: highlights***

11. **Agriculture and rural development (ARD).** The ARD policy is delivered through a complex institutional structure, which, at times, threatens the integrity and the effectiveness of the policy. MANRE would benefit from more closely aligning its institutional structure to the European Common Agricultural Policy (CAP) elements.

12. *Stronger leadership in rural development, particularly through integration of competencies in agri-food processing, marketing and trade:* In particular, MANRE needs to be empowered to take stronger leadership in the formulation and delivery of the rural development policy, especially with a view to enabling better agri-food chain integration, through a transfer of competence on agri-food processing, marketing and trade from the Ministry of Energy, Commerce, Industry and Tourism (MECIT). This increased role in rural development could also be reflected in a revised name of the Ministry.

13. *Better integration of the agricultural knowledge and information system, through revamping of the Agricultural Research Institute (ARI) and closer cooperation with the extension services:* This can be envisaged through:

- Revisiting the mandate of ARI, to better align it with the contemporary ARD sector vision and priorities;
- Reengineering research priority setting and interface with MANRE, particularly through a revised role and operation of the Agricultural Research and Development Board;
- In the medium term, rethinking access to funding and accountability for research results, but not before addressing some shortcomings first. The latter include the legal framework on public-private partnerships and securing counterpart financing in research projects;
- Strengthening links with extension, possibly through an effective use of the new European innovation partnerships that can be funded from the second pillar of the Common Agricultural Policy;
- Reviewing the organizational structure of ARI, to allow for multi-disciplinary research teams, and hence for a flexible and problem-solving oriented organization. In this context, the role of ARI in economic research needs to be carefully weighed and its responsibilities with regard to the management of the Farm Accountancy Data Network (FADN) consequently revisited.

14. *Comprehensive approach to risk management in agriculture, while streamlining implementation structures:* The Agricultural Insurance Organization (AIO) needs to be reconsidered in light of the increased challenges Cypriot agriculture is facing due to climate change, but also in view of the new risk management tools that are available under the CAP 2014-20. With regard to its mandate, the agricultural insurance system needs to expand beyond its traditional role, and cover agricultural risk management in a broader sense. With regard to its organizational structure, important gains are expected to result from better integrating policy formulation with MANRE, while control, payment and execution functions can be undertaken by the Cyprus Agricultural Payments Organization (CAPO) and the District Offices (DOs), respectively. Also, the extension services in MANRE can play a greater role in advising farmers with regard to adopting better risk management actions and decisions.

15. *Better interface with MANRE and leaner payment delivery structures:* Furthermore, while CAPO is performing its functions in line with the EU requirements, there are avenues that can be explored for increased efficiency and effectiveness. Thus, recalling the delegation of many support schemes to the currently 6 delegated bodies would allow for an overall reduction of the administrative costs associated with the delivery of ARD supports. Furthermore, rethinking CAPO's current autonomy – while preserving its functional independence as regards payments, as per EU requirements – is necessary, particularly in light of the simplified delivery mechanisms for the CAP 2014-20. Reporting procedures can thus be changed to be done exclusively through MANRE (inclusively as regards representation in the EU fora), which is consistent with an executive role that a paying agency is supposed to play. This would result in an improved interface with the Minister of ANRE, as the Competent Authority for CAP payments as well as in a better use of the human capital. There are additional gains that can be achieved, in the long term, by further bringing AIO, CAPO and DoA district offices under one roof. A

reorganization of the district offices could be a subsequent reform step, following realignment of the inter-agency and inter-department functions at central level.

16. *Reorganization of the laboratory system:* similarly, there are potential gains in pursuing a deeper reorganization of the phytosanitary, veterinary and food safety institutions and structures (including laboratories), which are currently scattered across various institutional structures. In the short/medium term, and before a comprehensive analysis of the laboratory system could be carried out, some quick wins are possible. A principle to consider would be to further group together laboratories that are using the same or similar technologies for testing, even if the tests are done for different objectives (e.g. ALFCS and LFA). Beyond food safety, a future review could also include the laboratories testing water, because some synergies are possible in areas such as pesticide residues or heavy metals. Further emphasis could be given to the private laboratories and their possible involvement in the food control system.

17. *Streamlining functions and structures in the fisheries and marine research policy area, through:*

- Introducing the possibility for inspectors to work on a shift/ special hours system, so that they can carry out meaningful and effective inspections/controls during regular fishing hours;
- Strengthening the District Offices following a more detailed assessment;
- Outsourcing some of the regulatory functions to assist in expanding capacity, through e.g. better distinguishing between monitoring/ information gathering and control activities, as the former are more amenable to being contracted out;
- Extending the professionals licensing cycles to e.g. 5 years, instead of the current yearly application process, which would contribute to easing the pressures on staff, and also to reducing the administrative burdens and the uncertainties for fishermen, who might need a longer term perspective;
- Re-assessing the system in place for oil pollution prevention and control at oil rigs, the EEZ, the territorial waters and the coastal zone.

18. **Environment.** The process to come in line with the EU *acquis communautaire* has led to the strengthening of environmental policies and legislation. The environmental management system, however, is found deficient when compared with all other, relatively small administrations in other member states. With environmental policy gaining much deserved prominence at the European level, Cyprus needs to continue strengthening this function, in order to effectively comply with the numerous requirements in this very demanding field, a field where Cyprus and many other new member states have been found lacking behind. In response to these challenges, several lines of reform can be envisaged:

19. *Pursuing consolidation/reorganization of functions:* This can be envisaged by further consolidating, under MANRE's Department of Environment (DoE), some major environment- specific competencies that are currently under the authority of other Ministries. The proposal is to consolidate the main environment- specific functions under the environment Ministry, by transferring to the DoE responsibilities of the Ministry of Interior for the regulation of some domestic and inert waste streams and of the Department of Labor Inspection regarding air emissions control and air quality. Also, it is recommended to move to MANRE the umbrella under which the Game Fund currently operates, subsequently streamlining some of its functions relating to nature protection with those of the Departments of Environment and Forests. Acting along these lines would lead to: a less fragmented, more coherent institutional set up; better integration and implementation of environment policy; avoidance of competence disputes and of conflicts of interest; reduced administrative burden; better economies of scale and the reaching of a critical mass of personnel; stronger and unified control; prevention of double permitting/ inspection.

20. *Strengthening integration and coordination.* The functional review recommends to: establish a Council for sustainable development and the environment; form an inter- ministerial Environment

Committee; make use of strategic planning and green budgeting; streamline the Environment Commissioner's role; and agree on a commonly- shared goal for a structured, gradual, shift to a decentralized system of enforcement. Such measures are expected to enhance the strategic function of MANRE in environmental policy formulation and integration; improve problem- solving and coordination; lead to better coherence and synergies between policies; enshrine environmental issues in high-level national strategic planning; allow the overseeing of implementation and assessing the impact of policies and the relevant performance of agencies; ensure follow-up of commitments; prevent overlaps; and lead to a better vertical distribution of responsibilities in the framework of multi- level governance.

21. *Strengthening the capacity and organizational set-up of MANRE's central administration to undertake high-level environmental policy-making and coordination*, including with respect to EU matters, can help elevate environmental policy-making and align it better with the requirements of the EU environmental acquis and the experience of other EU Member States.

22. *Strengthening and re- organizing the Department of the Environment*: The necessity to address the agency's level of staffing has been established, with the fulfillment of such additional requirements suggested to be effected from the filling up of vacant posts, the transfer of posts from Labor Inspection, the transfer of the posts of staff seconded and of additional staff to be seconded. It is also proposed to differentiate between permitting and inspection and establish a division of inspection; diversify the qualifications required for appointment at the DoE; and build up skills. These measures aim to: enhance the capacity of DoE to deliver by ensuring convergence between the range and complexity of functions and staff numbers; lead to better enforcement; remove bottlenecks to the issue of planning permits and to government projects; ensure a clear mandate and the necessary resources to better respond to the obligations of the EU acquis communautaire; and allow for preventive action to be undertaken and the improvement of the quality of the environment.

23. *Improving policies and processes, through Good Governance and Smart Regulation*: A further line of reform options to pursue concerns the set-up for permitting and inspections, while addressing possible overlaps with other departments and ministries and introducing good governance and smart regulation measures, such as integrating the numerous environment permits, committees and environmental assessment, better enforcement measures, the use of market based instruments, etc. It is recommended to: reconsider the decision-making arrangements put in place, particularly: the interface of numerous permits issued, with the aim to simplify and consolidate them (reduce by half) and the role and composition of various committees, aiming at their reduction in number and to a more flexible membership; introduce tools for the impact assessment of policies and laws; prepare an enforcement program of permitting and inspection; adopt a Regulators' Compliance Code; etc. These actions would, inter alia, allow for better informed decisions; lead to better collaboration arrangements; ensure more transparency; lead to cost- savings through the efficient use of staff time; improve the enforcement of laws and the efficiency and effectiveness of regulation; and reduce the regulatory burden on those regulated.

24. **Forestry**. The Forestry Department of MANRE (DoF) is responsible for formulating and implementing the forest management policy and programs in Cyprus. One of its main responsibilities is fighting fires in forests and in a 2 km buffer zone outside them. The importance of fighting forest-fires is reflected by one third's of the department's budget and by the vast number of allocated staff. But, fighting fires involve many players within Cyprus and the competent authorities depend on the territory of the fire. Considering the number of fires, policy changes that focus more on fire prevention should be explored. This could be complemented by making better use of existing observatory structures, simplifying procedures for patrolling and fire response and also redefining the territorial jurisdiction over firefighting in the rural areas. Other issues to explore include the jurisdiction and allocation of some functions in nature protection in forest areas as regards the interfaces with the Game Fund, as a range of the SOE's responsibilities is exercised in the forests. Since the function of roadside plantations has been restricted to maintenance in recent years, the partial transfer of this function to the municipalities could

reduce the pressure on the department's budget. Finally, GIS/ remote sensing have suffered from fragmentation, therefore, options for consolidation or even transfer to the MoI should be considered, to prevent duplication and improve efficiency.

25. **Water.** *The water sector in Cyprus faces key scarcity and quality challenges that are reinforced by weak enforcement of existing policies.* Climate change will further exacerbate these challenges. This report recommends vigorous enforcement of the registration and licensing of all boreholes. This will also make the raw water pricing instrument more effective, since water pumped outside the registered and licensed system is not subject to a charge.

26. *Government may subsidize water supply in small communities, but the system should be made transparent.* Currently, many communities do not pay for their raw water; Enforcement of tap water quality regulation is not stringent and many small communities supply that is not in compliance with tap water quality norms; often the capital expenditure for infrastructure is paid by the State (WDD) and the infrastructure is provided for free. The total costs of the subsidies are not known and the incentives are wrong in terms of quantity of use and quality of supply. This can be changed through introduction of a transparent system, for example a service obligation with a population based compensation to providers that supply small or remote communities

27. *The Water Development Department (WDD) is responsible for water resources management and water resource quantity and bulk water supply.* While, traditionally, the WDD has been construction-oriented, today's challenges lie primarily in integrated water resources management, including water allocation and trade-offs between alternative uses, appropriate pricing, control of groundwater abstraction, etc. In order to meet today's challenge, the WDD will have to focus on its core responsibilities and to stream-line its organizational chart in line with this.

28. The WDD should retract from operation and maintenance of small water supply systems and their networks as well as from design and operation of wastewater treatment plans. Today, WDD de facto compensates for the lack of capacity of (smaller) municipalities and communities. These responsibilities are more efficiently carried out by regional water boards and regional sewage boards, building on the existing water and sewage boards. This would lead to a situation where the WDD is responsible only for operation and maintenance of the backbone bulk water supply infrastructure up to the entry to the water treatment plant/ storage in small systems with no water treatment plant.

29. *Regional Water Boards and Regional Sewerage Boards are generally well functioning and can take on added responsibilities in terms of area covered.* The study recommends a process of transfer of responsibilities for water supply and sanitation services to regional boards. A voluntary process is considered, but judged to not be feasible. The study therefore recommends a mandatory process supported by extensive consultation and mediation where necessary.

30. In each case this process involves specific issues related to asset transfers, addressing local concerns about service levels and costs etc. However, if the implicit subsidies referred to above are removed, the economic incentives for consumers in most municipalities would be clear – it would be beneficial to link to a regional board. This argument holds, a fortiori, in cases where it is necessary to operate a complex wastewater treatment plant, as it will be in a large number of agglomerations in order to meet the legislative requirements. Legally, these plants should have been established before the end of 2012, but many are still in different stages of preparation and construction.

31. *In a five year perspective WDD should retract from responsibilities for retail sales of water to farmers,* Today, WDD sells water to individual farmers. The system generally works to the satisfaction of farmers. However, it is highly unusual for a central government department to sell water to individual farmers and it involves a large number of staff and non-transparent subsidies. Recognizing that establishment of farmer water user associations is a complex process with many opportunities for failure,

the report recommends to set a five year deadline, which would allow for detailed preparation and possibly testing of alternative models..

32. *When the recommendations have been implemented the required number of posts in WDD, mainly hourly paid employees, will be considerably reduced.* In fact, the report notes that for hourly paid employees (HPEs), there already today seems to be a surplus of employees as the result of tasks that are no longer carried out.

33. *The proposed more clear division of functions should be complemented by a systematic, transparent and independent regulation of the sector.* Today, regulation of the sector is “work in progress” and, where regulation takes place, it is to a large extent the responsibility of WDD. In most other EU member states an independent regulatory function has been established. This is also true for member states (or territories) where water supply and sanitation services are largely provided by the public sector such as Denmark, Bulgaria and Scotland.

# Background

## Objectives

34. **The Reimbursable Advisory Services (RAS) provide a technical assessment of selected functions, organization and operation in the areas of education, health, agriculture and human resource management/salaries regime in the public sector** to assist the Government of Cyprus to: (i) identify structural reforms in the above sectors and areas that will be undertaken over the medium term to improve budget resources allocation, human resources management, general performance and service delivery, (ii) propose a road map with reform options, and (iii) suggest change management strategies to facilitate the implementation of proposed reforms with the objective of making a more effective and efficient use of public resources, and to improve the coverage and quality in the provision of services delivered to the citizens.

35. **The objective of the Agriculture, Environment and Natural Resources Sector Review is to discuss and propose a layout for a new role for the MANRE and its supporting services, more closely aligned with modern principles of institutional efficiency and effectiveness.** The functional review aims to identify: a more effective distribution of policy areas and functions across the MANRE and articulation with the rest of the public administration, in relation to the strategic policy objectives that Cyprus is pursuing and to an enhanced coordination of programs and policies. Consideration is given to: (i) how/which policy areas and departments could benefit from a reorganization outside the purview of the MANRE; and (ii) how the departments continuing to function under MANRE could be restructured to be more effectively aligned with the sectoral strategic objectives.

## Approach

36. **The functional review of MANRE was conducted in two stages:**

- i. **The first stage** focused on global aspects related to strategic coordination between departments, potential overlapping and irrelevant mandates and organizational structures, and other general organizational and functional areas for improvement. Where appropriate, it discusses options for improving the current structures, functions and skill mix required by each department.
- ii. **The second stage** carried out in-depth functional reviews of selected departments within MANRE, namely: Agriculture, Water Development, Environment, Forestry and the Agricultural Research Institute. These departments were chosen at the request of and in consultation with the GoC, based on the following criteria: (i) prominence in MANRE's policy agenda, (ii) size (budget and staff), and (iii) potentials/need for reform. Combined, they represent over 80% of MANRE's budget and personnel. In addition, a more in-depth review of the Cyprus Agricultural Payment Organization (CAPO) and of the Agricultural Insurance Organization (AIO) was also included in the second stage.

37. **The methodology for the functional review involves the analysis of data provided by MANRE/ the GoC, as well extensive interviews with stakeholders in the Agriculture, Environment and Natural Resources sectors, including:**

- i. Interviews with MANRE leadership and staff, at both political and administrative levels, as well as with relevant stakeholders, such as representatives of communities and municipalities and union representatives, to identify major bottlenecks. Preliminary findings and exploratory reform options have also been discussed with management, and their feedback has been incorporated into the preliminary report of the first stage.



- ii. Review of available information and data sources communicated by MANRE, including data on staffing numbers, distribution and functions, organizational charts, strategic plans, reports on previous reform processes and their outcomes.
- iii. Preliminary comparisons of MANRE structures, staffing and decision-making procedures with benchmarks and best-practice examples of other EU member states. The second stage will deepen and detail the comparison with the staffing patterns of similar departments/ agencies/ units in EU countries with similar type of activities/ deliverables for the departments/ agencies selected.

38. **The report provides a functional diagnosis of the MANRE and its structures, and outlines options of reform.** It covers the assessment of and potential reform options for (i) improving the strategic coordination and management of policies and programs falling under MANRE's mandate; (ii) streamlining the organizational structure and functions in MANRE and its territorial structures, to include better delineation of functions and better allocation and delegation of responsibilities within and among the relevant institutions; and (iii) identifying the needs for addressing specific resource and operational management constraints in selected departments, which were investigated more in-depth during the second stage, including with regard to appropriateness of staffing numbers and composition, adequate balance between administrative and technical skills etc. Following the review, an action plan for carrying out the main proposed reforms is proposed below.

## Proposed Action Plan for the Implementation of MANRE Main Reforms

Measure	Short Term (ST) Actions (until June 2014)	Medium Term (MT) Actions (until June 2015)	Long Term (LT) Actions (2015/2016 and beyond)	Indicators
<b>MANRE Administration</b>				
Reorganize the Administration level (with reference to policy coordination and EU and international affairs)	Adopt the decision with regard to the preferred organization structure of the MANRE Administration	Implement the decision, through adequate revision of the schemes of service and staffing.		<ol style="list-style-type: none"> <li>1. Decision on new organizational structure adopted (ST)</li> <li>2. Scheme of services revised (MT)</li> <li>3. New positions filled (MT)</li> </ol>
Reorganize the horizontal aspects at the MANRE administration level (with reference to strategic planning, internal audit, financial management)			Implementation in line with the calendar decided and followed at Government level	<i>Will depend on horizontal reform strategies and relevant indicators</i>
<b>Department of Agriculture</b>				
Transfer competences on food processing, marketing and trade from MECIT	Make a decision, to reflect the transfer of competences	Make the necessary organizational adjustments at MANRE and MECIT levels		<ol style="list-style-type: none"> <li>1. Decision on institutional competence for food processing, marketing and trade adopted (ST)</li> <li>2. Organization structure changes in MECIT and MANRE (DoA) operated (MT)</li> <li>3. Positions transferred/filled (MT)</li> </ol>
(Decide whether to) transfer competence on FADN from ARI to DOA	Make a decision, while also factoring in the role envisaged in policy analysis and economic research	Make necessary organizational adjustments at ARI and MANRE (DoA) levels (including staff transfers)		<ol style="list-style-type: none"> <li>1. Decision on institutional competence for FADN adopted (ST)</li> <li>2. Organization structure changes in ARI and MANRE (DoA)</li> </ol>

Measure	Short Term (ST) Actions (until June 2014)	Medium Term (MT) Actions (until June 2015)	Long Term (LT) Actions (2015/2016 and beyond)	Indicators
				operated (MT) 3. Positions transferred/filled (MT)
Reallocate competences between DOA, AIO and CAPO (see next sections)				<i>See respective sections</i>
Restructure the organizational structure of the DOA to better reflect the uptake of new roles		Reallocate staff after redrafting of the respective schemes of service		1. New DOA scheme of services adopted (MT) 2. New DOA positions filled (MT)
Ponder a deeper reform to include reorganization of the laboratory system, district offices and the AKIS	Decide whether some/all reform potentials should be further analyzed	Conduct the respective analyses	Implement the findings of the analyses, if decisions are made such	1. Decision on further analysis of reorganization potentials made (ST) 2. <i>(Conditional on 1): Analyses on reorganizations potentials conducted (MT)</i> 3. <i>Implementation indicators to be determined based on recommendations from analyses (LT)</i>
<b>Agricultural Research Institute</b>				
Decide on the role and organizational placement of economic research and FADN	<i>See above</i>			<i>See above</i>
Make the transition to a modern institutional structure for ARI (customer oriented, flexible/research teams, and increased uptake of competitive	Decide on the vision for the future mandate and structure of ARI	Design the new structure of ARI, identify staff skill mix needed, as well as organizational structure	Implement the activities decided	1. New mandate and vision of ARI adopted (ST) 2. New ARI structure, including

Measure	Short Term (ST) Actions (until June 2014)	Medium Term (MT) Actions (until June 2015)	Long Term (LT) Actions (2015/2016 and beyond)	Indicators
research funds)		<p>Engineer better cooperation mechanisms with MANRE Administration, DOA and relevant stakeholders</p> <p>Consider whether stronger integration with the extension service might be needed</p> <p>In line with the shift to program budgeting, introduce performance tracking mechanisms for agricultural research</p>		<p>staffing needs adopted (MT)</p> <p>3. Mechanisms for better stakeholder cooperation designed and adopted (MT)</p> <p>4. Assessment of stronger integration potential between agricultural research and extension conducted (MT)</p> <p>5. Performance tracking mechanisms defined <i>(Conditional on overall/horizontal strategy for government-wide performance management – MT)</i></p>
<b>Agricultural Insurance Organization</b>				
Merge the AIO database into the IACS database of CAPO	Establish a working group between AIO and CAPO to address the additional requirements for the AIO activities and modifications of the application of area-based measures	Modify the application for area-based measures as well as the software for the e-application and database	Consider using unified database for agricultural census	<ol style="list-style-type: none"> <li>1. AIO-CAPO working group established (ST)</li> <li>2. New process/framework for area-based measures application developed (MT)</li> <li>3. New application process for area-based measures adopted (MT)</li> <li>4. Revise software and update data-base for new application process (MT)</li> </ol>
Merge the function of the damage assessment of AIO with the technical control unit of CAPO	Establish a working group established to exchange the control intensity and content of control; merge AIO's damage	On-the-spot controls including damage assessments while respecting the "Agriculturist Registration Law"		<ol style="list-style-type: none"> <li>1. AIO-CAPO working group established (ST)</li> <li>2. Merge staff of AIO and CAPO, especially on district level as regards to the technical control staff (MT)</li> <li>3. Number of controls per year decreased (LT)</li> </ol>

	assessment staff into CAPO's district offices			
Reallocate competence of advising on risk management and insurance policies between the extension service in the DoA and AIO	Adopt decision to transfer advisory competencies on risk management from AIO to DoA (extension)	Make staff adjustments/transfers (as needed) and/or build staff competencies to respond to the need to provide specialized advice		<ol style="list-style-type: none"> <li>1. Decision on competence for advising farmers on risk management and insurance policies made (ST)</li> <li>2. Training needs for staff to expand their competencies identified and training program designed and/or specialized staff transferred (MT)</li> <li>3. Staff trained in new competencies (<i>as applicable</i>) (MT)</li> </ol>
Dissolve AIO and reallocate remaining competencies, functions and staff between DoA and CAPO	Transfer <i>damage assessment</i> staff (18/37) of AIO to the technical control unit of CAPO within district offices	<p>Develop necessary legislation to transfer the functions and staff of AIO to DoA and CAPO (central level)</p> <p>Create a "Risk Management" section unit within the DoA, and move competence for the <i>de minimis</i> and other ad-hoc catastrophe payments to this unit as well</p>	<p>Consider amending the Law of Agriculturist Registration, as damage assessments should also be implemented by non-academics</p> <p>Consider merging DoA with AIO/CAPO on district level, too</p>	<ol style="list-style-type: none"> <li>1. Damage assessment staff transferred from AIO to the technical control unit of CAPO (ST)</li> <li>2. Legislation in place to divide inter-institutional responsibilities between AIO, CAPO and DoA (MT)</li> <li>3. AIO dissolved and section on "Risk Management" established within DoA (LT)</li> <li>4. (<i>Subject to decision</i>) DoA, AIO and CAPO structures merged on district level (LT)</li> </ol>

### Cyprus Agricultural Payment Organization

Repeal the delegated function of "Restructuring of vineyards" from the WPC (DoA) and transfer to CAPO	Initiate legislation so that this measure is moved directly under the umbrella of CAPO	<p>While number not specified by CAPO, move staff from WPC (DoA) dealing with this specific measure to CAPO</p> <p>Start implementation (administration and control) of vineyard</p>		<ol style="list-style-type: none"> <li>1. Legislation passed on WPC measure on restructuring of vineyards (ST)</li> <li>2. Transfer of WPC-staff to CAPO (MT)</li> <li>3. Total number of farms controlled before repeal and after (MT)</li> </ol>
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		measure under area-based procedures of CAPO		
Strengthen the overall administrative efficiency of the GoC by repealing the delegation of functions	Initiate the changes in the legislation (law 64/2003)	Transfer of requested staff (15-20) from delegated bodies to CAPO  Start of implementation of delegated functions directly under CAPO  Assessment on duplications of activities and consider reallocation of human and other resources	Initiate secondments from the delegated bodies	<ol style="list-style-type: none"> <li>1. Legislation passed repealing delegated functions (ST)</li> <li>2. Administration of originally delegated functions under CAPO as well as amount of secondments(MT)</li> </ol>
Improve the interface between CAPO and MANRE	<p>Initiate the changes in legislation (law 64/2003)</p> <p>Change the organizational chart of MANRE highlighting the interface with CAPO</p> <p>Change the conditions as regards to who represents Cyprus at the EAGF committee in Brussels</p>	Change reporting procedures, so that CAPO makes all their reporting exclusively via MANRE	Change the leadership of CAPO from Commissioner / Deputy Commissioner to Director	<ol style="list-style-type: none"> <li>1. National decree no. 64/2003 amended (ST)</li> <li>2. CAPO reports exclusively to MANRE (MT)</li> <li>3. Management structure in CAPO changed (LT)</li> </ol>
Make more effective use of staff in view of the institutional adjustments above	Initiate legal changes (e.g. national decree 64/2003) and/or ordinance for institutional changes	<p>Merge DoA with CAPO on district level, while keeping functional separation</p> <p>Consider moving the payment function for all</p>		<ol style="list-style-type: none"> <li>1. Legislation/guidelines passed regarding the institutional adjustments between MANRE and CAPO (ST)</li> <li>2. Merging of DoA and CAPO staff and assets on district level (i.e. “bringing them under the same roof”), while keeping functional separation (MT)</li> </ol>

		state aids from DoA to CAPO		
		Transfer/Reallocate staff accordingly		
<b>Department of Fisheries and Marine Research</b>				
Introduce the possibility for inspectors to work on a shift/ special hours system.	Consider carrying out a specialized cost-benefit study and in-depth analysis for a system combining shifts with “special-hours” arrangements.	Put system in place based on findings of the study		<ol style="list-style-type: none"> <li>1. Cost-benefit study on systems commissioned (ST)</li> <li>2. Option for reforming system adopted (MT)</li> <li>3. <i>Implementation indicators to be decided based on option adopted (LT)</i></li> </ol>
Strengthen/reorganize the District Offices	Undertake a dedicated analysis of the current set up and its requirements for improvement/strengthening, including the consideration of decentralizing functions/ personnel	Adopt actions based on the findings of the study		<ol style="list-style-type: none"> <li>1. Study on District Offices strengthening/ re-organization commissioned (ST)</li> <li>2. Plan for strengthening/ re-organization of District Offices adopted (MT)</li> <li>3. <i>Implementation indicators to be decided based on option adopted (LT)</i></li> </ol>
Outsource some of the surveillance and monitoring activities and/or increase use of	Decide on potentially contracting out surveillance and monitoring	Implement secondments as needed		<ol style="list-style-type: none"> <li>1. Options for contracting out and secondment identified and approved (ST)</li> <li>2. <i>Relevant functions contracted out; personnel seconded (Conditional on outcomes of step 1 - MT)</i></li> </ol>

secondments	and assessment activities  Look at the potential for secondments			
Extend the licensing cycles	Adopt decision on new duration of all licenses	Establish system to monitor gains/negative impacts	Monitor impacts	<ol style="list-style-type: none"> <li>1. New duration(s) for licenses adopted (ST/MT)</li> <li>2. Indicators for monitoring impacts on overfishing and compliance/inspections defined (MT)</li> <li>3. Impact monitoring system functional (LT)</li> </ol>
Re-assess system in place for oil pollution prevention and control/ Establish a comprehensive Master Plan	Initiate full assessment, with outside advice/ expertise, of the present set up in light of future demands from oil/ gas exploration/ transfer/ treatment	Adopt Master Plan, based on completed assessment	Implement Master Plan	<ol style="list-style-type: none"> <li>1. Assessment of oil pollution prevention and control system commissioned (ST)</li> <li>2. Master Plan for strengthening/better integrating/clarifying oil pollution prevention and control system adopted (MT)</li> <li>3. <i>Implementation indicators to be defined in Master Plan (LT)</i></li> </ol>
Reconsider inspection arrangements	Carry out an internal assessment of present control/ inspection arrangements with the view to improve performance (e.g. dedicated inspectorate  Separating licensing and	<p>Adopt decisions based on the outcomes of the assessment</p> <p>Implement new set up for control/inspection arrangements</p>		<ol style="list-style-type: none"> <li>1. Internal assessment of control/ inspection arrangements conducted (ST)</li> <li>2. Decision on new set-up of control/ inspection arrangements made (MT)</li> <li>3. <i>Implementation indicators to be defined based on steps 1 and 2</i></li> </ol>



	management from inspection/enforcement			
Address other sectors of interest	Consider ways and means for strengthening: a. management plans for marine ecosystems and better integration of their measures with those on the coastal strip; and b. stock recovery and regular assessment of the status of fishing stocks.	Develop and adopt plans for implementing (a) and (b)		1. Plan for strengthening (a) and (b) adopted (MT) 2. <i>Implementation indicators to be defined in action plan under step 1</i>
<b>Veterinary Services</b>				
Consider reorganizing the laboratory system	See Action plan for the Department of Agriculture			<i>See Action plan for the DA</i>
<b>Department of Environment</b>				
Take steps towards "Single" permit	Examine interface of numerous permits	Decide on changes	Amend laws	1. Assessment committee established (ST) 2. Final decisions made by MANRE (MT)

				<ul style="list-style-type: none"> <li>3. Amending bills adopted by CoM (MT)</li> <li>4. Bills submitted to HoR/ decisions by HoR (MT)</li> </ul>
Reduce number of committees and create a more flexible and open-ended scientific representation	Re-examine role and composition of committees	Decide on changes	Amend laws	<ul style="list-style-type: none"> <li>1. Assessment committee established (ST)</li> <li>2. Final decisions made by MANRE (MT)</li> <li>3. Amending bills adopted by CoM (MT)</li> <li>4. Bills submitted to HoR/ decisions by HoR (MT)</li> </ul>
Introduce a policy for the sustainability/ Regulatory impact assessments of policies, laws, etc.		<p>Study opportunities, fields of relevance (e.g. policies, laws, programs, decisions)</p> <p>Adopt resulting policy</p>		<ul style="list-style-type: none"> <li>1. Committee to consider the issue established (MT)</li> <li>2. Draft proposal prepared (MT)</li> <li>3. Consultations carried out (MT)</li> <li>4. Proposal finalized/ submitted to CoM/ decision by CoM (MT)</li> <li>5. Implementing monitoring: number and type of assessments submitted/ opinions issued/actual changes effected (LT)</li> </ul>
Improve the enforcement of laws and regulations	<i>Introduce</i> joint compliance inspections	<p><i>Introduce</i> joint bodies for supervision of issues</p> <p>Prepare a 3-year, risk-based, enforcement Program (permitting, inspection) accompanied by detailed plans for annual inspection visits. Initiate implementation.</p>	Prepare and adopt a Regulators' Compliance Code	<ul style="list-style-type: none"> <li>1. New arrangements agreed (ST)</li> <li>2. Enforcement program/ plans prepared (ST/MT)</li> <li>3. Joint inspections/ program/plans initiated(ST/ MT)</li> <li>4. Compliance Code prepared/ adopted (MT)</li> <li>5. Implementing monitoring: number and type of inspections made; no. permits issued/ re- issued/ modified/ cancelled; no./ amount of on- the – spot fines; no. court cases pursued; no. decisions by Courts; self- monitoring reports submitted; voluntary agreements adopted; no. weeks to consider an application/ assess study and issue/ reject permit and/or issue an opinion (MT/ LT)</li> </ul>
Decision by Council of Ministers on new	Prepare submission-	Adopt decision		<ul style="list-style-type: none"> <li>1. Draft proposal to CoM prepared/ consultations carried out (ST)</li> </ul>

environmental bodies	empowering MANRE, establishing a Council for SD&E, forming an Environment Committee	Establish bodies		<ul style="list-style-type: none"> <li>2. Proposal to CoM submitted/ decision by CoM (MT)</li> <li>3. Establishment of bodies (MT)</li> </ul>
Adopt a new Strategy for sustainable development	Initiate process for preparation	Prepare and adopt the new Strategy	Implement and monitor the new Strategy	<ul style="list-style-type: none"> <li>1. Consultations carried out (ST)</li> <li>2. Proposal prepared (MT)</li> <li>3. Strategy submitted to CoM/ decision by CoM (MT)</li> <li>4. Implementation and monitoring: progress monitoring following arrangements to be incorporated in the Strategy (LT)</li> </ul>
Strengthen the role of Local government in delivering environmental objectives by decentralizing functions and building up capacity	Initiate dialogue for a road map for the decentralization of certain functions.	Prepare program for building capacity	Implement program	<ul style="list-style-type: none"> <li>1. Contacts with local authorities initiated (ST)</li> <li>2. Issues to be decentralized/timetable/ knowledge gaps/ needs/ modalities agreed (MT)</li> <li>3. Capacity building program prepared/ initiated (MT)</li> <li>4. Implementing monitoring: no. employees trained; no. of activities actually outsourced (LT)</li> </ul> <p><i>(This measure needs to be closely co-ordinated with decisions taken within the context of the Local Government Reform study)</i></p>
Shift to the DoE the responsibility of the MoI for the regulation of some waste streams	Decide on option to move responsibility for some waste streams to DoE	Amend law in the case of positive decision  Operationalize change		<ul style="list-style-type: none"> <li>1. Decision on transferring competence for some waste to DoE made (ST)</li> <li>2. Decisions on transferring competence for air (permitting/ quality) to DoE made (ST)</li> <li>3. Decision on transferring responsibility for chemicals to DoE made (ST)</li> <li>4. Proposal and bill submitted to CoM/ decision by CoM (ST)</li> <li>5. Bill submitted to HoR/ decision by HoR (MT)</li> </ul> <p>Proposal and bills prepared and submitted to CoM/ decision by CoM (ST)</p>
Shift to the DoE responsibilities for Pollution control currently exercised by the Department of	Decide on option to move the unit to DoE	Amend law in the case of positive decision  Address		<ul style="list-style-type: none"> <li>1. Decision on transferring competence for some waste to DoE made (ST)</li> <li>2. Decisions on transferring competence for air (permitting/ quality) to DoE made (ST)</li> <li>3. Decision on transferring responsibility for chemicals to DoE made (ST)</li> <li>4. Proposal and bill submitted to CoM/ decision by CoM (ST)</li> <li>5. Bill submitted to HoR/ decision by HoR (MT)</li> </ul> <p>Proposal and bills prepared and submitted to CoM/ decision by CoM (ST)</p>

Labor Inspection.		personnel transfer		Modalities for staff and equipment transfer, where applicable (MT)
Shift to the DoE the responsibilities for Air quality currently exercised by the Department of Labor Inspection	Decide on option to move the unit to DoE	Amend law in the case of positive decision.  Address personnel transfer		
Decide on the umbrella under which the Game Fund Service will operate and streamline some of its functions relating to nature protection with those of DoE/ DoF		Decide on options: leaving GFS under present jurisdiction and streamlining its nature- specific functions with those of MANRE; changing jurisdiction and later streamlining such functions with those of other MANRE departments.	Depending on decision, change laws, consolidate interactions synergies/ redefine roles.	<ol style="list-style-type: none"> <li>1. Decision on supervisory competence for GFS made (MT)</li> <li>2. Decision on nature competences of GFS taken (MT)</li> <li>3. Proposals and bills prepared and submitted to CoM/ decision by CoM (MT)</li> <li>4. Bills submitted to HoR/ decisions by HoR (MT)</li> </ol>
Move the responsibility for certain horizontal issues from DoE to MANRE Administration	Adopt decision on which responsibilities to transfer (e.g. sustainable development, green economy) , in conjunction with the efforts to strengthen MANRE Administration			<ol style="list-style-type: none"> <li>1. Decision on responsibility for some functions made (ST)</li> <li>2. Responsibilities delegated (ST)</li> </ol>

Enhance the capacity of DoE to deliver, by establishing units for inspection and quality monitoring, avoiding fragmentation of its limited resources, integrating staff seconded, diversifying the qualifications required and building up skills		Establish inspection unit in DoE		<ol style="list-style-type: none"> <li>1. Decision made on establishment, extent of role and staffing of Inspection Unit (ST/MT)</li> <li>2. Internal re- organization made (MT)</li> </ol>
		Manpower on secondment- Prepare program for their integration of posts. Adopt integration program	Implement integration program (amend laws, abolish posts, establish new posts)	<ol style="list-style-type: none"> <li>1. Current situation with regards to secondments analyzed (MT)</li> <li>2. Integration proposal/program prepared/ discussed with affected employees unions (MT)</li> <li>3. Proposal, incl. timetable, for posts integration finalized (MT)</li> <li>4. Decision taken by CoM made (MT)</li> <li>5. Integration through yearly Budget(s) initiated (MT/LT)</li> </ol>
	Reconsider the type of <b>qualifications</b> and skills required for appointment at the DoE.	Reconsider qualifications mix. Amend schemes of service.		<ol style="list-style-type: none"> <li>1. Schemes of Service re- examined in light of experience gained and proposed transfers of personnel/ functions (ST/MT)</li> <li>2. Changes in Schemes proposed/ discussed with employees union (MT)</li> <li>3. Changes adopted by CoM (MT)</li> </ol> Modified Schemes submitted to HoR/ decision by HoR (MT)
Strengthen the DoE with new staff to allow it better to respond to its		Decide on additional staff needs	Select new secondments Transfer	<ol style="list-style-type: none"> <li>1. Staffing needs in light of proposals reconsidered (MT)</li> <li>2. Decision on staffing made, including timetable for satisfying needs and</li> </ol>

significant workload		Adopt policy on balance between new posts and new secondments	new posts	means to do it (e.g. new positions created, additional secondments approved, etc.) (MT)  3. Process to implement decisions initiated (e.g. new posts established, secondments selection, etc.) (MT/LT)
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**Forestry Department**

Improve fire prevention, given that the number of fires has increased over the last years	Consider amending legislation on granting rights for fires in agriculture (e.g. straw, tree cuttings)	Strengthen collaboration between DA, DoF, Game Fund and others, as regards to monitoring and prosecution of fire violators		<ol style="list-style-type: none"> <li>1. Legislation amended (ST)</li> <li>2. Working group between DA, DoF, GF established (MT)</li> <li>3. Yearly incidence of fires in Cyprus reduced (LT)</li> </ol>
Ponder division of the territorial jurisdiction of the competent authorities	Initiate working groups between DoF and MoI as regards to expanding territorial jurisdiction	Consider transferring part of the fire stations under the jurisdiction of the DoF		<ol style="list-style-type: none"> <li>1. Working group established between DoF and MoI (ST)</li> <li>2. Expansion of territorial jurisdiction of DoF (MT)</li> <li>3. Reduction in annual forest fires (LT)</li> </ol>
Review the jurisdiction and allocation of some functions of GF in the NATURA 2000 competency		<p>Decide on options (see DoE) . Depending on decision, initiate the legal requirements to move the Game Fund under the umbrella of MANRE, while keeping its institutional and functional independence</p> <p>Consider streamlining the NATURA 2000 functions of the Game Fund with those of DoF and DoE</p>	Enhance the functions of hunting and poaching of MoI/ Game Fund	<ol style="list-style-type: none"> <li>1. Establish working group between DoF, DoE and MoI (MT)</li> <li>2. Move Game Fund under umbrella of MANRE (MT)</li> <li>3. Keep function of hunting / poaching under MoI (LT)</li> </ol>

Partial transfer of the competence of roadside plantations	Initiate legal changes to transfer competence or roadside plantations to the municipalities	Maintenance of green areas within and roadside plantations in surrounding areas/roads of cities and municipalities managed by the municipalities		<ol style="list-style-type: none"> <li>1. Legal amendment transferring jurisdiction to municipalities (ST)</li> <li>2. Competencies transferred and associated institutional (including financial and human resource) changes effected (MT)</li> </ol>
Address fragmentation of the remote sensing function, to prevent duplication and improve efficiency	Compile all Ministries, departments, entities using GIS including the purpose of the technology	Conduct an in depth study on the numerous GIS technologies and requirements within and outside MANRE		Decision on further review of remote sensing/GIS functions adopted (MT)

### Water Development Department

MANRE management and WDD Management reconsider the organizational chart of WDD with the aim to decide whether an organization that more closely follows responsibilities would be appropriate	MANRE and WDD Management review and agree on new organizational chart	Staff decisions implemented (who goes where, who heads the new (slightly fewer) divisions		<ol style="list-style-type: none"> <li>1. New organization chart published (done February 2014)</li> <li>2. Decisions on future staffing level and staff composition of WDD taken by the Council of Ministers (ST)</li> <li>3. Decisions implemented (MT)</li> </ol>
WDD and GSD establish a working group that reviews the activities of their respective Hydrogeological Section/Division and recommends steps to promote synergies and enhance efficiency in the use of equipment (such as drilling rigs)	<p>WDD and GSD establish a working group</p> <p>Prepare report with recommendations</p> <p>MANRE, WDD and GSD management review and agree on implementation plan</p>	Recommendations implemented		<ol style="list-style-type: none"> <li>1. Working Group established (ST)</li> <li>2. Recommendations implemented (MT)</li> </ol>

Establish a working group to support municipalities and communities that want to join Water and Sewerage boards to resolve the practical issues (related to transfer of assets and liabilities as well as other issues).	Establish working group Identify key issues	Propose solutions to key issues and enact necessary decisions		1.Working group established (ST) 2.Recommendations enacted (MT)
Prepare study to present proposal(s) for comprehensive and systematic regulation of service levels and tariffs in the WSS sector	Establish steering committee and agree terms of reference	Complete study report	Act upon recommendations	1.Steering committee with TOR established (ST) 2.Contractor chosen (MT) 3. Recommendations acted upon LT)
Transfer the responsibilities of WDD within the area of operation and maintenance of drinking water systems (treatment plants) to the relevant Water Boards	Reach agreement with relevant Water Boards on the transfer of treatment plants	Discontinue practice of supporting municipalities and communities in relation to retail distribution of water (storage, networks, pumping stations)  Complete transfer of treatment plants		Agreements in principle reached with Water Boards (ST) Agreement implemented and WDD practice of support to distribution networks discontinued (MT)
Support transfer of water network systems and service responsibilities from communities and municipalities to district Water Boards	Make effective articles of the Water Law, which require all boreholes to be registered and have a valid permit, and enforce payment for water abstracted	WDD discontinues current practice of constructing for free alternative water supply for communities that chose not to join		1.Remaining articles of Water Law become effective (Parliament to not prolong exemption) (ST) 2.WDD to discontinue practice of providing alternative water supply for communities (this to be done by district Water Boards) (MT)
Support transfer of wastewater systems and service responsibilities from	Identify practical issues and propose a resolution that should	Complete transfer		1.Issues resulting from a transfer of WW and WWTP responsibilities to district Sewerage



communities and municipalities to district Sewerage Boards	be presented by the stakeholders in question to an ad hoc committee to be established to resolve such issues			Boards identified (ST) 2.Transfer completed (MT)
Establish a working group with the terms of reference to present a proposal (or alternative options) for how to transfer responsibilities for distribution network, allocation of water “below” bulk meter and revenue collection from WDD to farmer/user associations)	Establish working committee group MANRE management agrees on TOR	Complete recommendations and action plan	Implement recommendations no later than January 2018	1.Working committee established and TOR agreed (ST) 2.Working committee report with recommendations and action plan adopted (MT) 3.Recommendations implemented (January 2018)

**Meteorological Service**

Transfer of scientific and technical staff to Athalassa	Ongoing. To be completed by June			Scientific personnel transferred (ST)
Transition to full cost pricing for services other than public service functions	Initiate an internal review and proposal for full cost pricing			Internal review and a proposal for full cost pricing prepared (ST)
Switch to commercialization of selected services provided for individual customers		Complete proposal		Proposal for commercialization of services presented (MT)

<b>Mines Services</b>				
Merge the Mines Department with GSD	<p>Transfer responsibilities for fireworks and military explosive ordnance to Police / Customs that already have part of this responsibility</p> <p>Transfer responsibility for evaluation and development of mines to GSD, which already has the responsibility for exploration</p> <p>The Director of GSD acquires the responsibilities of the Head of Mines as per the Mining Law. Any necessary changes in legal text are implemented</p>			<p>1.Responsibilities transferred (ST)</p> <p>2.Necessary legal changes made by HoR (ST)</p>
<b>Geological Surveys Department</b>				
Merge the Mines Department with GSD	<i>See above (Mines Service)</i>			<i>See above (Mines Service)</i>
WDD and GSD establish a working group that reviews the activities of their respective Hydrogeological	<i>See above (WDD)</i>			<i>See above (WDD)</i>

Section/Division and recommends steps to promote synergies and enhance efficiency in the use of equipment (such as drilling rigs)				
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# 1 Strategic framework and goal-oriented management processes

## 1.1 Sector performance in perspective

39. **Cyprus is a member of the European Union since 2004. It is a small, open and predominantly service-oriented economy**, with the service sector – mostly tourism, financial services and real estate - accounting for roughly 80%<sup>i</sup> of GDP. Its GNI per capita of \$26,000 is slightly below that of EU as a whole, but above the average for non-OECD high-income countries<sup>ii</sup>. The recent economic downturn is posing challenges to the economy of Cyprus, whose GDP contracted by 2.4% in 2012 as the result of the crisis, while unemployment increased to 11.9%<sup>iii</sup>.

40. **Agriculture.** Agriculture constitutes about 2.4% of the Cyprus's GDP, and provides employment for over 23,800 people<sup>iv</sup>. Cypriot agricultural sector is dominated by smallholder farms, 68.6% of which are less than 2 ha in size, and another 17% range between 2 and 5 ha. Agricultural output is evenly supplied by the crop and animal sub-sectors, with vegetables, fruits and other horticultural products constituting 34.1% of the total crop output, and milk (17.2%) and poultry (11.3%) being the leading commodities in the total animal output<sup>v</sup>. Being a traditional sector of the Cyprus economy, agriculture still faces a number of challenges, such as land fragmentation, decreasing and aging workforce (with 29.8% of farmers older than 64 as compared to 20.9% in 2003<sup>vi</sup>), uneven growth of agricultural incomes as compared to other non-agricultural sectors, poor access to training and services, and aggravating water conditions. The average productivity of typical agricultural commodities, such as grapes (3.7 tons/ha), apples (9.2 tons/ha), potatoes (19.2 tons/ha) or cereals (1.2 tons/ha) is also below the average EU level (7.2 tons/ha, 20 tons/ha, 28 tons/ha and 5 tons/ha, respectively), and lower than in countries with similar agro-economic conditions (Greece – 17 tons/ha for apples and 10 tons/ha for grapes, or Croatia – 14 tons/ha for apples and 6 tons/ha for grapes)<sup>vii</sup>. This could be further aggravated by the unfolding implications of climate change. All of the above need to be fully taken into account by the agricultural sector policy, through proper prioritization of climate change adaptation and mitigation (e.g. enhanced seed selection and breeding), water efficient infrastructures (e.g. drip irrigation) and simplification of market access for small and medium producers. These need to be complemented by targeted advice to farmers and adequate risk management measures. To prevent further soil degradation and erosion in Cyprus, sustainable soil management practices are also a priority, and include restoration of terraces, crop rotation and organic farming among other measures.

41. **Environment.** Cyprus is confronted with considerable challenges in the environment field. One of them is poor waste management, being marked significantly above the EU average level (778 kg/y/inhabitant in Cyprus as compared to 487 kg average in EU)<sup>1</sup>. In order to both prevent further environmental degradation and meet the EU obligations, emphasis should be placed on the reduction of greenhouse gas (GHG) emissions and adapting to climate change; enhancing the fire prevention system, increasing the forested area; decoupling waste generation from growth, closing and rehabilitating landfills, investing in new regulated waste infrastructure facilities, preventing, reducing, reusing and recycling waste (the “triple Rs”); establishing synergies between the policies on environment and land use planning, particularly on the heavily pressed from development coastline (overused by hotels, ports, marinas, other tourism- related infrastructure, etc.); greening the economy (a main pillar of sustainable development, such as with investments in green infrastructure, green jobs, and resource efficiency measures); completing the program for wastewater collection and treatment plants and securing good management; maintaining a good environmental status of its coastal waters with proactive measures to regulate the impacts from the exploration and exploitation of its off- shore hydrocarbon reserves; managing and/ or protecting the 60 sites in the NATURA 2000 network. Unless the above issues are appropriately and effectively tackled, further loss of biodiversity is inevitable in addition to almost 14% of the flora threatened with extinction and 34% of known species found to be in danger as of today.

Environmental quality (air, noise, waters) would also deteriorate, thus affecting public health, quality of life and tourism.

42. **Forestry.** Forests constitute a relatively modest share of the Cyprus territory, covering some 18% of its territory. At the same time, due to increased numbers of extreme weather outbreaks and a steady trend in the annual temperature increase, the intensity (area and average fire size) of forest fires increased, showing a 5-year maximum in 2012, when over 1,691.29 ha burned, including 143.57 ha of NATURA 2000 areas, and the average fire size increased to approximately 33 ha<sup>viii</sup>. Although the number of fires is on a downward trend and is significantly smaller than the average number of fires for the other southern European countries (78 for Cyprus as compared to 1,559 in Greece, 8,252 in Italy or 21,176 in Portugal in 2012), the impact of forest fires is rather considerable, taking into account the size of the country. This contributes to a significant reduction of forest area (7% reduction over the period of 1990-2008)<sup>ix</sup>, and leads to loss of biodiversity, and increased air pollution. To address the above, adequate mitigation measures need to be developed and implemented, which will target forest restoration, fire prevention, carbon sequestration and wildlife protection, as well as innovative risk management measures explored to ensure better response to fire and weather emergencies.

43. **Water.** Cyprus has a typical Mediterranean climate with long and dry summers, as well as modest and rather uneven rainfall, and high variations in precipitation and temperature. Cyprus is a water scarce country and is likely to become more water scarce as a consequence of climate change. According to data from MANRE, the Government controlled part of Cyprus has as little as 440 m<sup>3</sup> per person per year (severe water stress) and is currently drawing down its available reserves. In 2002 MANRE estimated that current over-pumping is approximately 29 million m<sup>3</sup> per year or more than 7% of the annual usable water balance. Regularization of groundwater pumping, water conservation and water re-use are therefore high on the Government's policy agenda. The Government also estimates that 69 percent of water use is in agriculture. Therefore, this sector is central to the Government's attempt to balance water supply and demand. The domestic sector uses 25 percent with industry and the environment using the rest. According to FAO (1998)<sup>x</sup> total dam capacity had reached 297×10<sup>6</sup>m<sup>3</sup> by 1994, up from 6.1×10<sup>6</sup>m<sup>3</sup> in 1961, and there is now only limited scope, if any, for further increasing this capacity. Inter-basin transfer of water is assured through the Southern Conveyor, stretching from the water-rich west to the water-deficit east; a pipeline 110 km long, ranging in diameter from 1,400 mm to 800 mm. Another key area of focus is water quality, as current usage of agricultural fertilizers and pesticides and nutrient loads in soil are significant, and usage of high salt content water in agriculture contributed to further soil degradation and air pollution (agriculture contributed 6.2% of Cyprus's greenhouse gas emissions)<sup>xi</sup>. Policies such as targeted investments, advice to farmers, soil preservation (its buffer and filter functions) and introduction of new crop and animal species, resistant to water deficiency are being developed to address these challenges. Over-abstraction also leads to salt water intrusion. This is yet another reason why Government is keen to regularize and license groundwater abstraction.

## **1.2 Policy mandates and the general structure of the agriculture, natural resources and environment administration**

44. **The agriculture, natural resources and environment (ANRE) administration is responsible for managing and delivering the most sizable portion of the European Union (EU) *acquis* and EU co-funded programs.** It nationally implements about 50% of the European body of law that comes under the European policies for agriculture, fisheries and food. In addition, through approximately 120 legal instruments, it implements a very substantial part of the complex and diverse legislation coming under the European environmental policy, which also covers water and other natural resources. At the EU level, 42% of the EU-wide 2007-13 Multi-Annual Financial Framework<sup>xii</sup> goes to the areas covered by MANRE, i.e. preservation and management of natural resources, including the common agricultural policy, common fisheries policy, rural development and environmental measures. In Cyprus, at the national level, 36% of EU funds expenditures went to these areas in 2011<sup>xiii</sup>.

**Table 1: Allocation of selected EU co-funded resources, by program and priority** (EUR million, total for 2007-13)

	<b>Total Funds (committed)</b>	<b>EU Funds (committed)</b>
<b>National Rural Development Program</b>	<b>325.0</b>	<b>162.5</b>
1. Improving the competitiveness of the agricultural and forestry sector	140.5	70.3
2. Improving the environment and the countryside	141.1	70.6
3. The quality of life in rural areas and diversification of the rural economy	28.9	14.5
4. Leader	8.6	4.3
5. Technical Assistance	5.8	2.9
<b>Operational Program Fisheries</b>	<b>39.5</b>	<b>19.75</b>
1. Measures for the adaptation of the Community fishing fleet	4.4	2.2
2. Aquaculture, inland fishing, processing and marketing of fishery and aquaculture products	6.5	3.25
3. Measures of common interest	25.8	12.9
4. Sustainable development of fisheries areas	2	1
5. Technical assistance	0.8	0.4

**Source:**

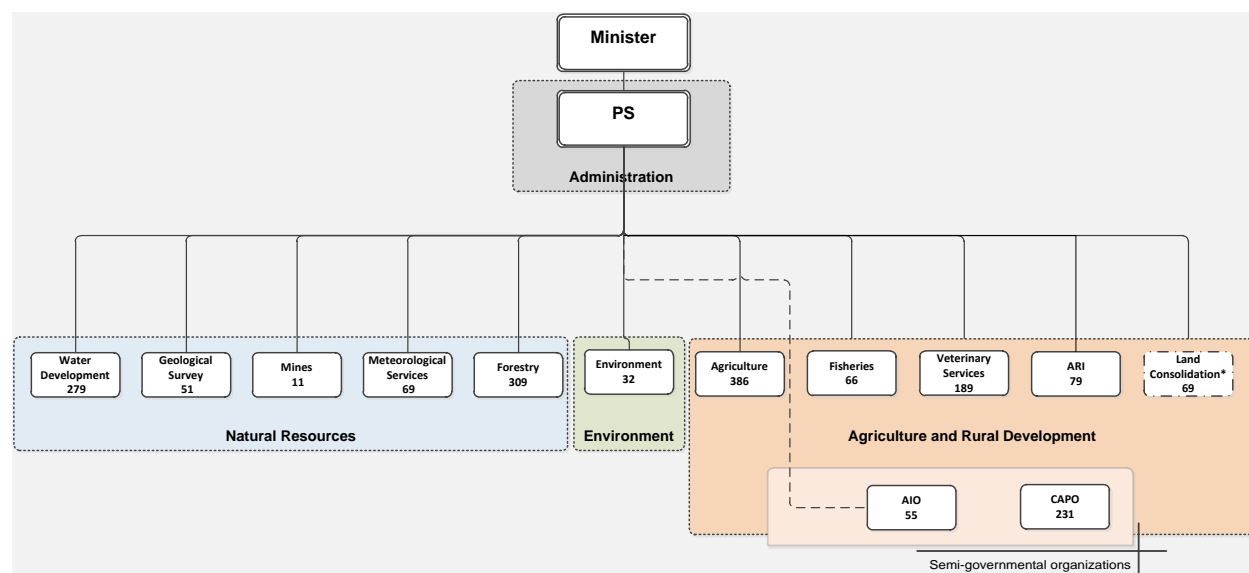
NRDP: [http://www.moa.gov.cy/moa/da/da.nsf/A9AC8C327C7C318CC22579AD0028B11B/\\$file/CyprusRDPSummary2007\\_2013.pdf](http://www.moa.gov.cy/moa/da/da.nsf/A9AC8C327C7C318CC22579AD0028B11B/$file/CyprusRDPSummary2007_2013.pdf), OP Fisheries: [http://www.moa.gov.cy/moa/opf/opf.nsf/DMLOperational\\_en/DMLOperational\\_en?OpenDocument](http://www.moa.gov.cy/moa/opf/opf.nsf/DMLOperational_en/DMLOperational_en?OpenDocument),

**Note:** In addition, MANRE implements some measures also under the OP Sustainable Development and Competitiveness (in Axis 1 - regarding sewerage and waste management).

45. **Furthermore, the administration has capitalized on the opportunities created by the EU accession, and has competently addressed many of its EU membership obligations.** Cyprus has been increasingly making use of the EU funding instruments, and has, to some extent, changed its policy and institutional framework to better approximate the EU structures. Thus, environmental issues, for instance, were elevated as a priority on the political agenda, while the environmental institutional regime has gained some momentum after EU accession. Nevertheless, more remains to be done, as evidenced, for instance, by the challenges in meeting some of the key environmental *acquis* obligations (e.g. especially in solid waste and waste water sectors). Cyprus already faces a number of infringement cases. Out of the 43 open infringement cases against it at the end of 2012, 7 related to the environment. The situation could worsen as Cyprus is gradually coming under the scrutiny of EU regulation and people become more comfortable with the complaints procedures. With 20% of all Commission infringements, environment was the most infringement-prone of all EU policy areas in 2012, exceeding Transport, Taxation and Internal Market<sup>xiv</sup>.

46. **Although significant in scope, the agriculture, rural development, natural resources mandates and most environment mandates are concentrated within a single ministry, including its associated organizations** (Figure 1). This is largely the result of historic reasons juxtaposed with the limitations that the Constitution imposes. Article 46 of the Cyprus Constitution limits the number of Ministries to 10, a number which cannot be exceeded without amending the Constitution, an option that can be exercised only if very strong (overriding) public interest reasons make it necessary.

**Figure 1: Current organizational structure of MANRE; departments, associated organizations, and permanent staff numbers<sup>1</sup>**

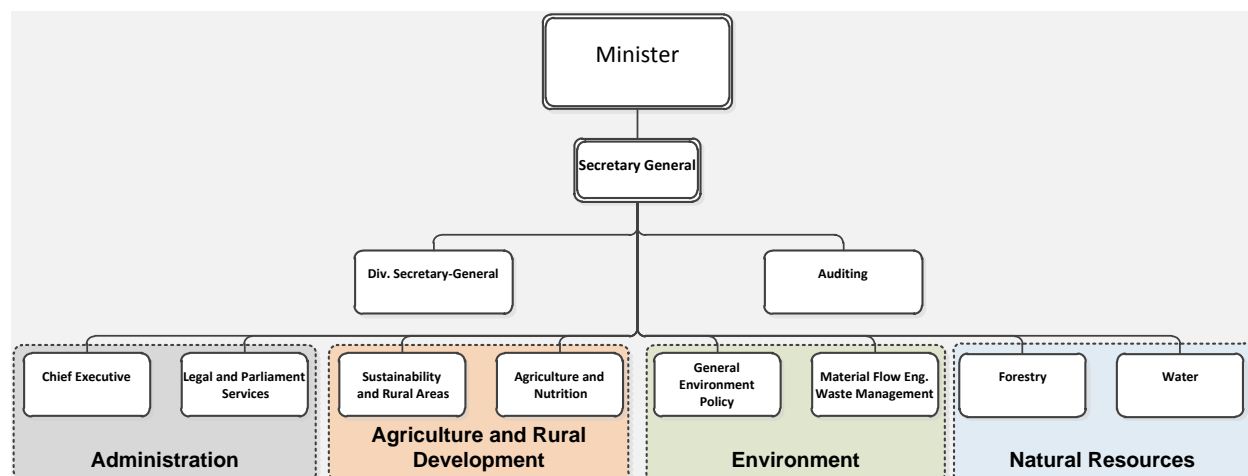


**Source:** Government of Cyprus, September 2013; **Note:** \* - The Land Consolidation Department has been transferred to the Ministry of Interior as of September 2013

47. **Such a portfolio definition is not singular in Europe.** A few of the EU administrations, such as Austria, Malta, Slovenia, Spain, and the UK, have opted for bundling together agriculture, natural resources and environment – in various degrees and with distinct nuances. Almost all others have the environment together with all or most of natural resources, irrespective of the formal name of ministries. Insightful similarities can be observed in Austria, where the Ministry of Agriculture, Forestry, Environment and Water Management – called the Ministry of Life - enjoys almost the same competencies as MANRE (Figure 2). Some differences between the two administrations relate to the treatment of: (i) fisheries (Austria is a landlocked country, hence a distinct department is not warranted, aquaculture and fresh water fishing notwithstanding; however, the Ministry of Life preserves competence for fisheries matters); (ii) environment (Austria has a broader environmental policy coverage, to also include e.g. air pollution control); (iii) natural resources (in Austria, geology and mines are mapped to the Ministry of Economy), and (iv) veterinary services (covered by the Ministry of Health). However, Austria is a federal state, and a number of the sectoral functions (particularly enforcement) are performed by the regional and local tiers of government. In addition, Austria also has dedicated (executive) agencies, such as the Federal Environment Agency, that support the work of the ministry. This is not the case in Cyprus.

<sup>1</sup> The numbers in this Figure reflect the posts mapped to the respective departments, without taking into account the current secondments, which are not trivial. As a result, the numbers above might be somewhat misleading. A refined analysis, to contrast staff mapped to a unit and staff effectively working in the unit will be done as part of the second stage of the functional review.

**Figure 2: Current organizational structure of the Ministry of Life in Austria** (not including associated agencies)



Source: Adapted from <http://www.lebensministerium.at/en/ministry.html>

48. **Although ten times bigger than Cyprus by population and territory, Austria still counts among the smaller EU countries.** In such a setting, a more integrated administration allows for better policy coordination, better public/beneficiary outreach and efficiency gains, yet without developing oversized and harder to manage agencies.

49. **The Austrian Ministry of Life employs 1,011 staff (part-time included), not counting its subordinated structures.** Of these, 403 work in agriculture, rural development and natural resources, and 261 in environment. The remaining 347 are mapped to general administration, IT, budget, and human resources. If subordinated structures are included, the ANRE administration in Austria employs 2,031 civil servants. Among these, the Austrian Paying Agency Agrarmarkt Austria has 499 employees, the Federal Environmental Agency another 477, while the Austrian Food Safety Agency counts 260 staff. This raises the questions of potential scope for efficiency gains in MANRE<sup>2</sup>, and of which functions should remain in the public sector versus being outsourced. Currently, the Water Development Department and the Forestry Department perform a number of day- to- day operation and maintenance functions which in Austria and many other EU countries are performed in the private sector. These questions will be further explored on department level.

50. **Belgium-Wallonia is another relevant comparator that merits further discussion.** Just like Cyprus, it is one of the few EU administrations amalgamating agriculture, rural development, natural resources and environment in one institution. However, its 2008 reform broke away from the conventional mapping of business lines and functions, and resulted in an original design (Figure 3). This needs to be understood in the context of the entire public administration reform in Belgium – and in the Walloon region – whose key purpose was to simplify the administration and reduce the cost of public service provision. Second to Cyprus, the Belgian public service is one of the most heavily staffed in Europe, if measured by public sector employees per inhabitant. In particular, the ANRE administration in Wallonia had some 2,100 staff in 2009<sup>xv</sup>. The Belgian reform, while encouraging reduction of staffing

<sup>2</sup>After discounting the functions that require relatively fixed resource allocations (e.g. EU representation and meeting certain EU *acquis* obligations).

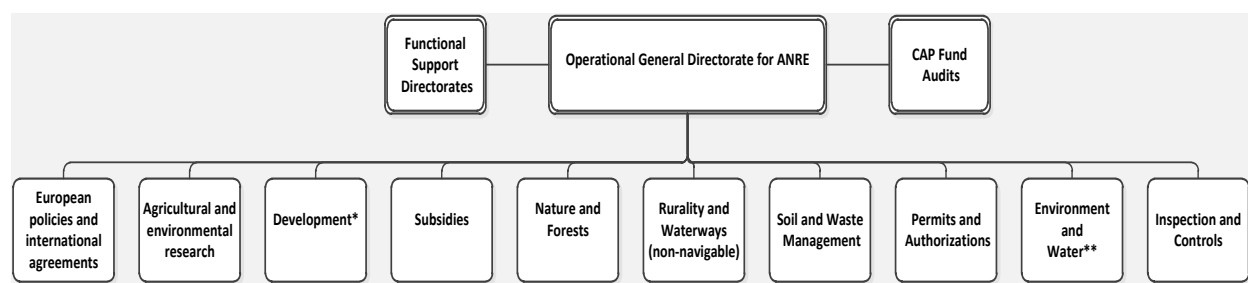
Based on MANRE data, as of September 20, 2013, MANRE employed about 1,150 permanent staff. The Land Consolidation Department, which was transferred, was discounted from the total staff number. The Agricultural Insurance Organization (AIO) and Cyprus Agricultural Payment Organization (CAPO), and the product marketing boards are not included in this total either.



mainly through attrition, focused primarily on streamlining public functions and services. As a result, between 2008 and 2011, the federal administrative burden decreased by EUR 335 million<sup>xvi</sup>.

51. **The restructuring separated the administrative/support functions (provided by two horizontal general directorates covering human and financial resources, information and communication technology, procurement, legal services) from the executive/implementation functions (delivered by six general directorates with sectoral competencies).** A General Secretariat ensures the overall coordination of the regional government. Furthermore, the structure of the Walloon ANRE administration is dictated by the specific functions first, policy areas second. For instance, European/international representation, permits and authorizations, inspections and controls, delivery of public services (research and extension), and management and delivery of payments to beneficiaries are provided by distinct departments, each spanning across one or multiple policy areas within the ANRE domain.

**Figure 3: Current organizational structure of the General Directorate for Agriculture, Natural Resources and Environment in Belgium-Wallonia** (not including associated agencies)



**Source:** Adapted from [http://agriculture.wallonie.be/apps/spip\\_wolwin/IMG/pdf/dgarne-spw-guide.pdf](http://agriculture.wallonie.be/apps/spip_wolwin/IMG/pdf/dgarne-spw-guide.pdf); **Notes:** \* - The Development Department covers research and extension on both farming and environmental matters; \*\* - The Environment and Water Department also covers industrial, geological and mining hazards.

52. **Lastly, Malta represents another relevant reference point.** As opposed to Austria and Belgium, Malta has a non-federal, central government. It is also a small, insular EU member state, which are all features of similarity with Cyprus. In Malta, the agriculture, forestry, fisheries and environment portfolios are grouped under the Ministry of Sustainable Development, the Environment and Climate Change, whereas water is mapped to the Ministry of Energy and Conservation of Water. What is remarkable is that, until 2012, a former Ministry of Resources and Rural Affairs had been in charge with a narrower portfolio focused mainly on the more traditional agricultural and rural issues. Even so, a Program Implementation Directorate was responsible for the implementation of several projects funded from EU structural and cohesion funds (e.g. waste management and carbon compliance), while policy issues were coordinated at the level of the European Affairs Directorate, who was in charge, inter alia, with the preparation of the country's environmental policy. In addition to the ministry, a full-fledged Environment and Planning Authority (established in 2001) carries out the executive functions, and is responsible for development planning and environmental permitting, compliance auditing and environmental assessment of new projects.<sup>3</sup> At the end of 2011<sup>xvii</sup>, the Maltese Ministry of Resources and Rural Affairs had 3,116 staff.

53. **In contrast, most of the other EU public administrations go by a more traditional division of responsibilities in the ANRE sectors.** Typically a specific ministry is responsible for agriculture, rural development, food, fisheries, forestry and hunting (or a combination thereof), whereas environment falls under the scope of a separate ministry. Water (sometimes as part of infrastructure) may be bundled with

<sup>3</sup> It has been reported that the MEPA will be split in 2014 into an Environment and Resources Authority and a Planning Authority.

environment, while environmental aspects pertaining to agriculture (e.g. pesticides, soil pollution, and landscape management) typically remain under the responsibility of the ministry of agriculture.

54. **In some of these cases, coordination challenges have occurred between ministries, particularly in cross-cutting or closely related areas.** Agri-environment, territorial development, or land management are such examples. Some of the newest EU countries faced challenges, particularly in their early years of membership, with defining their NATURA 2000 sites, for instance, because of the weak coordination between the ministries in charge of agriculture and environment, respectively. This resulted in delays in the start of the rural development programs, to the detriment of farmers and rural beneficiaries.

55. **In light of the above and considering the specific conditions in Cyprus, several questions need to be raised and addressed at this level or throughout the review:**

- a. *Scope of MANRE's mandate:* The housing of the environment portfolio is the key matter in this discussion. The question on whether Cyprus should have a separate ministry of environment, like most other EU countries, has been analyzed before<sup>xviii</sup>. While such an option presents the advantages of higher visibility of the environment agenda – which matches its high and growing importance on the EU and international levels – and better representation in the environmental forums, it was deemed impractical, because of the existing Constitutional limitations (see also Section 2.1 MANRE Administration). It should however be noted that all EU-28 have multifunctional Ministries, irrespective of formal names. “Multi-titled” environment ministries have been established in 20 EU MS. Even the “Environment Ministries” in the other 8, do not have a singular dedicated portfolio limited to pure environmental issues (e.g., air, water and nature protection and waste management). All of them include in their portfolios also all or parts of the natural resources (e.g. water, forests, geology, etc.), in addition to sustainable development, climate, planning, etc. Having a dedicated Department located in MANRE has not therefore been out of line with EU practices, particularly taking into account the strong sectoral inter-linkages with agriculture and natural resources and the small size of the country. In turn, an independent agency would have risked resulting in conflicts with the ministry on the degree of the Ministry’s control and oversight and the agency’s independence (there are numerous such examples in Cyprus, e.g. CAPO) and an insufficiently prominent political profile, since the environmental policy would not be directly represented in the Cyprus Council of Ministers. The functional review finds these arguments and conclusions well-founded and still relevant. As evidenced above, a broader policy mandate can be effectively pursued and can yield certain advantages if properly managed: e.g. better coordination and synergies between closely related policy areas, easier interface with policy beneficiaries (particularly if shared delivery mechanisms and structures are used), and efficiency gains (through shared policy delivery and/or shared horizontal support functions). Another line of analysis on the scope of MANRE’s mandate pertains to the division between the roles of the public and private sectors. This will be discussed in the relevant department-specific analyses.
- b. *Structure versus (coordination) mechanisms:* Choosing between changes in the organizational structure and better coordination mechanisms may prove a fine balancing act. In Europe, the institutional model consisting of ANRE policy areas spread across several institutions and agencies is prevalent, but this is driven by history and country politico-economic context rather than by efficiency/effectiveness necessarily. In some cases, good coordination and integration mechanisms can compensate for institutional fragmentation, without hampering the quality of the public policy and service delivery. However, further structural integration may be warranted if coordination mechanisms consistently fail to yield the needed results, and it offsets the adjustment costs. In the case of Cyprus, the trade-offs between inter- and

intra-agency division of competencies and coordination mechanisms will be reviewed on a case-by-case basis in the following sections.

- c. *Business line- or function-driven structure*: The case of Belgium-Wallonia provides useful perspective and raises important questions to be further pursued throughout the review. Wallonia evidenced that further integration of functions –across sectors – leads to efficiency gains. Furthermore, such integration is greatly favored in an institutional setting where policy areas are located under a single institutional roof. This being the case in Cyprus already, the MANRE administration lends itself to further discussion as to when such an approach is beneficial. To some extent, this is done already for many of the horizontal/support functions (Section 1.3). Scope for further function-driven integration for some of the sectoral functions (e.g. payments or inspections) will be pursued and analyzed in the next sections, and will take into account the specifics of functions, business lines and country context.

### 1.3 Sharing functions and competencies with other public agencies

#### Horizontal functions

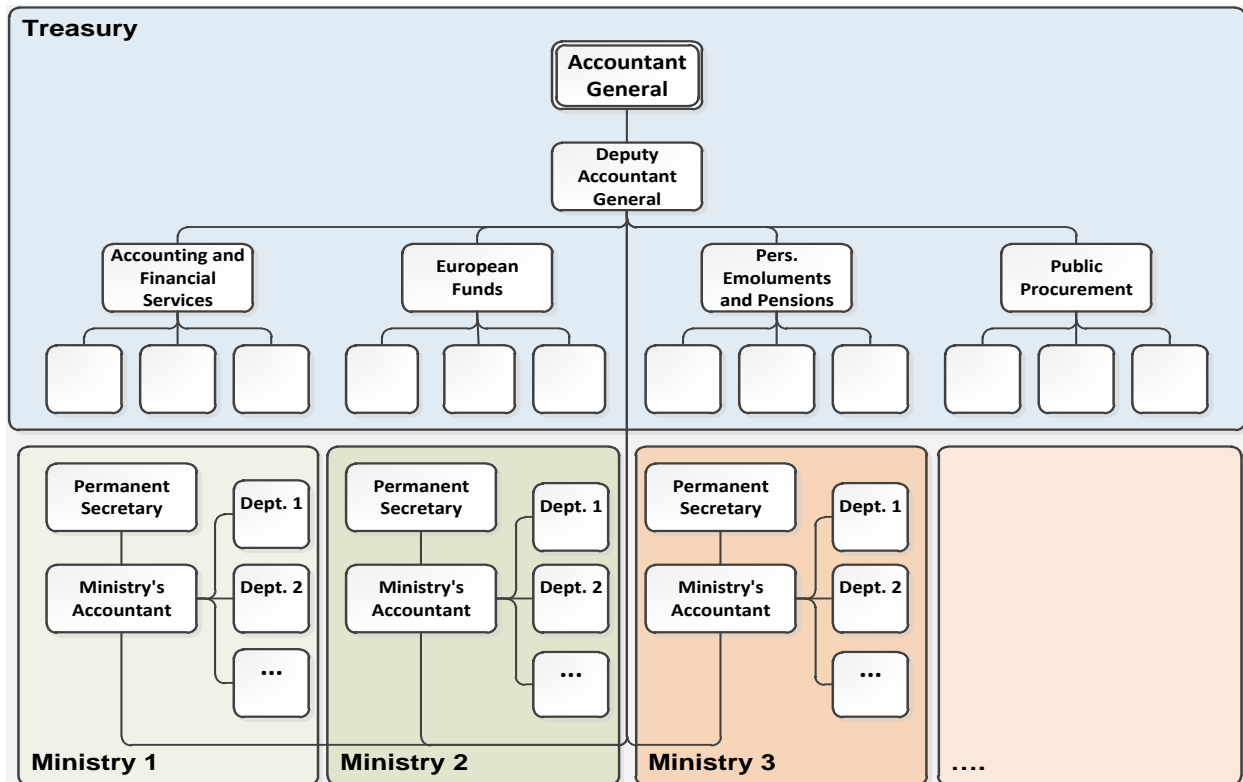
56. **Several of the administrative/support functions necessary for the smooth operation of the Cypriot public administration are provided, managed or coordinated in a centralized fashion, outside of the line ministries** (to some extent similarly to the Belgium-Wallonia example above). These include: (i) financial management, accounting and procurement; (ii) information and technology communication (ICT) services; (iii) legal services; and (iv) good public administration and supporting personnel (administrative, clerical etc.). There are important benefits in such a design, which are highlighted with respect to each of the functions below.

57. *Financial management, accounting and procurement*: The function is coordinated centrally at the Government level, though the Treasury of the Republic (Figure 4). The Head of Accounts in MANRE is staff of the Treasury, and s/he supervises all department level accountants. S/he reports both to the Accountant General in the Treasury and to the Permanent Secretary in the line ministry. The MANRE accounting departments are staffed with 19 employees who belong to the Treasury, and are supported by another 50 staff mapped to the Department of Public Administration and Personnel (PAPD) or to MANRE itself.

58. **The central coordination of this horizontal function presents important advantages in terms of harmonization of rules and procedures, and consistency of implementation across the public administration.** It also generates efficiency in the use of human, financial and other resources. In particular, it is worth highlighting that government accounting is computerized on a centralized level, and the system used (Financial Management and Accounting System, FIMAS) is fully operational and reliable. This allows for budget data to be generated in real time, with positive impacts on both strategic and operational level decisions.

59. **The improvement potentials with regard to this function are primarily related to:** (i) introduction of internal controls, for which now there is positive senior management support in MANRE; (ii) further refinement of rules and procedures, which are currently deemed to have a relatively high level of formalization and standardization; and (iii) introduction of program budgeting, which will be further discussed in Section 1.4.

Figure 4: The organization of the public financial operations in Cyprus



Source: Head of Accounts, MANRE

60. **ICT services:** Each organization in the public administration has an ICT function; it is typically performed by a mix of people, some posted from the Ministry of Finance (MoF) and some located in the line ministry. The current ICT unit in MANRE is answerable to its line ministry on an *administrative* level, and to the Department of IT Services in the MoF on a *technical* level. The latter is critical for avoiding the duplication of IT systems across Cyprus public agencies and for ensuring consistency and inter-operability of data systems. In fact, the MoF is engaged in a process of creating a central government data warehouse, which is expected to yield important productivity gains and more efficient data management.

61. **In spite of these significant benefits, the current set-up of the ICT services in Cyprus leaves two major challenges that MANRE needs to overcome:**

- a. The MoF is responsible only for the horizontal systems, whereas most vertical ICT systems (such as the Integrated Administrative and Control System, IACS, or the various Geographic Information Systems, GIS) remain handled by the competent agencies individually. As a result, there are various degrees of efficiency and effectiveness with which these systems are operated, and, most importantly, there is a generalized fragmentation and lack of inter-operability of these systems across the administration. A key objective for the administration will be to ensure inter-operability between the horizontal and vertical systems, as well as between the vertical systems. In response, the Government has already taken initiative in addressing this deficiency and an integrated GIS, incorporating all the existing layers of information, is planned to be done under the European INSPIRE Directive and be financed from the structural funds.

- b. The ICT staff working in the line ministries are, at times, insufficiently trained or mobile. In MANRE, ICT staff needs and applicable budgets are determined and managed at department level. There are differences between the departments in terms of how the ICT function is performed. Some of the departments (e.g. Agriculture, Fisheries, and Geological Survey Department) are sufficiently staffed with ICT experts but need to improve the ICT tools they utilize. Others, such as the Water Development Department, face a shortage of ICT staff, which is now difficult to fill given the current hiring freeze. Overall, however, line departments need to strengthen the qualifications of their ICT staff, while, on a government level, the mobility restrictions that prevent ICT professionals from moving between departments and ministries need to be addressed.

62. **Legal services:** all legal advice and all court cases are covered by the Attorney General's Office for all Cyprus ministries.

63. **Good public administration and supporting personnel:** interchangeable staff (IS) provided by the Public Administration and Personnel Department (PAPD) covers clerical and administrative needs of all ministries. The PAPD is responsible for the formulation and implementation of HRM policies for the public sector, as well as for the formulation of the institutional/legislative framework and of guidelines for the structure, organization and operation of public services. Its responsibilities include the management and development of the interchangeable staff and the handling of all personnel administration issues relating to the IS<sup>4</sup>.

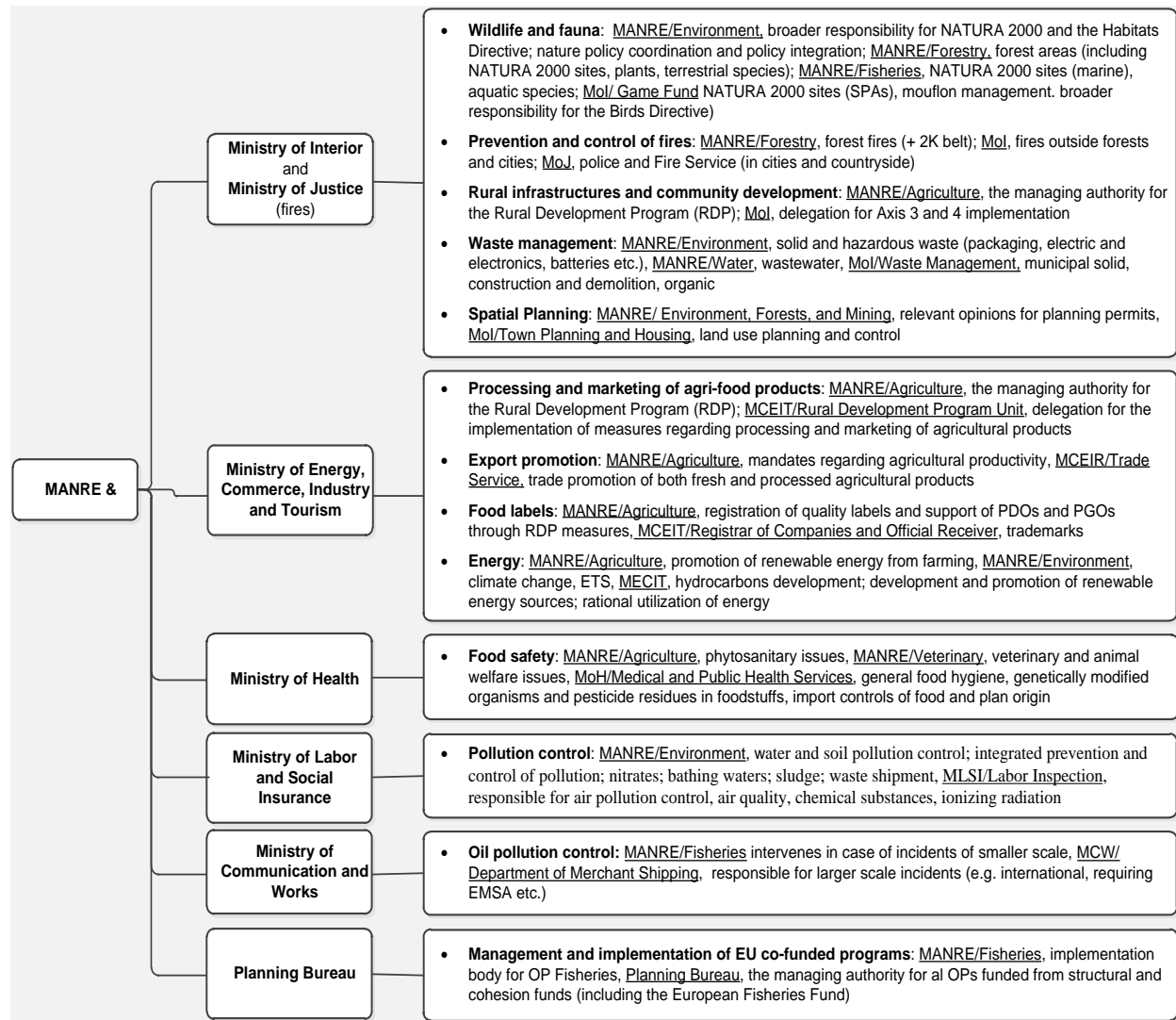
#### **Sector-specific functions and competencies**

64. **While MANRE holds the principal responsibility for the policy formulation and implementation in most competence areas falling under agriculture, rural development, natural resources and environment, there is ample interface with many other public agencies in these domains** (Figure 5). This can take various forms, e.g. coordination, delegation, division of responsibilities, and much of the current architecture is the result of: (i) historic division of competencies, which may or may not have been revised comprehensively when circumstances called for (such as in the context of alignment with EU policies); (ii) institutional comparative advantage, or (iii) political negotiation and agreement. While the department-level review will provide detailed analysis and propose specific functional adjustment options, an overview is presented below.

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<sup>4</sup> IS amount to approximately 3,600 employees across the Cyprus administration: General Administrative, General Clerical and General Auxiliary Staff (communication by PAPD, November 2013). As of September 30 MANRE had approximately 107 Service Posts of Interchangeable Staff (communication by MANRE, November 2013)

**Figure 5: Division of key responsibilities between MANRE and other ministries**



Source: World Bank based on Government of Cyprus data

65. **Largely, the split of responsibilities between MANRE and other agencies is clear, but is not always conducive to the most effective and efficient delivery of public policies and services.** Inter-ministerial committees (many formalized by law, but also many ad-hoc) are extensively used as a means to ensure coordination on matters of shared interest or competence. While having the advantage of being participative and inclusive, they are also associated with non-trivial “transaction” costs, expressed in staff time and resources invested in the respective activities. In addition, inter-ministerial committees generally have a consultative role, and decisions are deferred to the competent Ministers. In cases where agreements cannot be reached at ministry level, final resolution is sought with the Council of Ministers but this political mechanism is rarely activated and used, for understandable reasons. The variable degree of formality, in conjunction with lack of decision power at committee level may also slow down decision-making and action-taking.

66. **In the most severe cases, the costs of fragmentation cannot be fully mitigated through inter-institutional coordination, and result in policy delivery deficiencies.** The environment portfolio represents the most poignant illustration. Fragmentation is high, both within and outside MANRE, even within the same policy (sub-)sectors. This condition is particularly evident in the sectors of pollution

control, waste management and nature conservation. Environmental quality monitoring is also an area with an extensive spread of initiatives. Chemicals (but not agrochemicals) and radiation protection are outside the domain of the MANRE as well. For such a broadly shared system to effectively function and deliver, comprehensive, integrative, politically sanctioned communication, coordination and cooperation and consultation mechanisms had to have been put in place. This is not the case. A 2011 report by the country's Commissioner for Internal Audit has given a prominent place to the dysfunctions stemming from the lack of broader coordination in the exercise of environmental policy.<sup>xix</sup> Policies are mostly sector-focused with diverse priorities. The level of interaction and information flows between Departments (outside as well as within MANRE) mostly relies on the personalities of the people involved rather on necessity and clear-cut instructions. For example, developing waste management strategies and ensuring and monitoring their implantation or agreeing on the NATURA 2000 sites and preparing their management plans have taken years to formulate, despite formalized legal provisions for the decision-making system and processes. In consequence infringement proceedings have been initiated by the European Commission in both cases.

67. **Duplication, with ensuing extra operational costs and negative impact on policy beneficiaries, is another undesirable side effect of inter-institutional fragmentation.** In Cyprus, one of its most evident expressions is in the inspection and controls function. In the environment domain again, inspectorates and inspections are medium-based (e.g. air, water, soil, etc.), involving two different departments under two different ministries. Each department plans its permitting and inspection activities - many times of the same facility- independently, without cooperation and consultation. Although there is a common committee advising on permitting, the end result is a media-targeted assessment. The setting up of a third "inspection" unit at a third Ministry (Interior) to enforce those waste permitting responsibilities they have is also under way.

68. **Considering the above, some functional realignment will be necessary to increase efficiency and effectiveness of public policy and service delivery in Cyprus.** The options to be considered are described under the relevant reviews at department level.

#### 1.4 Strategic planning and performance management

69. **Just as the rest of the Cypriot administration, MANRE has been challenged with a deficient strategic planning capacity.** Currently, there is no systematic and comprehensive strategic planning system in place. As a result, policy formulation has been taking place mainly at department level, leaving room for improved coordination between policy areas (inside and outside of MANRE) and for better coordination and representation in the EU policy forums. Departments also differ in their capacity to set the goals and priorities that are driving their activities, and to respond to objective sectoral needs (see Section 2).

70. **In most policy areas, priorities and strategic goals are driven by the EU programming processes, as well as by the European regulations and directives.** At the national level, the overarching strategic document has been the Strategic Development Plan 2007-13. Two of its eight axes pertain to MANRE's areas of competence: axis 4, Upgrading and Protecting the Environment, and axis 8, Promoting Balanced Regional and Rural Development. Tied to these, are the various sectoral strategies, programs and plans that respond mainly to EU programming requirements and cover primarily domains that are eligible for EU funding. These include the Rural Development Program in the ARD sector, the Sustainable Development Strategy in the environment sector, the various operational plans, and the Cyprus River Basin Management Plan 2011 (linked to the Water Framework Directive/WFD 2000/60 EC), to list a few.

71. **For the nationally-mandated domains** (such as agricultural research), even if strategic documents or at least goals exist, they are not clearly integrated into an overarching sectoral vision and

strategy, and there are no mechanisms to tie budgetary allocations to meeting certain performance standards or achieving certain results.

72. **Fully acknowledging these improvement needs, Cyprus has already embarked on a path of strengthening its strategic planning capacity and budgetary processes.** While the general framework will be set at the level of the entire administration, the particular institutional arrangements for its implementation may be decided at each ministry level. Given this development, the current review will deal with some of the institutional implications of introducing strategic planning in MANRE in the following section (particularly in reference to the MANRE/Administration).

73. **In addition, and in connection to the strategic function, more emphasis will need to be put on using (economic) analysis to inform policy decisions.** Up to now, there is limited evidence that analytical tools are used to e.g. establish policy priorities in agriculture, natural resources or environment, or to evaluate policy impacts. While such instruments are increasingly required for the EU co-financed policies (e.g. in the case of rural development), consideration could be given to extending them over other policy areas and programs as well.



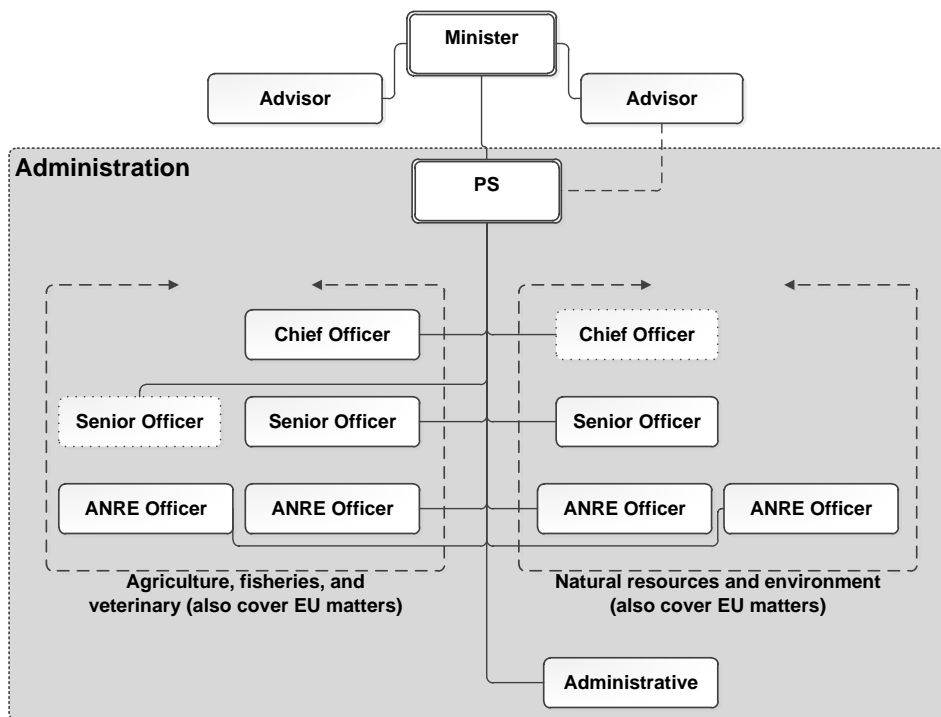
## 2 Organizational structure and decision-making processes

### 2.1 The MANRE Administration

74. **The Cyprus ministries, MANRE included, are characterized by a relatively small central administration, basically a liaison between departments and the Minister, supported by a number of strong technical departments.** The latter are in charge with preparing, implementing and overseeing most aspects regarding the public policies and services in their respective areas of competence. They cover most of the regulatory, policy/service delivery and control functions, while also carrying out a number of administrative functions (see Sections 1.3 and 2.2 and on). The central administration, in turn, is responsible primarily for providing policy and political leadership and coordination for all areas falling under the ministry's mandate. It is also fulfilling an EU representation function, ensuring the country's participation in the high level European forums (such as the European Council of Ministers); in contrast, the departments are in charge with the day-to-day technical coordination and communication with the European Commission and other EU and international agencies and some also provide the attachés in their respective domains to the Permanent Representation, in Brussels. Lastly, the MANRE Administration coordinates all the horizontal administrative matters, such as budget, procurement, and human resources (see Section 1.3).

75. **The MANRE Administration is understaffed, and individual responsibilities are diffuse.** The central administration includes, to support the Minister and the Permanent Secretary (PS): 2 chief officers (of which one position is currently vacant), 2 officers A, 3 senior officers (of which one position is vacant), 4 officers (of which two positions are vacant), and 1 administrative staff (casual employee). In addition, 1 Agricultural Officer is seconded to the Ministry and 2 advisers (positions not in the Ministry's approved posts; one seconded; one on special appointment) are attached to the Minister's office. Technical staff, paired by seniority level, typically divide their areas of competence into: (i) agriculture, fisheries and veterinary issues, and (ii) natural resources and environment (Figure 6), while both streams also cover EU matters. However, when one position is vacant, the remaining staff should in theory take on board the rest of the agenda in the other area of competence as well. The volume of work and the breadth of the policy agenda generate significant and understandable strain on the ability of Administration staff to exercise critical judgment on inputs from the department directors, thus weakening the role of the Administration. Secondments to overcome staffing limitations are not extensively used at this level.

**Figure 6: Current structure of the MANRE Administration**



76. **There is no clear division between the administrative and technical matters within the Administration, and functions performed are not captured into formal organizational structures.** For instance, there is no Personnel unit, and all human resource management matters (HRM) are handled by the PS, together with the chief and senior officers. More specifically, the PS is responsible for the performance assessment of all staff at the central administration level and of the heads of departments and advises the Public Service Commission on their recruitment and promotion. When new posts are established, Department Directors make recommendations to the PS, who raises the issue to the Ministry of Finance (PAPD). Final decisions are made by the Council of Ministers and are subject to approval by the House of Representatives. The PS is also responsible for making suggestions on secondments across the Ministry's services, although the final decision is made by the Public Service Commission.

77. **By the same token, there is no formal EU Affairs unit.** High level participation and policy decisions aside (which are carried out at Minister or PS level), the mundane EU functions at the Administration level consist in serving as a focal point for EU affairs. The Administration handles a significant volume of correspondence with the EU institutions and other Ministries and organizes follow-up and coordination with the line departments, or elevates the issues to the Minister/PS level if needed. This process is very time-consuming, and the line departments enjoy quite a wide autonomy with respect to EU affairs. More broadly, Cyprus EU representation on ANRE issues is in fact ensured by a mix of Administration and department staff, and Brussels attachés, who are mapped to Environment (3, of which 1 from Labor Inspection), Agriculture (2), Fisheries (1) and Veterinary Services (1). The political participation at the Council (Environment) is always by the Minister of ANRE, irrespective of the issues in the agenda.

78. **Lastly, a number of functions and associated structures are missing and need to be instated to ensure more effective public policy management and delivery.** These include strategic planning (see Section 1.4) and internal controls.

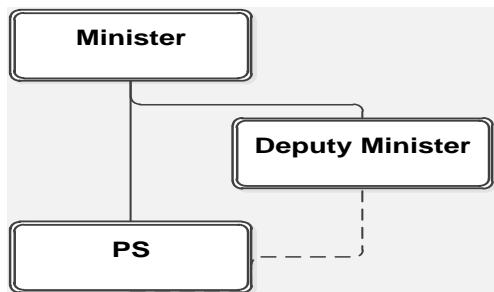
79. In light of the assessment above, **several options for reform can be considered**, as follows:

80. **Elevate the importance, representativity and visibility of key MANRE mandates.** This responds to the double challenge of a vast MANRE scope, claiming significant time and highly specialized sector knowledge, and the still insufficiently high profile of the environmental agenda. The reform can be pursued on two levels, concomitantly or separately.

- a. **The first involves senior management, and could consist in adding a high profile position in MANRE, with primary responsibility in environment, or environment and natural resources.** Such an option would help raise the profile and representation of this important policy area. Several possibilities can be explored in this direction, and they could help bypass the limitations with regard to establishing a distinct Ministry or independent agency.

Deputy Minister: Over the years, discussions were held at Government level about the possible appointment of a Deputy Minister solely dealing with the environment and related EU agendas. Indeed this option would have been a preferred one under other circumstances and administrative cultures, particularly as regards to securing a targeted and consistent EU and international representation and outreach, and adding a political clout to national coordination and integration. However, the recent initiative of the Government to create posts of Deputy Ministers (a bill is discussed in the Parliament) appears to limit the proposed posts to 3 (merchant shipping, development and EU affairs are under discussion). It is therefore unlikely that such an option would materialize for the environment. If it did, it would have some serious considerations that would need to be addressed, such as the relationship and division of portfolios with the Minister, reporting relationship between the Deputy Minister and Permanent Secretary, and its consequences on the ranking and rapport between policy areas (Figure 7). For instance, would the Deputy Minister have a clear line of action and independence in initiatives and on policy formulation? If the Deputy Minister were to be in charge with environment only, while the PS would be responsible (also) for agriculture and natural resources, would the latter two sectors be ranked as less significant than the environment? And would political decisions for these two have to be filtered through an additional layer (i.e. Deputy Minister) – who, by definition, would not have a mandate for these policies, or would they justify a direct line between the PS and the Minister? If they did justify a direct line, then why would the PS occupy a position subordinated rather than equal to the Deputy Minister? In light of all these questions, it would be preferable to consider allowing equal representation levels for all three MANRE policy areas, hence the options below would present more appeal.

**Figure 7: MANRE organization chart with Deputy Minister**



Second Permanent Secretary (or Director General)<sup>5</sup>: In various documents, arguments have been put forward for the creation of a new Directorate General (DG) for Environment and

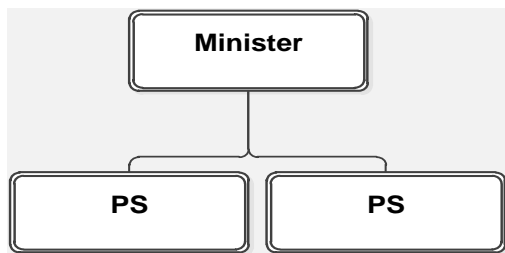
<sup>5</sup> In Greek, the PS title is actually Director General.

Natural Resources, which would include five of the now 10 Departments of the Ministry (Environment, Forestry, Water, Meteorology, Geology, Mines), a unit from the Department of Fisheries (the Marine Environment Division), as well as units to be moved from the Ministries of Interior and Labor. Similarly, a Directorate General could be considered for Agriculture and Rural Development, clustering the Department of Agriculture, Fisheries, Veterinary Services and ARI.<sup>6</sup>

Compared to the Deputy Minister option, the second PS in charge with environment or with environment *and* natural resources would present the advantage of ensuring equality in the ranking and representation of the key MANRE policy areas, and of more straightforward reporting lines to the Minister (Figure 8).

In certain larger European environmental administrations with complex and diverse lines of responsibility, it is not uncommon to have in place more than one Director General, covering the broader clusters of their functions. For example, DEFRA in the UK has 4 Directors General, the Ministry of Life in Austria has 8 DGs, the Netherlands Ministry of Infrastructure 3. However, even in such cases, there is only one top civil servant under the Secretary or Minister: One Permanent Secretary in DEFRA, one Secretary General in Austria, and one Secretary General in the Netherlands.

**Figure 8: MANRE organization chart with two Permanent Secretaries (Directors General)**



In further considering this option for Cyprus, even if size and scale considerations are put aside, a closer look should be taken at the reasoning behind such a suggestion, as summarized by the 2005 consultant's report<sup>xx</sup>. In the first place, the proposal was made vis a vis the inability to have a separate Environment Ministry and vis a vis the creation of a general independent Agency. The main arguments brought forward were: to reflect the relative importance of environment policy; to give environmental policy its separate voice inside the Council of Ministers; the inherent relationships between natural resources and environment policies; to better negotiate conflict of interests at the political level; to better represent the Ministry at the EU and international meetings; to ensure better integration by making it easier for other Ministries to relate to environment policy; and to bring Cyprus closer to what happens inside the European Commission and in all other Member States.<sup>7</sup>

However, a multiple PS model needs to be viewed and understood in the wider context of the public governance in Cyprus. All ministries in Cyprus have a single PS<sup>8</sup>, who is a civil service appointment and is immune to the election cycles. This presents the tremendous benefit of ensuring strong technocratic leadership and continuity of policies regardless of the

<sup>6</sup> Such clustering provides an indication of what the possible establishment of a new Ministry would entail, which would be splitting up an existing Ministry into 2 weaker ones rather than strengthening it.

<sup>7</sup> Such responsibilities could, perhaps, be better exercised by a Deputy Minister.

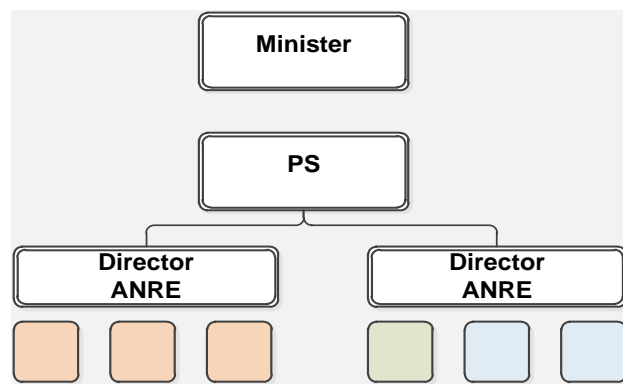
<sup>8</sup> An exception is the Ministry of Finance where, in addition to the PS of the Ministry, the Minister is also directly responsible for the former Planning Bureau (now the Directorate General for European Programs, Coordination and Development). However, from the inception of the Republic, the role of this Bureau has also been distinct from mainstream financial affairs and has always been operating under this status.

changes in Government. It gives Cyprus a strong advantage over many (EU member state) administrations, where political changes often result in drastic and disruptive policy and staff fluctuations. Introducing two or more Permanent Secretaries in a ministry will not affect the technocratic immunity in face of political cycles but it might impact its integrity. The greatest foreseeable risk is fragmentation of policy representation, functional fog, deficient coordination at ministry level, and competition for resources. It would also complicate the exercise of PS responsibilities regarding administrative issues, and might result in potential fragmentation, duplication or conflict/competition. Finally, it would complicate decision-making at the Minister's level as he/ she would have to mediate between potential conflicts between his PSs.

In light of the above, this option is not preferred, and a better alternative could be the streamlining of the technical departments, coupled with the possibility of introducing specific "Directors of ANRE" below the PS level, as the post of Deputy PS (DG) does not exist in the Cyprus public administration.

Directors of ANRE: 2 Directors of ANRE, reporting directly to the PS, and coordinating the activities of selected departments could ensure better visibility and coordination across major policy areas (Figure 9).

**Figure 9: MANRE organization chart with Directors of ANRE**



The modalities for establishing such posts (including the associated grades and cost implications), as well as their relationship to the Department Directors would need to be determined after taking into account the recommendations of the cross-cutting Public Finance Management report. In view of this, any references to job titles in the current report do not necessarily correspond to existing salary scales.

- b. **The second concerns the Administration operational office, which needs to be strengthened through additional, qualified staff.**

81. ***Introduction of missing functions and structures. These include, most notably, strategic planning and internal controls.***

82. ***Setting up a Strategic Planning Unit:*** Strategic planning, policy administration, program budgeting, broad coordination, performance assessment and overseeing broader achievement of goals, policy communication and strong external links, are means for the ministry to assume a principal, leading role. Such components do need strengthening. Some pertinent matters to be dealt with are: how far should the ministry be strengthened (staff and skills)? What is the proper mix of instruments for acquiring the indispensable skills required for such a role? In-house, outsource, on the job training, attachment of personnel appear as options available.

83. **In responding to these challenges, MANRE will follow the horizontal approach that will be adopted for all Ministries.** Introducing strategic planning is an initiative covering the entire public administration in Cyprus, under the leadership of the Directorate General for European Programs, Coordination and Development (DG/EPCD). By the beginning of 2016, strategic planning is expected to be enforced in all ministries. In preparation of that, the Cyprus Academy for Public Administration is involved in training middle management in goal and target setting, and the process should be completed by September/October 2015. As a result, middle management in MANRE should have developed the knowledge and skills to apply strategic planning in their activities, and can be the driving forces at department level. The Government is in the process of determining the most appropriate organizational design for the introduction and the implementation of the strategic function, and it appears likely that this will translate into the setting up of strategic planning units, reporting to the PS, in all line ministries.

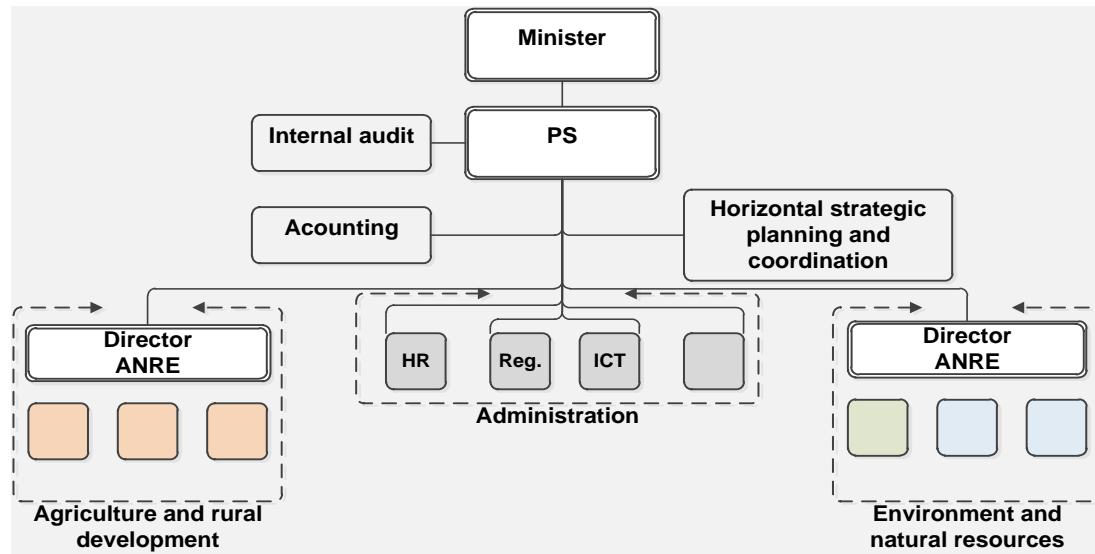
84. **Setting up an internal audit system:** The Council of Ministers in Cyprus recently approved the setting up of internal audit (IA) units in each ministry. While IA systems vary greatly from country to country, two main traditions can be identified amongst the European countries<sup>xxi</sup>. A centralized model, seen in countries like France, Portugal and Spain, characterized by a legal system based on the Napoleonic Code, involves the Ministry of Finance playing a leading role, including placing its own staff in the line ministry. Conversely, a decentralized model, seen in Anglo-Saxon countries, such as United Kingdom and the Netherlands, leaves the line ministries fully in charge with the checks and safeguards on how they spend their budgets. To ensure independence, the internal auditor should ideally report directly to the Minister, or the chief executive officer of the line ministry in a decentralized model. Alternatively, under a centralized model, the internal auditor could report directly to the Minister of Finance. In Cyprus, similarly to the strategic planning process, horizontal arrangements are made for the setting up of IA units in each ministry.

85. **Separation of technical and administrative responsibilities within the MANRE Administration:** This would help address the current dilution of duties, which increases workloads and hinders efficiency.

86. **Administrative responsibilities:** Two options can be envisaged in this regard.

87. **Firstly, all administrative responsibilities (e.g. human resources, registry, information communication technology, etc.) can be clustered around the Permanent Secretary's office (Figure 10), but without being captured in a formalized and unified structure.** Each of them will preserve its reporting lines directly to the PS. The Accounting unit will remain as is, and new strategic planning (possibly to include also some horizontal issues) and internal audit units will be introduced, reporting to the PS and/or to the Minister, depending on the outcome of the horizontal reform process (see also paragraphs below). Such an option, while evolving naturally from and upgrading the current set-up, may present the challenge of a rather heavy reporting load that the PS will need to handle.

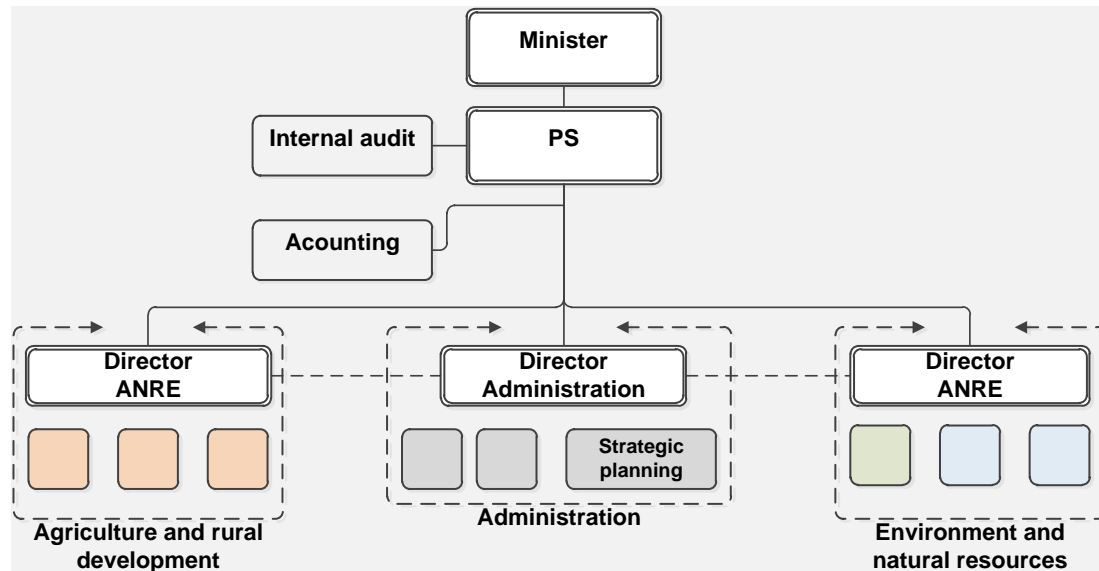
**Figure 10: MANRE organization chart with Directors of ANRE and separation of technical and administrative responsibilities – without a formal administrative unit**



**Notes:** The titles referred in the Figure above do not entail a recommendation about salary and scale; such issues are addressed in the horizontal report covering human resource management.

88. **Alternatively, a formalized structure could be set up** (Figure 11), **responsible for the coordination of all/most administrative matters, and led by an ANRE/Administration Director.** It could ensure the MANRE-wide coordination of matters pertaining to resource management (e.g. personnel), administration (e.g. registry), and strategic planning. The latter could be justified if, at the central level, the group dealing with strategic planning would have primarily a facilitator’s role (i.e. organizing the strategic planning process, coordinating with the technical departments and relying on their technical inputs, and monitoring/reporting the results) rather than a policy- and decision-making role. The close integration of strategic planning with resource management could also provide benefits in terms of strengthening the link between the performance assessment tools and the resource allocation processes. This would be particularly significant in the context of a potentially revised role of the current Accounting office, towards wider financial management competences and a more autonomous management of financial resources at line ministry level (a discussion being carried out in the Government at present). However, in absence of a sufficiently strong role, a formalized administration structure (and a Director) would not be warranted.

**Figure 11: MANRE organization chart with Directors of ANRE and separation of technical and administrative responsibilities – with a formal administrative unit**



**Notes: Notes:** The titles referred in the Figure above do not entail a recommendation about salary and scale; such issues are addressed in the horizontal report covering human resource management.

89. **Technical responsibilities:** (Two) Directors could continue to manage and coordinate sector policy matters. Consideration could be given as to whether one or two of them would be the most adequate response to the breadth of technical knowledge required to best fulfill this technical job. If two Directors were to cover technical matters, a sector-based division of duties could be envisaged between agriculture and rural development, on the one hand, and environment and natural resources, on the other hand. Furthermore, a revision of the division of responsibilities with the department directors – and a (corresponding) realignment of the salary scales could be considered.

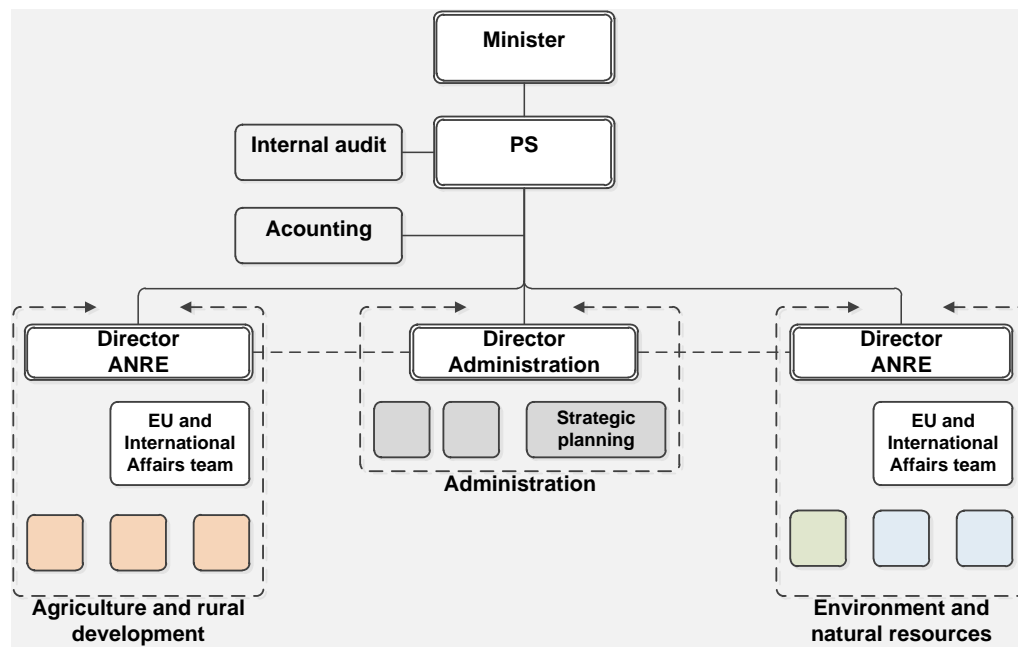
90. **Creation of (a) dedicated and formal EU (and International) Affairs Unit(s):** The need for stronger involvement in European decision-making processes on important policy-related matters must also be taken under due consideration, by looking into the potentials for an EU Affairs Unit, along the lines of the EU Coordinators established in many EU member states. Such units aim for better interaction/ inter-ministerial and intra-ministerial co-ordination, environmental diplomacy, etc. For such a unit to have a real value added, it would require stronger guidance at the Ministry and day-to-day interaction with EU liaisons/ coordinators at the Departments and with the attachés in Brussels. The latter have gradually acquired considerable autonomy in action. How much autonomy should there be? The issues to be dealt with would have to be policy-related, not technical. Political guidance would be needed as to what constitutes an important “policy aspect”, guidance both for the attachés in Brussels (Council) as well as to the officers travelling from Cyprus (“Comitology”, international). Better interaction between these processes may also be merited. The unit could deal with a number or all of the functions performed by such Units in other member states.

91. **The EU (and International) Affairs Unit(s) would be best served if led by the Directors responsible for policy matters, and if adequately staffed (number and skills).** A different scenario would risk creating duplication or confusion with regard to the treatment of policy matters at the central level. In the line of the discussion above, there is a question as to whether it would be better to distinguish between the agriculture/rural and environment/natural resources business lines when considering the EU representation function. The reference in other EU countries is relatively sparse, given that so few administrations cover all these policy domains. In Belgium (function-driven structure), even if there is a consolidated EU and International Affairs unit, it is broken down into four directions: (i)

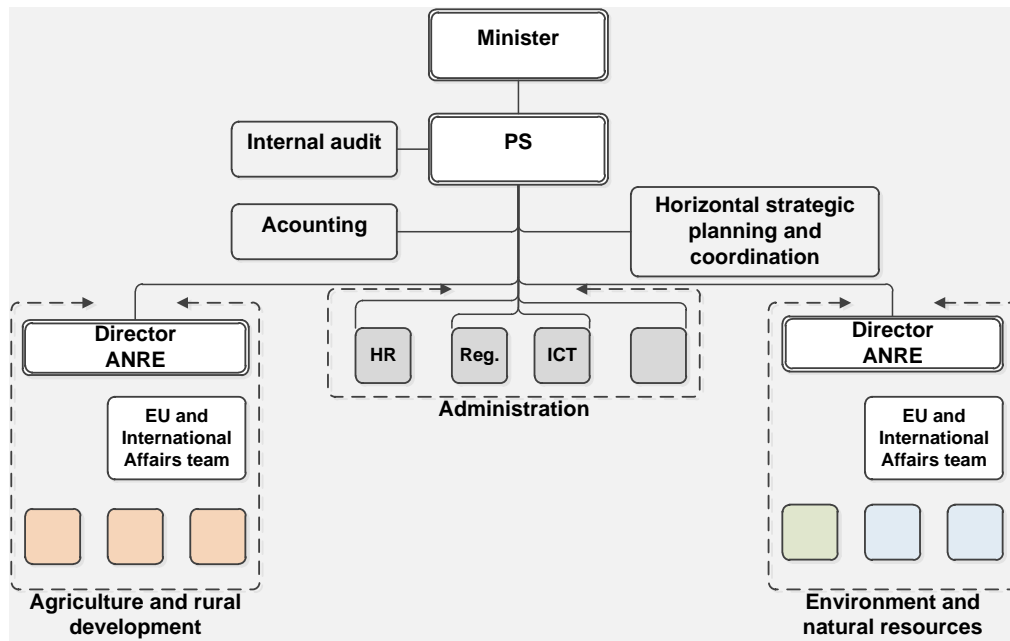


coordination; (ii) CAP; (iii) environmental policy; and (iv) European programs. In Austria (business-line driven structure), two distinct EU Coordination units exist under the Department of Agriculture and Nutrition, and the Department of General Environmental Policy, respectively. The ensuing guiding principle is that, irrespective of where they are located, the EU coordination units need to recognize the differences and the particularities of the agriculture and environment sectors. In fact, the processes in Brussels for the CAP and the environment policy (which includes water resources)<sup>9</sup> are very distinctive and different, and are covered by different EU Council formations, with different operational cultures and set-ups. The MANRE Departments covering these issues are also different. There would be merit, hence, in separating them in the context of MANRE. Therefore, the institutional reform could consider two EU coordination processes, which can be placed under each of the two policy Directors, one for environment and natural resources and one for agriculture and rural development (Figure 12). Such an option would also limit the number of new unit and posts needed for strengthening the EU coordination function.

**Figure 12: MANRE organization chart with EU and International Affairs Unit(s), and under both scenarios regarding the administrative responsibilities (*with and without a formalized structure*)**



<sup>9</sup> Also governed by two distinct Directorates General: DG Agriculture and DG Environment

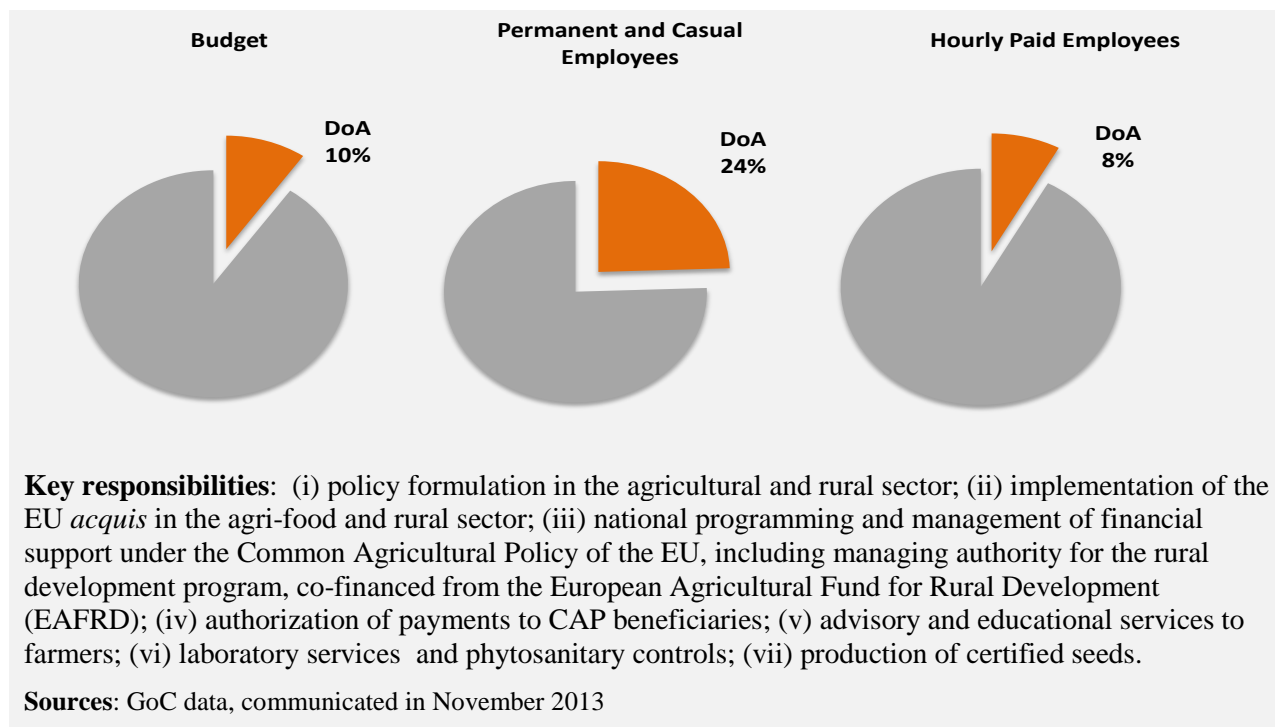


**Notes: Notes:** The titles referred in the Figures above do not entail a recommendation about salary and scale; such issues are addressed in the horizontal report covering human resource management.

92. **As a variation, the role and scope of the EU Affairs Unit could be expanded to also capture broader policy support, benefiting MANRE senior management.** In this case, and just like for EU affairs, the demarcation with the technical departments will need to be clearly drawn.

93. **Of all the options above, the organization structure resting on two policy pillars – (i) agriculture and rural development, and (ii) environment and natural resources – each supported by an International/EU Affairs unit, is preferred.** This would allow for strengthened policy coordination, and a better representation in the EU fora. However, a dedicated unit to handle administrative matters in an integrated way is not warranted, with many of the support functions being to a large degree coordinated or facilitated at a central Government level. The Council of Ministers recently decided that a strategic planning and coordination unit will be introduced in MANRE (as well as in the other ministries), reporting directly to the PS.

## 2.2 Department of Agriculture



### Status quo: Diagnostics

94. **The Department of Agriculture in MANRE is in charge with the national management and implementation of the European Common Agricultural Policy (CAP) in Cyprus (and associated *acquis communautaire*), as well as with the provision and delivery of other, nationally-funded public supports and services to the farming and rural sector.** The Department performs a legal and technical coordination function with the European institutions in Brussels on matters regarding sector policy and *acquis*, whereas political representation is ensured by the senior management of MANRE.

95. **Since EU accession, the CAP represents the hard core of the mandate carried out by the Department of Agriculture.** In this regard, the Department is in charge with the management of the common market organizations (CMO), coordinates and oversees the direct income support and market-measures available under the CAP, constitutes the managing authority for the Rural Development Program (RDP), and checks and authorizes the payments to farmers and rural dwellers that are performed by the Cyprus Agricultural Payment Organization (CAPO).

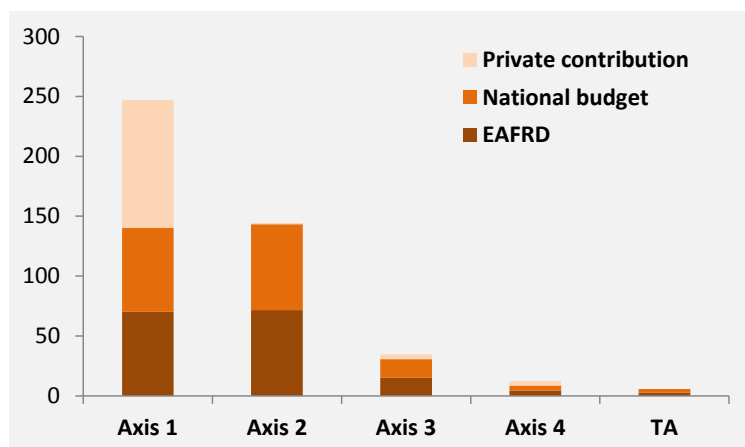
96. **In addition to these,** the Department operates a network of agricultural training and extension services, conducts various inspections and controls regarding the agri-food products, and manages the state aids in agriculture that are granted in accordance with the European regulations.

97. **The Department takes the lead in policy formulation in the ARD sector, but the process is mostly driven by the EU requirements and budget cycles.** The applicable sector strategic and programming documents are the National Strategic Plan (NSP) and the RDP 2007-13, and preparations are ongoing for planning for the next European financial perspective 2014-20. While the NSP and RDP are comprehensive and thoroughly prepared documents, their main drawback is that they are designed to focus on the priorities that can be financed from the European Fund for Agriculture and Rural

Development (EAFRD), or the so-called Pillar 2 of the CAP<sup>10</sup>. As a result, they typically leave out or insufficiently refer to several other policy and institutional issues that are important for the coherent functioning of the sector, and, ultimately, also for the effective use of CAP funds. These include: social security for farmers, land tenure, rural credit, agricultural knowledge and information systems, agricultural taxation, etc. This is not to say that such matters are not being addressed in Cyprus, but that they are not included in a wide-ranging yet well-articulated policy framework. In absence of that, the risks are that sector priorities may be watered down and change frequently, or that inconsistencies across sector incentives occur.

98. **The 2007-13 RDP covers 22 measures (and additional sub-measures) out of the about 40 available in the EU toolkit.** Judging by the financial weight, the public allocations of the RDP are almost evenly split between axes 1 (competitiveness) and 2 (environment), Figure 13. Axis 1 is centered on modernizing agricultural holdings and processing (some 50% and 25% of axis total, respectively), while axis 2 on agri-environment and handicap payments (56% and 28% of axis total, respectively). Axis 3 holds a rather small share, overall, given that the Government decided to retain only the eligible investments aimed at public rural beneficiaries in the RDP. The private rural beneficiaries, who would like to diversify their incomes through e.g. rural tourism, and other businesses, are eligible for structural fund support.

**Figure 13: Financial allocations under the Rural Development Program in Cyprus, 2007-13 (EUR million)**



**Source:** European Network for Rural Development,

[http://enrd.ec.europa.eu/app\\_templates/filedownload.cfm?id=BC9CC799-C8F3-C3DD-CE14-14CBC713B1F2](http://enrd.ec.europa.eu/app_templates/filedownload.cfm?id=BC9CC799-C8F3-C3DD-CE14-14CBC713B1F2)

**Note:** Axis 1 covers competitiveness enhancing measures (e.g. investments in farms and food processors, advisory services and training to farmers, early retirement), Axis 2 includes environmentally-oriented measures (agri-environment payments, NATURA 2000, payments for farming in areas affected by natural handicaps), Axis 3 consists in measures aiming at diversifying rural incomes and improving quality of life (e.g. basic rural infrastructure, investments in agro-tourism and rural businesses), Axis 4 supports community-led development, while a fifth component finances technical assistance (TA). The axes will not be preserved as such in the 2014-20 programming period.

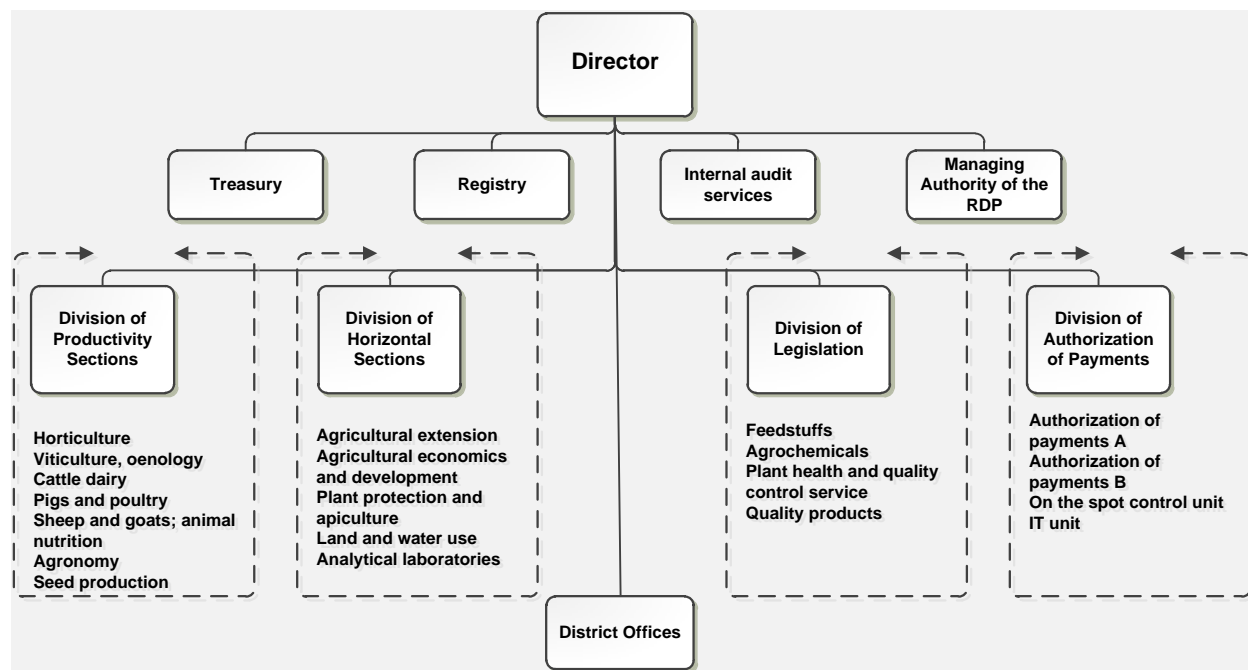
99. **Policy targeting considerations aside, the considerable number of RD measures calls for a matching administrative effort; delegation is therefore widely practiced.** Within the Department of Agriculture, the Managing Authority (Figure 14) is ultimately liable to the European Commission for the appropriate implementation of the RDP. However, the managing authority relies heavily on delegation, and the implementation of the RDP is scattered across many MANRE Departments and other ministries:

<sup>10</sup> Direct payments and market measures, financed from the European Agricultural Guarantee Fund (EAGF) constitute the first pillar of the CAP.

- Adding value to agricultural products (or investment in agri-food processing) is implemented by the Ministry of Energy, Commerce, Industry and Tourism, through its RDP unit.
- Forestry-related measures, such as adding value to forestry products (axis 1), first afforestation of agricultural land, establishment of agri-forestry systems, protection of forests against fires (axis 2) are implemented by the Department of Forestry.
- NATURA 2000 is implemented by the Department of Forestry (forest sites), Department of fisheries (maritime sites), Department of Environment (rest of terrestrial areas) and Ministry of Interior through its Game Fund (special protection areas); in addition, the Department of Environment is the national focal point for Brussels and is responsible for overall monitoring and reporting on the Habitats Directive.
- Axis 3 and Axis 4 (LEADER) are implemented by the Ministry of Interior, through its European Funds Unit.

100. **Under these arrangements, the role of the Managing Authority is limited to:** (i) programming (of the RDP, at the beginning of each 7-year EU budget cycle); (ii) monitoring, evaluation, financial management (for the RDP), and reporting; (iii) control of EAFRD-funded project implementation, and (iv) management of the technical assistance component of the RDP.

**Figure 14: Organizational Chart of the Department of Agriculture**



101. **The fragmented implementation dilutes the profile of rural development.** The importance of rural development has been growing significantly in the context of the CAP, as the multi-faceted functions of the European countryside (environmental stewardship, socio-economic value, tradition and culture) are more widely recognized and rewarded by society and policy makers. It is expected that this trend will continue and will grow stronger. However, the role of MANRE appears to remain rather traditional, namely agriculture-centric, focused on promoting agricultural competitiveness (or productivity) and engaging with farmers, rather than with the rural society more broadly.

102. **The dispersed implementation, mirroring a fragmented agri-food and rural mandate, also undermines the effectiveness of policy delivery.** Several challenges can be observed, particularly with regard to the food value chains, territorial and community-driven development:

103. **Food:** With the traditional role of marketing boards (olives, potatoes, wine and milk) terminated upon EU accession<sup>11</sup>, the agri-food value chains have not fully recovered their smooth pace. The Ministry of Energy, Commerce, Industry and Tourism (MECIT) became responsible for the processing and marketing aspects of all agri-food products. In turn, MANRE retained a focus centered on primary agricultural production and boosting productivity. At operational level, the cooperation between the two ministries appears to function relatively smoothly<sup>12</sup>, but the main drawbacks are in the policy level, where there is a disconnect. The ministries do not appear to have developed common views and goals on a consistent and integrated support to the Cypriot agri-food value chains. There is a gap between the farmer-focus of MANRE and the processor-focus in the MECIT, which leaves the question of how to best help farmers connect to processors and markets, and who should play this role. The MECIT, through its Trade Service, is involved in the *export* promotion of agricultural and food products and this seems to be a natural choice; however, the focus on the organization of the domestic markets – while taking into account the structural realities of Cypriot farming – remains unclear and insufficiently addressed.

104. **Territorial development:** The Ministry of Interior (through its EU Funds Unit) is the implementing unit of the axis 3 rural development measures, concerning the preservation of rural cultural heritage, and provision of social services in rural communities (e.g. youth centers). All the eligible beneficiaries are public bodies, i.e. district administrations, the Department of Town Planning and Housing, and Cyprus Tourism Organization. The support to private rural beneficiaries is channeled through the operational program “Sustainable Development and Competitiveness” (Priority 4: Productive Environment, financed from the European Fund for Regional Development, ERDF), and is implemented by MECIT. On axis 3, the division of responsibilities between the Ministry of Interior and MANRE is clear-cut and works well on an operational level, but the question is to what extent the Government approach to the rural areas is sufficiently cohesive and less infrastructure-oriented, and whether the intricacies and inter-relations of rural and farm incomes are being best addressed through a discrete approach.

105. **Community-driven development:** Axis 4 of the RDP – called LEADER – promotes a bottom-up development of rural areas, allowing so-called local action groups (LAGs, which are rural public-private partnerships that include farmers, municipalities, non-government organizations etc.) to prepare their own local development strategies (LDS). The measures eligible for financing under an LDS must be drawn from the measures available in the RDP (and is often the case that only a short list may be used under LEADER). In Cyprus, each LDS is assessed by a Technical Evaluation Committee (TEC), which includes a multitude of agencies<sup>13</sup>. Once the LDS is approved, the LAG can start its implementation. During this time, local beneficiaries submit their project applications to the LAG, who makes a pre-selection, then forwards the shortlisted applications first to the TEC, who ensures conformity with the LDS, and then to the managing authority or to the delegated implementing unit, who makes the final selection decision.

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<sup>11</sup> Before accession, these were monopolies dealing with the trading of the respective commodities. After accession, they had to reconsider their functions to get in line with the CAP. As a result, they became involved in certain administration measures of the respective CMOs. The boards envisaged preserving their independence from MANRE, and that used to create duplication and friction. However, they are now being dismantled as part of the public administration reform. Of these, the Potato Marketing Board is a semi-governmental agency, who still retains 60% of the market (mostly for export). As opposed to the other boards, it will be phased out gradually, over the next years. The Potato Board used to receive a levy from farmers who decided to sell to it. About 50% of the producers preferred still to rely on it. After dismantlement, potato trading will have to be organized through producer organizations.

<sup>12</sup> For instance, as evidenced by the implementation of the delegated rural development measure supporting investments in food processing

<sup>13</sup> Department of Agriculture, Ministry of Interior, Planning Bureau, Cyprus Tourism Organization, Department of Fisheries, and Cyprus Communities Union.

106. **A fragmented implementation of the RDP adds to specific implementation challenges of a cross-cutting measure such as LEADER.** In Cyprus, three measures are eligible for bottom-up support, and each has a different implementation body: (i) adding value to agricultural products/MECIT; (ii) non-productive investments in forests/Department of Forestry; and (iii) basic rural services and protection of rural heritage/Ministry of Interior. LEADER had a slow start in Cyprus (not programmed in 2004-06, then 4 LAGs approved at the end of 2009, with a number of projects currently ongoing but not yet completed). For a country implementing the complex LEADER approach for the first time (as is the case in Cyprus), challenges are inherent, for reasons that have to do both with the applicants and the implementing authorities. However, the intricate institutional framework further complicates the process. Additional hurdles are encountered as far as the dynamics inside the LAGs are concerned, with municipalities/ rural communities having often an overpowering influence in the LDS development, which is further enhanced by an RDP that favors public beneficiaries under its third axis. This will need to be further discussed in the context of the local government reform, but also in relation to the potential use of the community led local development (CLLD) in Cyprus for the 2014-20 period.

107. **The interface with the rural beneficiaries is also dispersed.** While applications for the area-based payments under both CAP pillars are straightforward and entirely electronic, those for the remaining RDP measures are (mostly) paper-based, and include many different entry points (Department of Agriculture/district offices, Department of Forestry, Ministry of Interior, MECIT, or the LAGs). This may confuse the rural applicants and convey the impression of a piecemeal approach to rural development.

108. **Within the Department, the policy formulation function is split between the Agricultural Economics and Rural Development Section and the Managing Authority.** While the latter leads the programming of the RDP, the former has a broad and somewhat harder-to-pin-down role. It deals with a panoply of issues, from budget planning and monitoring for the entire Department to policy formulation (and implementation) in relation to Pillar 1 and state aids, implementation of some LEADER sub-measures, support to the FADN and production forecasts, and trade representation (in the World Trade Organization and other bilateral and multilateral trade agreements). It is not clear how well the Agricultural Economics and Rural Development Section coordinates with the Managing Authority when it comes to policy formulation, how well the Section interfaces with all the other structures with whom it seems to share competencies (e.g. information and statistics, market analysis), or whether it can devote sufficient attention and resources to policy formulation amidst its many other activities.

109. **Data collection and market and price information are scattered across the agricultural administration.** The productivity sections are in charge with data collection (on e.g. prices, production, or rainfall) in their respective fields. Resulting databases and reporting of statistics to Brussels is also done individually, without further integration for certain data. There is further data collection performed by ARI, in the context of the Farm Accountancy Data Network (Section 2.3). ARI is also in charge with conducting market and price analyses, and it is not clear whether this division of competencies ensures the optimal handling of data.

110. **Analytical tools to inform policy making are equally dispersed and sparsely used.** Productivity departments carry out analyses in their respective subsectors, ARI conducts market and price analysis (see also Section 2.3), while the Agricultural Economics and Rural Development Section is also involved in statistical data collection and analysis. Yet, in spite of specialized, commodity-specific analyses, a gap remains unfilled with regard to more comprehensive sectoral analyses (e.g. value chains, structural issues, farm and rural incomes), which could feed into the policy-making process. There is limited evidence that such analyses are being carried out (either in-house or outsourced) or are effectively used. This critical gap trumps the targeting of financial support and, ultimately, effectiveness of policy delivery.

111. **Extension, education and information services to farmers are a traditional business line of the Department of Agriculture, and remain prominent.** The Department provides advice to farmers on cross-compliance matters, but also on farming practices (such as irrigation, which involves a coordination need with the Water Development Department). Extension and advice are free of charge, and efforts are made to best align the provision of services with what farmers need, based on inputs from extension officers. However, more can be done, primarily through a more comprehensive and systematic needs assessment of the farming sector. Annual plans guide the activities of the Extension Service. In the past, the agriculturalists working for this service were seen as being close to the farmers, but, with the adoption of the CAP, some perceive them now as becoming excessively bureaucratic and having reduced their field presence.

112. **The extension services in MANRE may present synergies with the Agricultural Insurance Organization (AIO) and with the Agricultural Research Institute (ARI).** AIO may provide limited advice on risk management currently – and usually does that jointly with the Department of Agriculture (see Section 2.4). ARI provides training to the extension officers in MANRE, mainly in connection to disseminating its research results, but is also involved in demonstrating its results through pilot projects and doing field trials.

113. **The delivery of state aids in agriculture holds additional potential for synergies.** Since 2012, AIO has taken over the management of all state aids falling under the National Framework for State Aid in Agriculture, while the Department of Agriculture maintains the implementation prerogatives of all the other sectoral aids (e.g. fire relief scheme, seed certification scheme, rat control project etc. - see Section 2.3)

## **Reform Options**

114. **Cyprus needs a stronger leadership in the *rural development* sector, which could also be reflected in a revised title of the Ministry.** This is in line with the current and expected future developments at the EU policy level, and is called for in light of the perceived deficiencies and divisions at the level of Cypriot administration. The prevalent practice in the EU is that the line ministry in charge with agriculture also takes up the leading role in rural development, and there is a strong integration between the two policy areas that constitute the two pillars of the CAP.

115. **This typically also involves establishing a powerful linkage across all elements of the food value chains** – from production, to market access and producer organization, and then on to processing and marketing. Food, in a “farm to fork” logic, is closely integrated with the farm production.

116. **The prevailing experience in the EU indicates that agri-food processing, internal market and foreign trade fall under the responsibility of the ministries of agriculture.** Cyprus appears to be an exception. Virtually all EU ARD administrations have integrated food processing and marketing of agri-food products into their mandates. This is also aligned with the policy instruments available under the CAP, which include the management of food processing investment supports, value chain organization (through e.g. facilitating the setting up of producer groups), and market-related payments. In particular, food industry mandates can be clearly identified in the (names and) organizational structures of the ministries presented below for illustration. Furthermore, EU countries display different approaches and provide different weights to dedicated agri-food marketing and trade promotion activities. At the high end of the spectrum lie countries like Ireland, where a trade promotion agency exists under the Department of Agriculture, Food and the Maritime.

117. **MANRE could be empowered to play a stronger role, in particular, in agri-food chain integration.** This is a question of political agreement on MANRE’s competence, but one needs to consider the shifting paradigm from a traditional approach to agricultural policy to a modern, integrated approach that fully embraces the socio-economic and environmental aspects of rural life. Should a wider



role for MANRE be decided, this can be reflected in the future programming and implementation arrangements of the 2014-20 RDP. In particular, there are benefits from bringing the food industry and specific agri-food trade aspects under MANRE's mandate, particularly linked to a better value chain integration and trade promotion of Cypriot products. In addition, one could also reconsider, for instance, the role that MANRE should play with regard to diversification of rural incomes, or promotion of bottom-up development.

**118. An increased sectoral leadership – and policy effectiveness, regardless of the implementation structure – needs to be anchored in a strengthened analytical base and policy formulation process.** The Agricultural Economics and Rural Development Section could potentially assume this key role, provided that many of its other responsibilities can be reorganized. It will be important to discontinue the segregation of the policy formulation processes between the two pillars of the CAP. A strengthened policy support division in the Department of Agriculture could further coordinate with a future strategic planning and/or policy unit that could be established at the level of MANRE Administration (see Section 2.1). It could also absorb the analytical work done by the productivity divisions, and, perhaps, by ARI as well (market and price analysis). Equally, further consideration can also be given to encouraging a more reliable use of external economic analysis that can inform the ARD sector.

**119. A more integrated agricultural statistical data collection and management is needed and might be best served by the setting up of a dedicated structure (e.g. either a self-standing section or a component of the Agricultural Economics and Rural Development section).** This is widely practiced across the EU. Such a unit could be the most appropriate location for the FADN, which is currently placed in ARI. Another area to explore is whether farm data collection would not be most effectively done through the district offices. Furthermore, an integrated, electronic data management system in the ARD sector could be considered in a long run perspective. The Agricultural Extension division could subsequently become more involved in the dissemination of price and market information, generated by the statistical unit.

**120. More broadly, options will need to be explored as to what would be the most appropriate delivery of extension services,** given the structure of the Cypriot farm sector, and on how to best integrate it into a well-articulated agricultural knowledge and information system (see also Section 2.3).

**121. The division of roles between the Department of Agriculture and AIO could be further fine-tuned and revisited.** Firstly, potential synergies as far as risk management advice is concerned, could be explored. They might also be better integrated with an information system that could include weather data (hence possible synergy with the Meteorological Service). Secondly, one needs to consider the future role of the AIO in the context of the risk management toolkit in the 2014-20 CAP. Depending on the choices Cyprus makes, a closer integration between AIO and the Department of Agriculture, or even a distinct Risk Management section in the Department of Agriculture could be envisaged. Thirdly and lastly, the management of the various state aids in agriculture (mostly having to do with compensation for various damages) could be further integrated – with AIO, depending on its post-2014 role – or only within the Department of Agriculture.

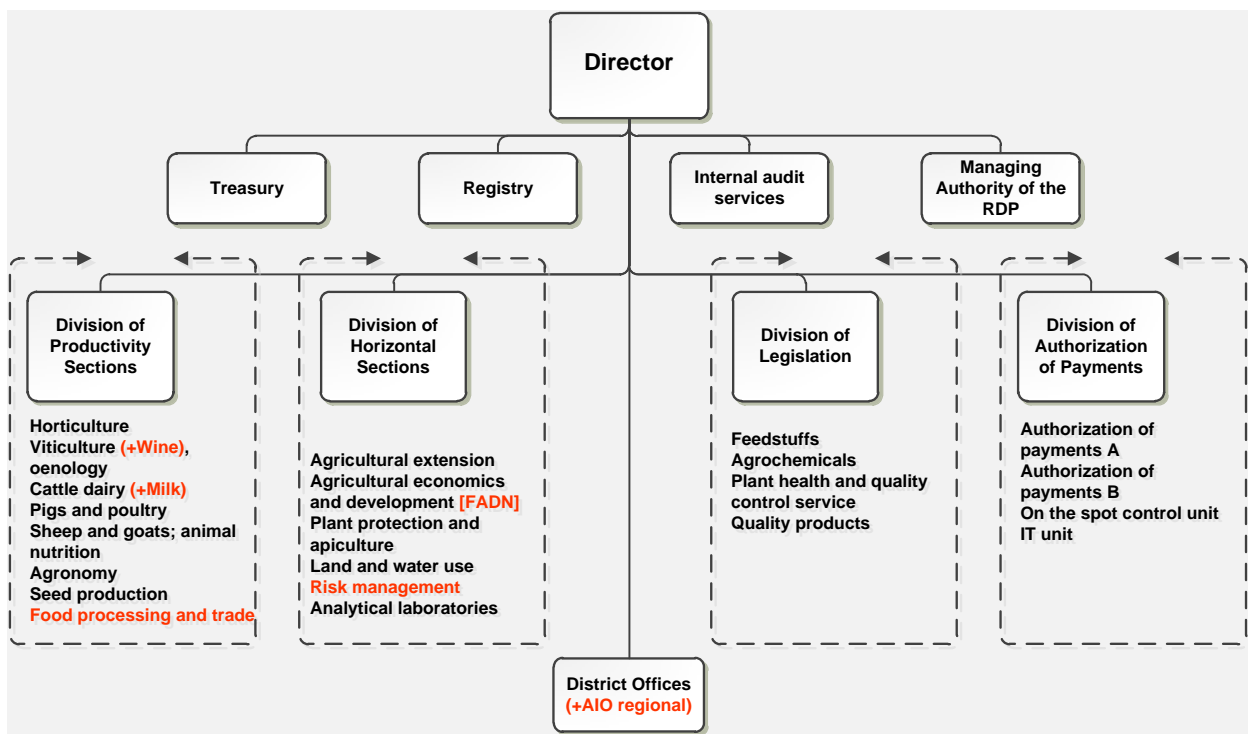
**122. At a minimum, the reorganization of the Department of Agriculture could reflect one or several of the following options, subject to the decisions to be made by the Government (Figure 15):**

- *The transfer of the FADN from ARI.* The FADN would best be located within the current Division of Horizontal Sections, possibly under the Agricultural Economics and Rural Development Section. This would impact up to 8 staff: 4 permanent technicians, 2 casual scientists and 2 casual technicians.
- *The transfer of the risk management and advisory competence from AIO.* This would entail creating a Risk Management section in MANRE (perhaps within the Division of Horizontal

Sections), as well as in transferring AIO's damage assessment and advisory competence to the DoA district offices, while, at the same time, merging the DoA and AIO district/regional offices. This would impact up to 22 staff (plus 2 vacancies) in the AIO regional offices, and 3 (plus 3 vacancies) technical AIO staff who could populate the new Risk Management section, and another 6 (plus once vacancy) treasury staff, and another 3 (plus 2 vacancies) registry staff.

- *The transfer of food processing, marketing and trade competence from MECIT:* This will involve creating an Agri-Food Industry and Trade section in MANRE, possibly also under the Division of Productivity Sections.
- *Transfer of part of the competencies and staff of the Wine and Milk Marketing Boards,* in line with the decisions already made by the Government. Some competencies and staff (e.g. milk quality analysis, including lab) are likely to be transferred to the Veterinary Service.
- *Reallocation of Policy and EU Affairs,* currently primarily under Agricultural Economics and Rural Development and the Managing Authority, between the Department of Agriculture and the MANRE Administration, in line with the strengthened role that the latter could play in policy formulation and coordination matters.

**Figure 15: Minimum proposed changes to the structure of the Department of Agriculture (marked in color)**



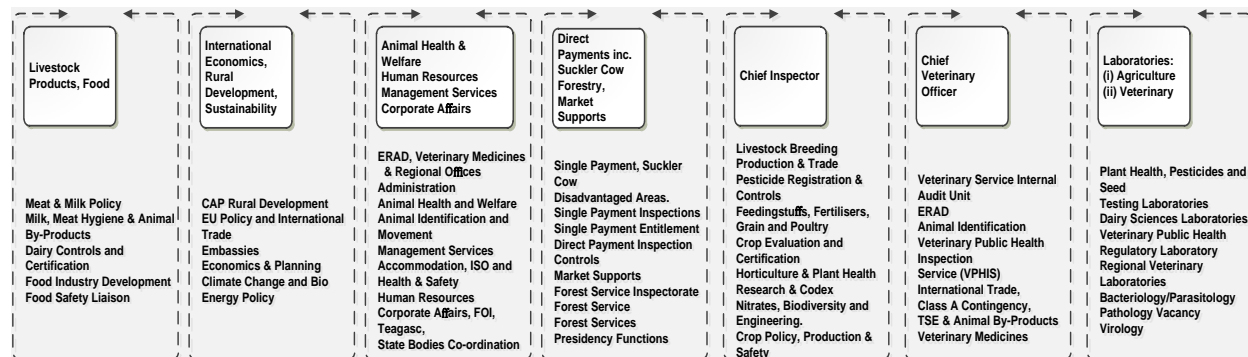
123. **A deeper but much needed option would be to proceed also with an internal overhaul of the Department of Agriculture,** to bring its structure in line with the current policy needs and European good practice. The reorganization could follow the following guiding principles: (i) clearly reflect policy areas pertaining to the Rural Development Pillar of the CAP, i.e. food value chains, the environmental/sustainable aspects of agriculture etc.; (ii) provide a clear reflection of the data and information management function; (iii) distinguish between service provision and inspections/controls; and (iv) clarify the placement and enhance the visibility of the policy formulation and analysis function. Some examples of effective and comparable organizational structures across the EU are provided below.

124. **Ireland:** The Department of Agriculture, Food and the Marine in Ireland lends itself well as a reference point for Cyprus. Ireland is also one of the smaller EU countries, with a population just under 5 million, and a GDP per capita only a little higher than Cyprus (EUR 31,900 in 2011). Similarly to Cyprus, the ARD administration is compact, covering most domains (including veterinary, food safety and maritime affairs) under a single ministry. The main differences are that:

- The Irish “paying agency” is a department within the ministry rather than a distinct body, like CAPO;
- Ireland has a dedicated agency, subordinated to the Ministry, responsible for agri-food market and trade promotion, i.e. Irish Food Board (Bord Bia);
- Ireland has a dedicated agency, subordinated to the Ministry, responsible for research and innovation, knowledge transfer, education and training, i.e. Teagasc (see Section 2.3), which combines the responsibilities of ARI and the Extension Service in Cyprus, while also covering agricultural education.

The Department of Agriculture, Food and the Marine employed 3,276 full time equivalent staff in 2012. These provide service to about 140,000 agricultural holdings, and manage an annual budget of EUR 2.6 billion (of which EUR 1.3 billion in EU funded schemes), with an operational budget of EUR 223 million.

**Figure 16: Organization of the Department of Agriculture, Food and the Marine, Ireland**

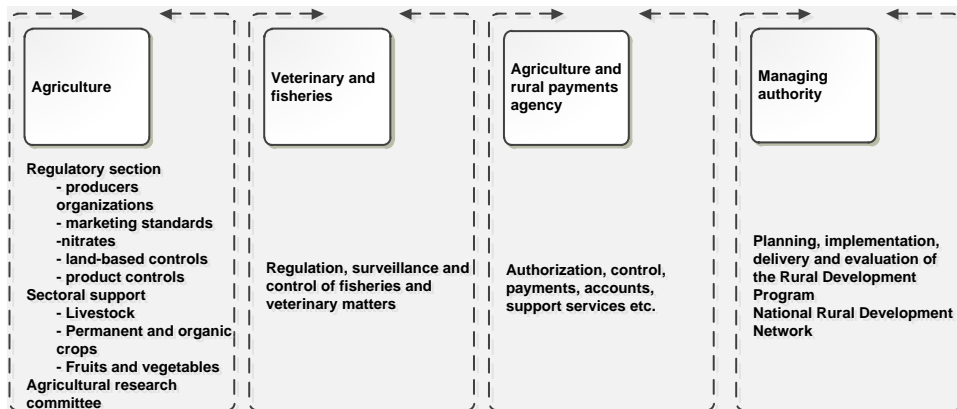


**Source:** The Annual Report (2012) of the Irish Department of Agriculture, Food and the Marine (<https://www.agriculture.gov.ie/media/migration/publications/2013/AnnualReport2012.pdf>)

**Note:** The Figure above does not display the support functions (e.g. ICT, financial, legal affairs etc.), nor the Fisheries Department

125. **Malta:** The ARD portfolio is managed by the Ministry for Sustainable Development, Environment and Climate Change. Similarities with Cyprus are numerous, from the size, economic development (GDP per capita in Malta was EUR 21,300 in 2011) and insular character of the countries, to the organization of the ANRE mandates. Malta’s farm population is, however, much smaller than in Cyprus (12,000 versus 38,000 holdings, with an average size of farm of 0.9 ha). There are 4 departments covering the ARD portfolio (Figure 17), including the paying agency.

**Figure 17: Organization of the ARD portfolio in Malta, within the Ministry for Sustainable Development, Environment and Climate Change**



**Source:** <http://msdec.gov.mt/en/Pages/mdsec%20main.aspx>

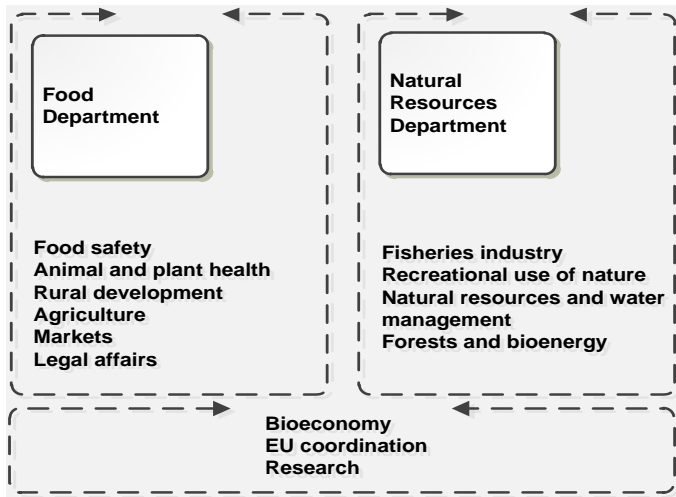
**Note:** The Figure above does not display the support functions (e.g. ICT, financial, legal affairs etc.)

126. **Finland:** The Ministry of Agriculture and Forestry in Finland represents another good comparator for Cyprus. Similarly to MANRE, the Finnish Ministry has a rather compact portfolio, which covers agriculture, food, forestry, fisheries and water management altogether. Finland is also one of the smaller EU countries (population of about 5 million), with a level of development comparable to Cyprus (GDP per capita of EUR 29,000 versus EUR 23,000 in 2012), and a relatively small farm population (63,000 holdings versus 38,000 in Cyprus, in 2010). The Finnish paying agency is also a distinct body, outside the ministry, called Agency for Rural Affairs (at the end of 2011, the Agency employed 205 staff). The main differences are that:

- Finland has a distinct food safety authority (Evira);
- Finland has a dedicated agency, subordinated to the Ministry, responsible for producing statistics for the agri-food sector, and providing ICT services to the ARD administration, i.e. ICT Center/Tike, employing some 200 staff;
- Finland has a dedicated agency responsible for agricultural research, also subordinated to the Ministry, i.e. Agri-Food Research Institute/MMT (see Section 2.3), employing some 750 staff;
- An additional number of various other agencies, active in natural resources, wildlife and land management.

The Ministry of Agriculture and Forestry in Finland employed 312 staff at the end of 2011.

Figure 18: Organization of the Ministry of Agriculture and Forestry, Finland



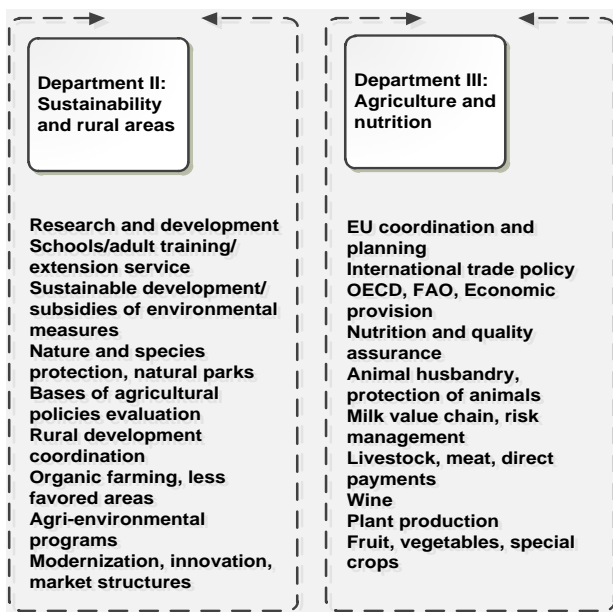
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[http://www.mmm.fi/attachments/mmm/ministerio/ministerion\\_ajantasalla\\_olevat\\_organisaatiokaaviot/6MocFGkRI/MMM\\_n\\_organisaatiokaavio\\_englanti\\_22012014.pdf](http://www.mmm.fi/attachments/mmm/ministerio/ministerion_ajantasalla_olevat_organisaatiokaaviot/6MocFGkRI/MMM_n_organisaatiokaavio_englanti_22012014.pdf)

**Note:** The Figure above does not display the support functions (e.g. ICT, financial, public relations etc.)

127. **Austria:** The comparison between the Cypriot and Austrian ANRE administrations was already discussed in Section 1.2. What follows provides a more detailed illustration of how the two departments of the Ministry of Life, responsible for the ARD sector are organized in Austria. Figure 19 below shows the clear reflection of the rural development matters in the organizational structure. The payment function is fulfilled by a distinct paying agency, which, in Austria, equally has competencies with regard to internal marketing (including quality labels) and trade promotion for agri-food products.

Figure 19: Organization of the ARD departments of the Ministry of Life, Austria



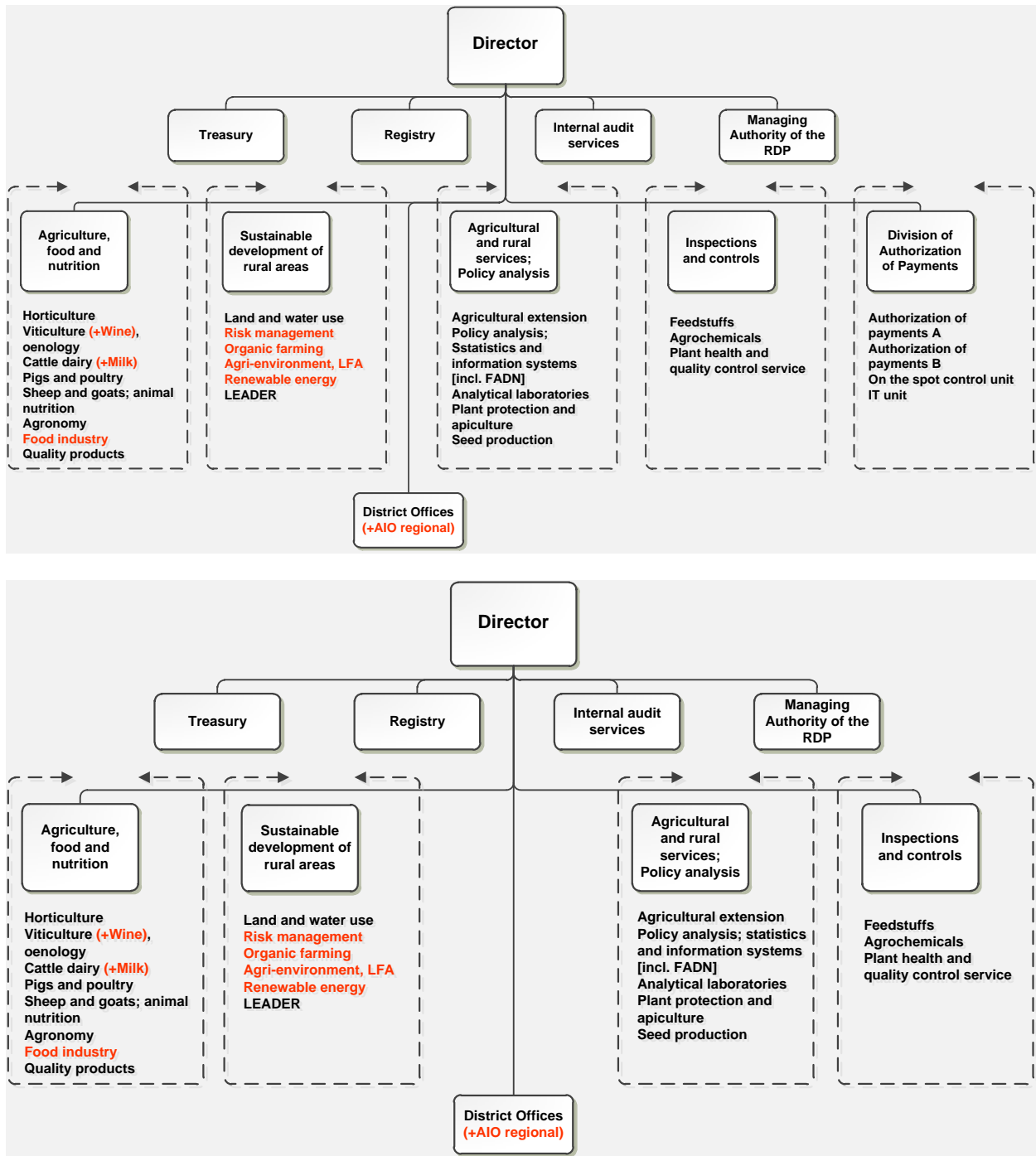
Source: <http://www.lebensministerium.at/en/ministry/organigramme.html>

**Note:** The Figure above does not display the support functions (e.g. ICT, financial, legal affairs etc.)

128. In Cyprus, a reorganized the Department of Agriculture could rest on the following divisions (Figure 20):

- *Agriculture, food and nutrition*: this would take over most of the common market organization (CMO) prerogatives of the current Division for Productivity Sections (including competences transferred from the soon-to-be former marketing boards), but with the added competencies in food processing, marketing and trade (including quality products). This would mark a shift towards an integrated value chain approach to the agri-food sector, departing from the current productivity-oriented structure.
- *Sustainable development of rural areas*: such a change would allow for a better grouping and visibility of the under-represented climate and environmental issues in agriculture. While some of the relevant rural development measures are under the responsibility of the Forestry Department (e.g. afforestation, investments into forestry products etc.) or the Department of Environment (e.g. NATURA 2000), a significantly greater prominence could be given to matters of high relevance in the agro-climatic context of Cyprus – e.g. efficient land and water use, renewable energy on farms etc. The transferred and broadened competencies from AIO would also belong to this division, and so would the other broader aspects regarding rural development (including the LEADER approach).
- *Agricultural and rural services; policy analysis*: this division would build on the Division for Horizontal Sections, but would retain only the policy analysis, data/information management and the various services to the farming sector, including extension, laboratory testing and analysis, and production of certified seeds. It would mark an important step, thus, towards better integrating laboratory activity, if only with regard to plant health. The current section for Agricultural Economics and Rural Development can focus better on coordinating policy analysis needs, and could also take the lead in organizing the agricultural data and information systems. In this regard, a better integration with the data collection done by the various “Productivity” sections is needed, and a coordinated effort and data collection and management system at this level might avoid duplication and redundancy. Depending on the strategic decision on tackling economic research and the FADN database, this section could also take the lead in managing the FADN, as well as any other potential needs for (economic) research and analysis that would inform decision-making in the ARD sector. It should also be the main focal point for the collaboration with the policy coordination body at the MANRE Administration level.
- *Inspections and controls*: such a division would build on the current Division of Legislations, less the quality aspects, which would be transferred to the Agriculture, Food and Nutrition division.
- *Authorization of payments*: the role of the division would need to be viewed in the light of the decision that would be made with regard to the CAPO delegations (see Section 2.5). The division is currently the delegated body for CMO payments and some rural development measures. If decided that CAPO should recall the delegations, then the division would no longer be needed in the structure of the Department of Agriculture (see the two scenarios in Figure 20).
- *Managing Authority for the RDP*: could continue plying its role as until now. It is a small unit (4 agricultural officers plus 1 technician), which retains functions primarily with regard to the management and evaluation of the RDP, as well as its financial management. There are advantages in it continuing to collaborate and draw heavily on the expertise from the specialized units across the Department and the Ministry. There is no prevailing model as to how to organize this activity in the EU<sup>xxii</sup>, and the current setting seems to serve Cyprus’ needs well.

**Figure 20: Proposed reorganization of the Department of Agriculture** (“no CAPO delegation recall” scenario, upper panel, and “CAPO delegation recall” scenario, lower panel)



129. Changes in staff numbers per division/service are expected to result primarily from the internal transfers within the department, with the exception of the transfer of the AIO competencies (at both central and district level), and with the possible exception of the food processing and trade competencies. The existing breakdown of staff in the Department of Agriculture is provided in the Table below.

**Table 2: Breakdown of DoA staff (number, 2013)**

	<b>Agricultural Officers</b>	<b>Technicians</b>	<b>Total</b>	<b>Remarks</b>
<b>Division of Productivity Sections</b>	<b>28</b>	<b>36</b>	<b>64</b>	<b>65</b>
1. Horticulture	9	11	20	+ 45 staff workers + 12 temporary workers
2. Viticulture/oenology	4	9	13	
3. Cattle/dairy	2	4	6	
4. Pigs/poultry	4	4	8	
5. Sheep, goats/animal nutrition	5	4	9	
6. Agronomy	2	1	3	
7. Seed production	2	3	5	+ 5 staff workers + 3 temporary workers
<b>Division of Horizontal Sections</b>	<b>29</b>	<b>26</b>	<b>55</b>	<b>11</b>
1. Extension	7	9	16	
2. Agricultural economics and rural development	7	4	11	
3. Plant protection and apiculture	6	3	9	+ 7 hourly paid employees
4. Land and water use	6	3	9	+ 1 hourly paid employee
5. Analytical laboratories	3	7	10	+ 3 hourly paid employees
<b>Division of Legislations</b>	<b>33</b>	<b>23</b>	<b>56</b>	<b>9+12+1</b>
1. Feedingstuffs controls	6	1	7	+ 1 officer POE Limassol
2. Agrichemicals controls	5	5	10	+ 2 technicians (POEs Limassol and Larnaca)
3. Plant health and quality control	17	14	31	+ 8 officers and 10 technicians (POEs Limassol, Larnaca and Paphos) + 2 workers
4. Quality products	5	3	8	
<b>Division of Authorization of Payments</b>	<b>12</b>	<b>14</b>	<b>26</b>	
1. Section A	4	5	9	
2. Section B	3	7	10	
3. Control unit	4	1	5	
4. IT unit	1	1	2	
<b>Managing authority</b>	<b>4</b>	<b>1</b>	<b>5</b>	
<b>District agricultural offices</b>	<b>40</b>	<b>65</b>	<b>105</b>	<b>9</b>
1. Nicosia	9	10	19	+ 1 secretarial staff/workers
2. Limassol	9	11	20	+ 3 secretarial staff/workers
3. Paphos	6	13	19	+ 3 secretarial staff/workers
4. Larnaca	6	13	19	+1 secretarial staff/workers
5. Pitsilia	4	7	11	
6. Famagusta	7	11	18	+ 1 secretarial staff/workers

**Source:** Department of Agriculture, MANRE; **Note:** POE is point of entry

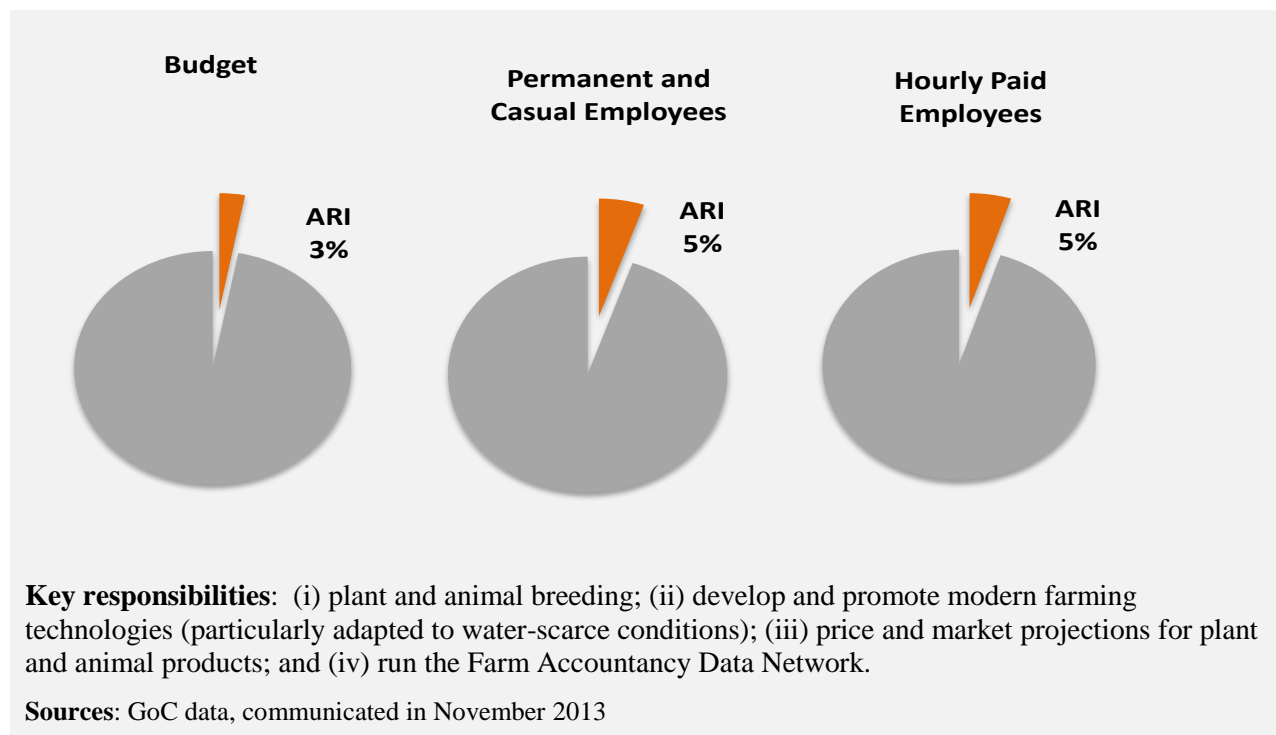
130. It should be noted that, while the Department of Agriculture is the third largest department in MANREA in terms of total staff, **its total staff resources do not appear excessive in a European perspective.** It falls within the same ballpark as Finland, and displays numbers much lower than Ireland, for instance.

131. **Finally, a bolder reform option may be considered in a medium term perspective and subject to additional analysis.** This could include: (i) further integrating and reorganizing the



laboratories (for plant, animal and human health), (ii) a feasibility study to integrate the extension and research activities under a single roof (such as in Ireland, for instance), and (iii) the reorganization of the district offices, beyond the merger of DOA and AIO territorial structures. Particular advantage can be taken of the compact MANRE portfolio, to explore possible gains of further merging or at least co-locating (in a one-stop-shop approach) the district offices of other MANRE departments, as well as of CAPO.

## 2.3 Agricultural Research Institute



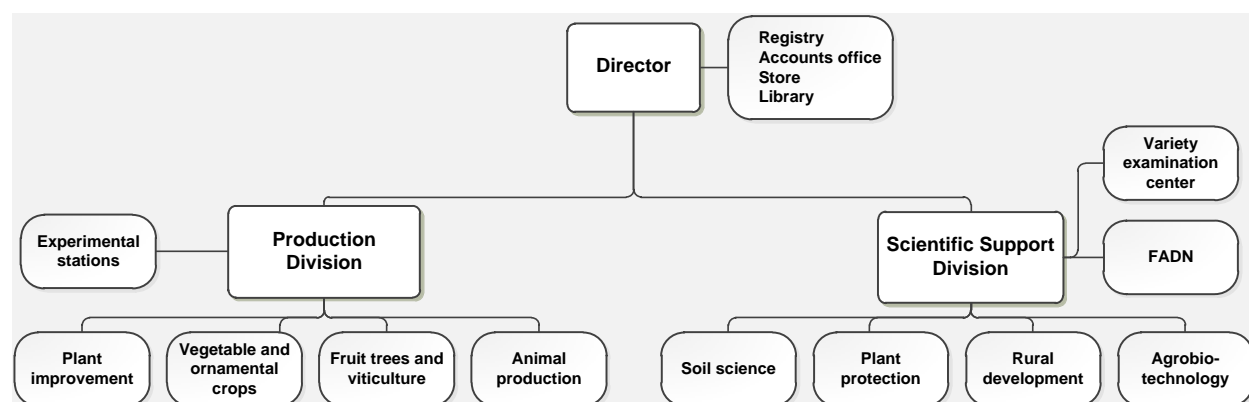
### Status quo: Diagnostics

132. **The Agriculture Research Institute (ARI) is one of the departments of MANRE, whose mission is to provide the knowledge base and practical solutions to the agricultural sector in Cyprus.** The institute is doing applied research, primarily of agronomic nature; it has limited focus on animal breeding (i.e. project for combating scrapie in sheep, using molecular genetic methods). In 2000, the European Commission selected it as a Center of Excellence in agriculture and environment, in recognition of the institute's high standards of scientific research.

133. **In the past, ARI used to have a stronger section dealing with agricultural economic research, but this was downsized and is now rather weak** (see the "Rural development" section, Figure 21). Agro-economic studies concern mainly output forecasts for plant and animal products but do not cover analysis or studies that could inform the decision makers in the agricultural sector. More narrowly even, they do not even go as far as covering market and price projections for the agri-food value chains. This is an important omission, affecting both agri-food producers and processors, and policy makers. Currently, ARI's rural development section relies on two economists only, one with a focus on the economics of water, using satellite images, and the other one on economic viability of various crops.

134. **There are several reasons for the under-served economic research.** Firstly, there is scarce agricultural economics capacity in Cyprus, overall, and this limits ARI's hiring pool. Secondly, the current definition of MANRE's portfolio is such that the ministry, hence ARI, focuses on the production segment of the agri-food value chain, whereas processing and markets fall under the portfolio of MECIT. As the latter does not rank the agri-food products and value chains very high in its priorities, they remain under-served on a general research level. Thirdly and lastly, the culture of using economic research in policy making is not sufficiently strong in Cyprus; hence, the demand for such activities is limited.

**Figure 21: Organizational chart of ARI**



135. **Since EU accession, ARI was also tasked with managing the FADN, but the instrument is underfunded and underutilized.** The FADN is a mandatory tool under the EU *acquis* designated for evaluating the incomes of EU farms and the CAP impacts. In Cyprus, there was an attempt in 2004 to develop dedicated software for the farm database, which is an essential component of the FADN. The cost of the software was only about USD 200,000 but no financial allocation was made at the time. Ever since, the database has been operated via a combination of Microsoft Office tools (Excel, Access and Word)<sup>14</sup>. There is very limited evidence that the FADN data is used beyond serving the mandatory reporting purposes to Brussels. Scope should be explored further as to how the farm data could feed into the sector policy analysis and decisions. In this regard, it appears that there are bottlenecks concerning the FADN data transfers between ARI and the Department of Agriculture, and the latter often has to duplicate the work to obtain access to the needed data.

136. **Over the years, the institute’s research focus has shifted somewhat, in response to the evolving challenges of farming in Cyprus.** An original output-driven approach in the 70s gave way to a more climate-sensitive and resource-efficient approach nowadays, which is also attuned to cutting-edge discovery in science and technology (e.g. biotechnology or satellite imagery). ARI’s research agenda now integrates, for instance, projects aiming to evaluate crops with low water requirements and use of recycled water for irrigation, as well as projects exploiting the potential of renewable energy production in agriculture. The question remains whether more can be done to expand ARI’s portfolio towards a broader natural resources and environmental agenda, subject to resources being available.

137. **However, the exact drivers of ARI’s research agenda and priorities are fuzzy, and differ by funding source.** It appears that ARI responds reactively to opportunities as they arise. For the EU-funded programs, the PS of MANRE is the ultimate authority to approve the research projects, while grants are accessed competitively, based on the interest, talent and capabilities of the research teams. However, for the nationally-funded projects, the research plan is ultimately decided by the ARI Director, following a biannual stakeholder consultation process. This involves collecting research needs from farmers indirectly, through the district officers of the Department of Agriculture, followed by consultations between ARI and MANRE management on the research agenda. The main drawback of this process is that farmers’ inputs are often outdated or irrelevant, while MANRE does not have/exert a formal say in the final decision. In addition to these, the Institute may also take ad-hoc requests, as in the case of a research project on the use of biofuels in Cyprus, requested by MECIT.

138. **An Agricultural Research and Development Board was set up in 2001 to advise the Director of ARI on priorities for agricultural research and on the transfer of results to farmers and rural**

<sup>14</sup> The size of the FADN sample in Cyprus is about 470 agricultural holdings.

**population.** Its members include the PS of MANRE (ex-officio), the Director of ARI, who acts as Vice-President (ex-officio), the Directors of DoA and VS, representatives of the DG/ECPD, MECIT, the University of Cyprus, the Cyprus University of Technology (CUT), the Research Promotion Foundation, and the Pan-Cyprian Union of Agriculturists. However, the Board has not been very active: meetings typically happen once a year or every two years. At these meetings, ARI presents the findings of its research, but there is insufficient discussion about research uptake, relevance or future priorities. Most importantly, the Board lacks decision and enforcement powers as regards ARI's research priorities and outcomes.

139. As a result, **the procedure for proposing and selecting research projects is mostly focused on ARI's internal review and approval procedures.** ARI's Research Officers obtain a pre-approval by ARI's Director for planned research proposals. All Research Officers, as well as the relevant stakeholders and the Department of Agriculture are invited to comment on the proposal. The Director of ARI gives the final approval after the relevant comments have been incorporated.

140. **Funding is mainly provided from the national budget (over 80%), but additional revenues have grown recently, both in absolute and relative terms.** ARI's total budget was EUR 8.1 million in 2011, EUR 7.3 million in 2012, and EUR 7.8 million in 2013. Of this, own revenues (i.e. revenues from goods and services, as well as from EU and other international grants) have nearly doubled to reach EUR 1.5 million in 2013. The increase was driven by participation to EU-funded research programs, rather than by sale of own goods and services. Growing own resources were critical to help alleviate the rather severe cut from the state budget of about EUR 1 million (or -14%) annually over 2011-13.

141. **No clear performance and accountability mechanisms are in place for the nationally-funded research; this negatively impacts on the priority setting loop and creates friction with MANRE.**

There is no budget breakdown per research project when it comes to national resources, and this renders performance assessment very difficult. In fact, there is no system in place in ARI to set performance targets, either for the Institute's research program as a whole or for individual researchers. This complicates decisions as to what projects/research priorities to continue, expand or terminate, and deprives ARI of an objective and useful framework that can guide its own agenda. It equally weakens its voice when it comes to competing for limited government resources. It is therefore not surprising that there is an apparent disconnect between ARI and the Department of Agriculture, and MANRE, more broadly, with regard to the mission, role and value-added of the Institute, particularly as far as alignment of research with sector needs, and effective delivery of public goods are concerned.

142. **Equally, participation to EU research programs is somewhat complicated by the applicable national budget rules.** The challenge is not unique to ARI; rather, it affects the entire Cypriot public research arena. The main difficulty consists in securing the co-financing component of the EU projects, before and without knowing whether the research proposals competitively submitted by ARI will be successful. ARI needs to factor in such uncertainty when submitting its yearly state budget requests, as ulterior adjustments are difficult to make. A proposal to create a deposit account for the internationally-funded research projects was rejected by the Ministry of Finance.

143. **Missing legal framework prevents the uptake of public-private partnerships (PPP).** There appears to be healthy demand for such research/advisory services, e.g. in biodiesel, composting or post-harvest handling. Under the current environment, ARI would need to seek complex approvals from the legal services for each PPP it would enter into. Some of the more critical aspects that require legal clarification are the handling of intellectual property rights, as well as revenue generation and management. In view of its importance, a draft bill on PPPs is now in the process of being discussed (and adopted) via the appropriate Government channels.

144. **Highly qualified researchers are ARI's strongest asset.** They are committed to high professional standards, are deeply motivated and dedicated, actively participate in (inter)national research projects and successfully publish results. ARI is involved in cooperation with 23 research

institutes/organizations across 11 countries. Domestically, ARI is also cooperating with the University of Cyprus (e.g. on the use of wastewater for tomato production), and with the Cyprus University of Technology.

145. **In spite of some good research results, the mechanisms to disseminate them to the sector and the outcomes thereof are somewhat diffuse.** ARI takes pride in having contributed to the increase of agricultural productivity in Cyprus. 90% of the cereal varieties in the country originate from ARI, and, this, together with its advances in the horticulture sector (improved varieties, better farming techniques, etc.) have contributed to the 33%, 135%, 76% increase in the yields for cereals, fruits and vegetables, respectively, since the Institute was born. However, these need to be regarded and understood against a general trend of productivity increases both locally and globally, and contrasted against what constitutes key crops for the Cypriot agriculture. More recently, ARI has been promoting, among others, the introduction of irrigation and fertigation systems in Cyprus, the use of wastewater for irrigation, and disease resistant plant varieties and livestock. The dissemination channels to the farming sector are diverse, and include: (i) use of the extension service of the Department of Agriculture, (ii) training/seminars given to farmers and other sector beneficiaries; (iii) radio, television and internet, and (iv) publications. In absence of objective measurement, it is not clear how effective either of these channels is, and how the farmers' uptake is being followed.

146. **The coordination and synergy between ARI and the extension service is insufficiently explored.** ARI disseminates its research results to the farmers via the Extension Service. This is primarily done via training of trainers, through which ARI transfers knowledge to the extension workers, who then further relay it to the farmers, or through joint training sessions. However, the feedback loop back from the farmers is not sufficiently strong, and ARI lacks an appropriate understanding of its impact and effectiveness.

## Reform Options

147. **ARI's mandate needs to be better integrated in a well-articulated agricultural knowledge and information system (AKIS), that considers advisory services, education, training and innovations systemically.** The current set up of agricultural research and advisory services in Cyprus follows what is called the "linear" model of knowledge transfer from researchers to farmers through extension services, which reflects a "productivist"/ "mainstream macro-economic" paradigm. The movement in advanced AKIS systems is towards an "interactive innovation model" or a "systems-of-innovation approach" which draws more from institutional and evolutionary economics<sup>xxiii</sup>. In this model, diverse networks of public and private sector actors and organizational forms are involved in generating and exchanging agricultural knowledge and innovation. In addition to the ministries of agriculture, these networks include universities, public and private research institutes, farmers and industry organizations, vocational training centers, extension services etc. The main challenge such systems face is overcoming fragmentation and ensuring that a coherent AKIS policy guides the actions of the various players and aligns them with the sector priorities and challenges.

148. **However, a full transition from the "linear" to the "systems" model of agricultural research, knowledge and innovation is not possible in the short term in Cyprus,** given its small size, the weakness/ resource constraints of the private sector, the less diverse research landscape and lower overall expenditure on research and development in Cyprus compared to other EU countries. For instance, in 2011, Cyprus spent less than 0.5% of its GDP on research and development overall, compared to the EU average of about 1.7%.

149. **Yet, the more concentrated AKIS landscape of Cyprus also offers opportunities for developing a more coherent and systematic approach to agricultural knowledge and innovation, and avoiding the dangers of fragmentation,** which is a problem identified in other EU countries<sup>xxiv</sup>. This can be achieved through various pathways, each with its own advantages and disadvantages: (i)

strengthening institutional integration and coordination mechanisms, without affecting current structures; and (ii) undertaking institutional consolidation/reorganization, while also considering the rapport between public and private roles and the autonomy/capacity to generate own revenues.

150. **Finland provides a successful example of how such transition can be effectively carried out.** It also provides some important similarities to Cyprus, and will therefore be used throughout the section to illustrate various aspects of the reform process. The Agri-food Research Institute (MMT) is an agency under the Finish Ministry of Agriculture and Forestry.

151. The reform of the MMT has resulted in a flexible and client-oriented structure, a well-defined performance tracking mechanism for the research outcomes, and an increase in the share of own funding. The state budget accounts now only for 57% of MMT's annual funding, while private funding for 16%. MMT's total budget in 2012 was EUR 59 million. More than that, the Finnish research sector, overall, is subject to a process of consolidation, which is expected to further lead to efficiency gains. The 18 existing research institutes will be merged and reorganized into 3-4 larger organizations, and a few smaller ones. The MMT will be merged with the Forest Research Institute (Metla) and the Game and Fisheries Research Institute, all three agencies under the Ministry of Agriculture and Forestry. This will mark the beginning of a new innovation system in the country.

152. **ARI is now in the unique position to take advantage of key reform opportunities that would allow it to become a more flexible and customer-focused organization, better aligned with the development priorities of the Cypriot agriculture though applied research, and less reliant on direct public funding.** Several directions of reform can be pursued, to include: (i) revising ARI's mandate; (ii) reengineering priority setting and interface with MANRE; (iii) rethinking access to funding and accountability for results; (iv) strengthening links with extension, and (v) reviewing its organizational structure.

### Revise mandate

153. **The mandate of the Institute should be intrinsically linked to the general vision for the development of the ARD and environment sector.** This could include strengthening the focus on resource efficiency and ways to address the water challenges that Cyprus is facing. Such a revised mandate could also allow for better prioritization of research areas, moving away from a focus on traditional crops, such as cereals, and towards high-value, resource-efficient crops and farming practices ("more crop per drop").

154. Having been recognized as a center of excellence for the environment as well, **ARI could turn its attention more in the mainstream natural resource management and environment fields.** This would be in line with the country's contemporary challenges, and, at the same time, it would also take advantage of the large funding potentials from EU programs. This would necessitate a substantial switch of orientation and research priorities and diversification in disciplines and a substantial buildup of its rapport with other services of MANRE. However, it will need to be validated though a strong strategic exercise/interface with MANRE and stakeholders.

155. As an indication, broader concerns in Cyprus closer to more traditional research activities and fields of interest of MANRE, appear to suggest looking into the following areas:

- *climate change*: better knowledge of uncertainties; crop management and health under new weather conditions; effects of global climate changes on agriculture; agriculture effects on climate change; energy efficiency and renewable energy; emissions from animal husbandry; overall water use efficiency; agricultural risk management (resulting from climate change – risk to production, risks to markets, risks to enabling environment);

- *biodiversity*: status, trends and distribution of habitats and species; land use changes and impacts on biodiversity, macro- level impacts of biofuels, biodiversity in rural areas;
- *resources/NRM*: advantages and drawbacks of new waste management and recycling technologies; animal waste treatment; recycling of agricultural waste streams; longer term impacts of treated water reuse;
- *agrochemicals*: improved and simplified risk-assessment procedures; synergistic effects and impacts in combination with dominant risk factors; agricultural pollution control; leaching of nutrients and eutrophication of waters, nutrient abatement.

## **Reengineer research priority setting and interface with MANRE**

156. **Research priority setting could be improved through a stronger and more decisive involvement of MANRE (and other stakeholders) in setting the research agenda and approving research proposals.** This involves, firstly, having clear medium and long term priorities for the agricultural sector development as a whole (as research priorities need to be properly aligned to these), and, secondly, creating an institutional mechanism through which MANRE (and stakeholders) have more than just a consultative role, and can be effectively involved in making decisions.

157. **The responsibilities of the Agricultural Research and Development Board could be clarified and strengthened.** These responsibilities should go beyond pure stock-taking and briefing by ARI, and towards a more active and binding role of the Board in identifying research priorities and defining performance indicators for agricultural research. This can be achieved by developing a (multi-year) research strategy that is aligned with the/a broader agricultural and rural development strategy. The strategy should define clear research priorities and research goals, detail funding sources and define criteria for project selection and funding for agricultural research in Cyprus, including not only research conducted by ARI, but also by universities such as CUT or other potential research partners.

158. **Membership of the Board could also be expanded in order to strengthen horizontal cooperation both within MANRE and with external stakeholders, in particular other line ministries, research institutes, consumers of research, and the private sector.** From within MANRE, consideration should be given to involving in the directors of other MANRE departments – in particular Department of Environment and Water Development Department, perhaps also Department of Forestry and Department of Fisheries and Marine Research – to ensure the horizontal linkages between agriculture, environment and natural resource managements (in particular water) are also taken into account in identifying research priorities. Representation of the demand side - .i.e. farmers and private sector organizations – should also be increased. Such a Board, with broad membership which includes demand-side actors and consumers of agricultural research, as well as strengthened and clarified policy responsibilities would ensure not only better research planning, coordination and prioritization, but also better uptake of research findings by its intended beneficiaries, including policy-makers, industry, farmers, and rural population.

159. **The Board should be actively presided by the senior management (PS) of MANRE.** It will be important to adequately separate the responsibility of setting the research priorities from the responsibility of delivering them, and being accountable for results. Thus, the Director of ARI could serve as general/ executive secretary supporting the Board, but the ultimate decision/ approval of research proposals should be the purview of the MANRE management (PS), based on the review and recommendations of the Board. To fulfill this role, the capacity to define research priorities, link them to the overall agriculture and rural development strategy and evaluate research proposals of the MANRE administration should also be strengthened. For instance, the new Horizontal Strategic Planning and Coordination unit should also have capability of overseeing these linkages. This would allow for a stronger connection between the research priorities and with the broader strategic planning.

## **Rethink access to funding and accountability for results**

160. **Increased reliance on own revenues can be pursued but it needs to be gradual and to target a medium term perspective.** This would translate into a higher uptake, by ARI, of grant funds from various national and international/EU programs, and/or increased share of sale of own goods and services. On the latter, a challenge specific to Cyprus is that farmers are small, on average, and have limited incomes, which constrains, overall, the market for research products. Furthermore, increased reliance on private sector revenue is ever more daunting in a context of general economic downturn and skyrocketing unemployment (17%). With perspectives for marketing research results gloomy in the short-to-medium term, focus needs to be placed on facilitating an increased participation of ARI to competitive funding, both national and international. At the same time, steps can be taken towards increasing the level of competition in accessing grants for agricultural research, by allowing other research bodies bid against or in partnership with ARI – and thus build their knowledge and material base. This will continue strengthening the research capability of the country, overall, avoid crowding-out, and facilitate a better alignment of research projects with research priorities.

161. **However, for this to be successfully implemented in Cyprus, some legislative shortcomings need to be addressed first.** The legal framework for public-private partnerships needs to be put in place, so that ARI can effectively take advantage of a greater collaboration with other research providers and stakeholders. This will also determine how and to what extent Cyprus can take advantage of the co-funding of innovation partnerships in agriculture from the European Agricultural Fund for Rural Development for 2014-20. Equally important, a solution needs to be found to the challenge of ensuring the counterpart financing required for joint research projects. Both undertakings go beyond the strict sectoral purview, and need to be tackled horizontally, across the Government.

162. **Furthermore, introducing performance and accountability checks would subsequently be essential for the healthy relationship between the financier, provider and beneficiary of research.** This includes making internal management more transparent by clearly identifying and reporting on the budgets also for all projects – including those funded from the national budget, to allow the identification and monitoring of how resources are assigned to priorities. To a great extent, it boils down to introducing a wide-ranging performance assessment system, across all public institutions and including ARI. This would facilitate setting up an objective reference system, assuming that performance indicators and targets are duly set and agreed, against which the Institute's results can be assessed and judged, and resources earmarked and spent.

163. **In the medium term, a performance agreement between ARI and MANRE could also be envisaged.** This is practiced across several other EU countries, Finland in particular. The MMT has a performance and service agreement made with the Ministry of Agriculture and Forestry, which is aligned with the administration's vision and strategic goals for the development of the agri-food and rural sectors.

## **Strengthen links with extension**

164. **The dissemination of research results needs to take a closer look at the division of responsibilities between ARI and the Department of Agriculture (the Extension Service), as well as other sector participants.** This issue reflects a very common question when it comes to AKIS, namely the balance between knowledge production and dissemination of results. An imbalance is often due to the fact that researchers are stimulated (and geared) to produce scientific output and are less inclined to focus on the dissemination of their results. Governments have tried various solutions to this challenge, and support for networking activities, cooperation and bottom-up approaches have proven valuable in addressing the challenge. Coming to meet this need is the new European innovation partnership in the agriculture sector, which aims to bridge the gap between research and farming practice, by facilitating

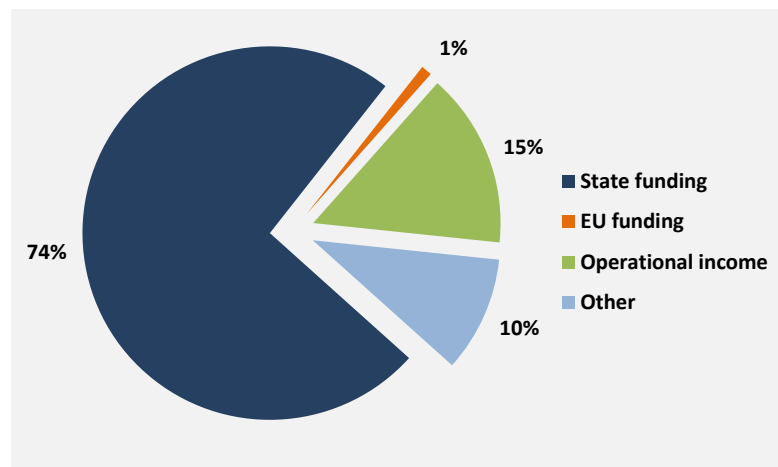


cooperation and communication between stakeholders. Operational groups bringing together relevant stakeholders can be supported through the 2014-20 rural development program of an EU member state (hence be co-financed from the EU budget). An important question is to what extent Cyprus is aiming to leverage and utilize this opportunity. In such case, ARI could preserve its main function as generator of agricultural technology, whereas the Department of Agriculture would continue to be the dissemination arm; at the same time, an incentive system will be in place to fortify the linkages between the actors involved in priority setting and actual needs.

165. **A longer term perspective could be merging extension and research, albeit implications in the field, where district officers are multi-tasking, would need to be carefully assessed.** Although not practical in the short term, an institutional integration of the extension and research functions in Cyprus could be evaluated. A key advantage of such a system is the full integration of the AKIS, which would effectively address the fragmentation and coordination concerns currently experienced in Cyprus. A key challenge, however, in terms of implementing this in Cyprus, is the reorganization of the respective district offices, which necessitates first a good understanding of the human and other resources currently involved in extension (knowing that the district office staff are now fulfilling many different tasks), and then the cost-benefit implications of remapping these resources to the new organizational structure.

166. Nevertheless, there are a few models of such integration in Europe that could provide useful insights. Ireland, through its Teagasc (i.e. Agriculture and Food Development Authority), is one such example. Teagasc is a public body under the Department for Agriculture, Food and Marine, established in 1988. Its funding is mixed, and combines public resources (state aid, EAFRD and income from competitive national and EU research programs) with private funding (fees for research, training and advisory services, as well as revenues from farming activities), see Figure 22. Its budget for 2012 was EUR 189 million, with the main lines of expenditure being research (EUR 66 million), and knowledge transfer (EUR 48 million).

**Figure 22: Irish Teagasc structure of incomes, by category (%)** (end of year, 2012)



Source: Teagasc Annual Report 2012

([http://www.teagasc.ie/publications/2013/2918/TEAGASC\\_ANNUAL\\_REPORT2012.pdf](http://www.teagasc.ie/publications/2013/2918/TEAGASC_ANNUAL_REPORT2012.pdf))

167. Teagasc is managed by an 11-member “Authority”, appointed by the Minister, and has representatives from the farming organizations, the food industry, universities, the Department of Agriculture, Food and the Marine and Teagasc staff. The Authority has the following subcommittees: Audit Committee, Remuneration Committee, Research Committee, Advisory/Education Committee and Operations Committee.

168. Teagasc employs about 1,100 staff at 52 locations throughout Ireland, of which:

- *in research*: research scientists (216), specialists and specialist advisors (51), research technicians and technologists (116), support staff (171), and fellows/PhD student (175);
- *in extension and advisory services*: advisors (250) based at county and local offices, serving some 42,000 clients, out of a total of about 140,000 holdings.

## Review the organizational structure

169. In considering the options for ARI's future, one needs to acknowledge and take into account the fact that the various business lines of the Institute display uneven performance.

170. **Firstly, economic research in agriculture has been a diminishing priority for ARI.** At the same time, there is a clearly identified need for a more evidence and analysis-based policy making in the farming sector. In an international and European historic perspective, it has been rather uncommon for economic and agronomic research to be bundled together under the same roof. However, current tendencies suggest that more and more attention is given to bringing the two research dimensions closer together, with clear benefits to the farmer and policy-makers. In Finland's case, for instance, the Agro-Economic Research Center (MTT) was merged with the Agricultural Economics Research Institute in 2001, marking a significant milestone on the path towards a stronger and more consolidated innovation system.

171. In Cyprus, it was seen that the agricultural economic research capabilities are weak, and this poses a unique challenge as to how to address this question. Considering the circumstances, a strategic decision needs to be made as to whether transfer the responsibility of economic research to a university or another economic research institute, go for piecemeal outsourcing of specific economic research activities, or commit to strengthening the economic research branch in ARI. Choosing the former would allow ARI to focus at what it has been doing best, while reducing the risk of economic research continuing to being underserved. However, it might perpetuate a detrimental disconnect between the technical (agronomic) and economic research dimensions, and fail taking advantage of an institutional structure that is already in place.

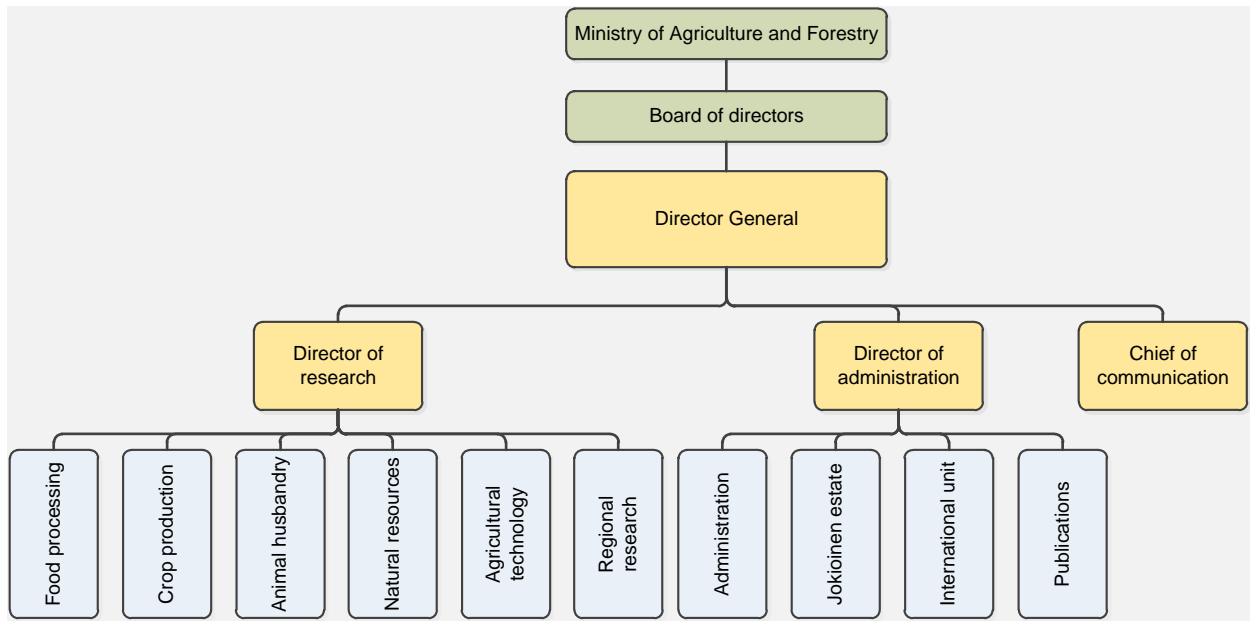
172. **Secondly and similarly, the FADN is clearly underserved in its current institutional location.** The European practice suggests two widely-used options that Cyprus could consider: (i) having the system hosted by the line ministry in charge of agriculture, or (ii) transferring it to an (agricultural) economic research institute. The former option presents the advantage of having the farm data management integrated closely with the policy making authority, and is practiced in almost half of the EU members, to include: Belgium, Spain, Malta, Portugal, Greece, Austria and the United Kingdom. The latter was adopted by the other half of the EU countries, e.g. Germany, Ireland, Finland, Netherlands, the Baltic States, Slovakia and Italy, and is advantageous through the convenience of its location in the organizations that are providing policy analysis to benefit the government. Locating the FADN service in an economics research institute also helps address possible concerns regarding the qualifications and capacity of ministry staff to handle statistical research and farm surveying matters. With this in mind, a third, though less used, model to explore, is the Scandinavian one (Denmark and Sweden), where the FADN is managed by the statistical service of the country. Given the lack of a strong agricultural economic research institute in Cyprus, the first and the third options would lend themselves better to a more effective placement of the FADN instrument, at least in the short term. Ultimately, the decision should depend on: (i) the capacities of either host institution to handle statistics (sampling and surveying), and (ii) the intended use of resulting data.

173. Most importantly, however, **one needs to design an organizational structure for ARI that is flexible and encourages effective problem-solving.** Modern practice suggests that this is best done using **multi-disciplinary research teams**, which can be flexibly set up to respond to complex and evolving needs. This would involve a shift away from the current vertical organization structure of ARI

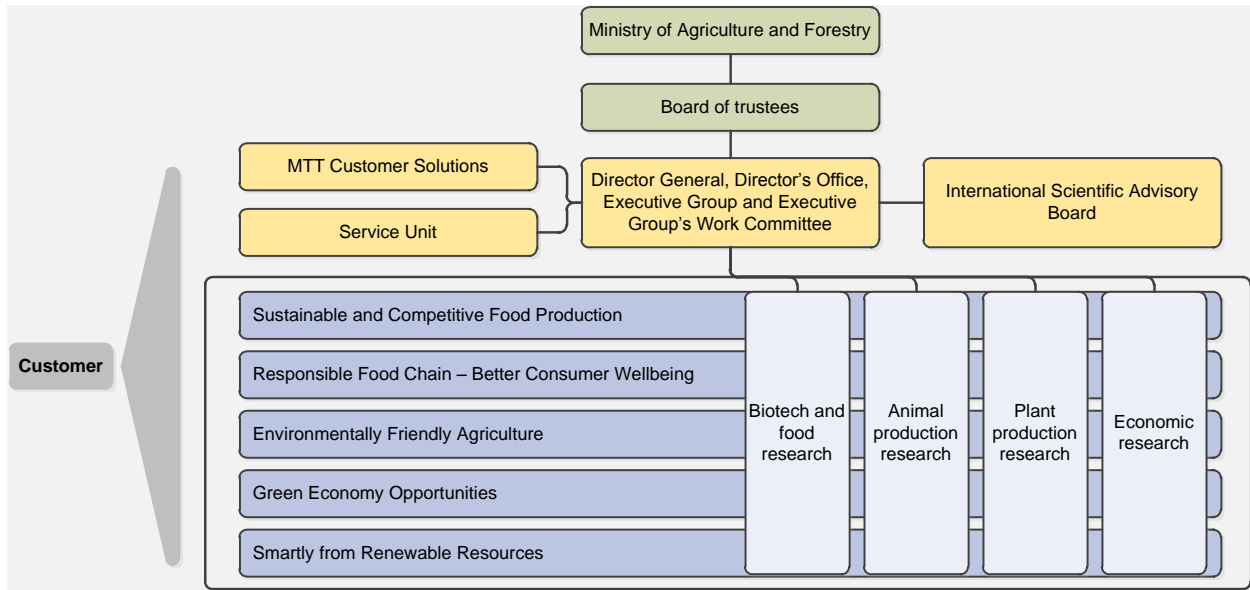
and would, preferably, also entail fewer yet broader research areas, which should result from ARI's revised mandate.

174. The Finnish example below provides a powerful example of how such a change could be envisioned. The reform of the Agri-food Research Institute occurred a few years after Finland's accession to the EU in 1995, and marked the shift towards a more networked and flexible organization, which replaced the old, traditional structure (Figure 23). The new set-up (Figure 24) departs from the vertical thematic units, and rests on a matrix design, which combines a smaller number of research units cutting across key research areas. The latter are a reflection of the strategic research priorities that Finland has established for its agri-food sector. A Customer Solution unit was also established in 2012, and its role is to coordinate the Institutes chargeable services. The Board of trustees includes, besides representatives of the public administration (starting with the Ministry of Agriculture and Forestry), also representatives of farmers and local administrations. In addition, the International Scientific Advisory Board, which includes seven members and convenes once or twice a year, is responsible for supporting MMT's strategic planning and assessing the overall research and development operations.

**Figure 23: Former organizational structure of the MTT Agrifood Research Finland (2000)**

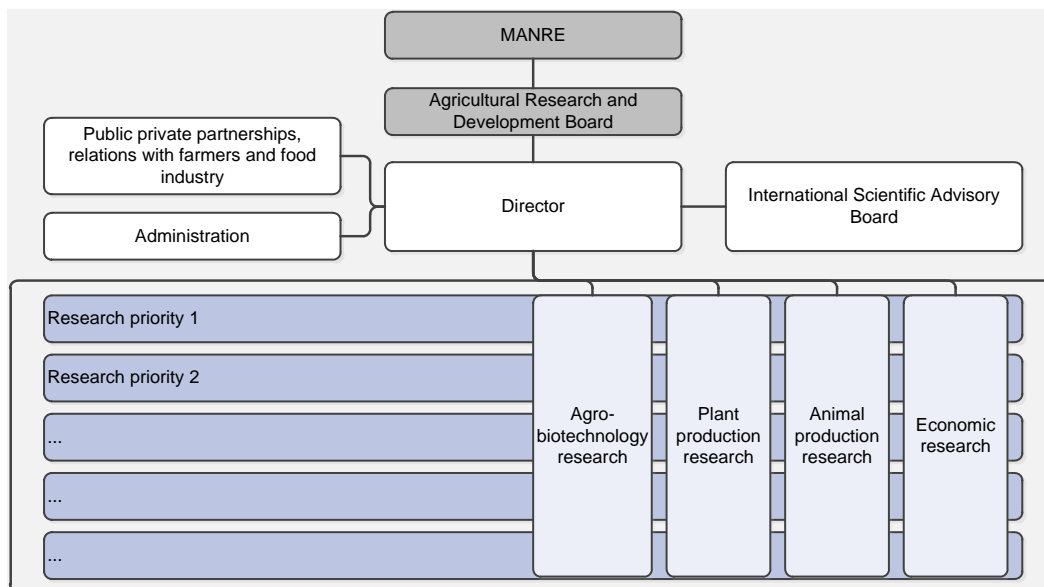


**Figure 24: Current organizational structure of the MTT Agrifood Research Finland**



175. **In Cyprus**, the implementation of such an institutional model would need revisiting of the existing schemes of service; more broadly, **the implementation modalities would need to be established in line with the ongoing human resource management reform in the public sector**. The said reform would need to be geared in such a way as to permit the mobility of research staff, which is a prerequisite for such an institutional set-up. A possible blueprint for the future organizational structure of ARI is presented in the Figure below, but its realization depends on several pre-requisites and constraints identified in this chapter being met or lifted first. Furthermore, the research domains need to be defined in light of the revised ARI mandate (as suggested above), which is why they will not be specified in the Figure below.

**Figure 25: Blueprint for the future organization of ARI**



176. **Additional operational and internal organizational improvements would also be beneficial.** These include finding ways to relieve scientists of carrying out administrative work on EU projects and reserving funds from the national projects for co-funding EU research proposals/ projects. Increased internal flexibility and focus on research rather than administration could also be achieved by centralizing administrative functions and replacing sections with research teams, which can be flexible and interdisciplinary, according to research requirements.

177. **Adequate staffing options (particularly skill mix) for ARI can be outlined once the strategic decisions on ARI’s mandate were made.** Staff-wise, ARI is relatively small in size: it employs 55 permanent staff, while having 24 vacancies. These are strengthened by Hourly Paid Personnel (HPE) and seasonal or temporary staff based on experimental needs.

**Table 3: ARI staff**

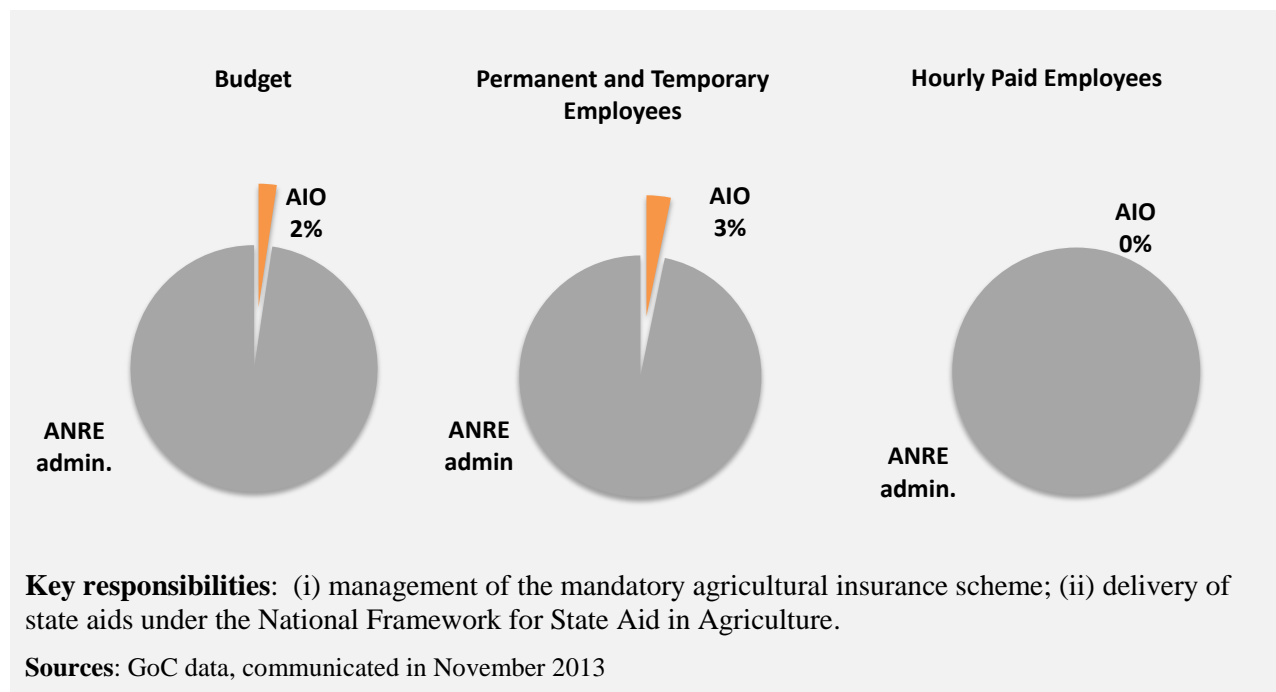
Permanent Posts	Vacant Posts	Permanent Employees	Permanent HPEs	Temp./ Seasonal HPEs	Casual Employees	Contract Staff	TOTAL Permanent Staff	TOTAL Temporary Staff
79	24	55	63	18	16	9	118	48

**Source:** Data communicated by MANRE on November 11, 2013. Reflects status as of 30.09.13; Contract staff has a six month up to annual contract. Not included in the table: 5 Interchangeable Staff; 16 seasonal interns (young graduates placed via a project of the Human Resource Development Agency); 1 Agricultural Research Officer seconded to Brussels.

178. In contrast, the Finnish MTT employs about 750 persons (marking a decrease from 841 in 2006) in over 15 stations across the country. This translates into 767 persons-year, of which 312 are researchers.

179. In absolute and relative terms, the staff structure of ARI does not appear excessive compared to other (European) research institutes with relatively similar mandates. On the contrary it appears to be rather small in size. However, the appropriate measure unit for determining appropriateness of staff size should be the goals that the organization will commit to achieving – and such revision would be most appropriate after the mandate of ARI is revised. It is expected that not only staff number but also staff composition will then need to be adjusted accordingly.

## 2.4 Agricultural Insurance Organization



### Status quo: Diagnostics

180. **The Agricultural Insurance Organization (AIO) is a semi-governmental non-profit entity, operating under the auspices of MANRE.** The administration of the AIO regarding its structure, organization and functions has been defined by law dating back in 1977. Independent of the numerous amendments, this law regulates among others, the constitution of the AIO management board, which is appointed by the government and is made up of five governmental representatives, but also one member of each of the four farmers unions and one representative of the Cooperative Movement. AIO has two regional offices: one office covering the region of Limassol and Paphos and the second office responsible for Nicosia, Larnaka and Famagusta.

181. **The AIO indemnifies farmers against climatic risks for losses in crop production, but does not offer insurance against market risk like income or price.** While originally only a few crops could be insured, the law on the AIO has been amended to expand their portfolio to 9 different product groups: cereals, grapes, deciduous fruits (including stone fruits), citrus fruits, beans, artichokes, potatoes, dry fodder and loquats. The insurable climatic risks are hail, drought, flood, frost, prolonged rainfalls in beans, and is also included in the amending legislation for potatoes, but also for cherries and raisins in specific periods, windstorm, water spot, strong dry wind, heat wave, warm-dry air.

**Table 4: Insured hazards per crop in Cyprus**

Insured Hazards	Insured Crops								
	Grapes	Deciduous	Cereals	Dry Fodder	Potatoes	Citrus	Beans	Artichokes	Loquats
Hail	X	X	X	X	X	X	X	X	X
Frost	X	X			X	X	X	X	X
Wind	X	X				X			
Drought	X		X	X					
Rust			X						
Heat wave	X	X							
Flood					X		X		
Water spot						X <sup>3</sup>			
Forceful dry wind	X					X			
Hot dry wind							X		
Rainfall	X <sup>1</sup>	X <sup>2</sup>							
Prolonged dry wind							X		
Flood after harvest							X		
Hail after harvest							X		
Prolonged rainfall after harvest							X		
Adverse weather conditions		X <sup>4</sup>							

**Source:** AIO; <sup>1</sup> Commandaria grapes while lying for sun-drying; <sup>2</sup> Cherries at stage of ripening; <sup>3</sup> Clementine and mandarins in strict period; <sup>4</sup> Apples, pears and stone fruit on blossom

182. **Within the EU, only few member states have a comparable comprehensive agricultural risk management concept in place like Cyprus.** Drought, which is one of the most controversial climatic risks in agriculture, can only be insured in few EU member states like Austria, Spain, and just recently also in France (Table 5).

**Table 5: Overview of agricultural insurance coverage by event, in several EU countries**

Country	Hail	Frost	Storm	Flood	Drought	Other
Cyprus	X	X	X	X	X	X
Austria	X	X	X	X	X	X
Spain	X	X	X	X	X	X
France	X	X	X	X	X	X
Czech Republic	X	X	X	X		X
Slovak Republic	X	X	X	X		X
Netherlands	X	X	X	X		
Germany	X	X				

**Source:** www.hagel.at (Website of the Austrian Hail Insurance Company)

183. **There are no private sector alternatives to agriculture insurance in Cyprus.** In 1956, the Agricultural Provident Fund was created on a voluntary basis with contributions from its members, but provided limited coverage and only survived some 20 years. In 1965, cereal producers created a mutual fund for support in case of drought. This concept of the mutual fund went bankrupt in 1973, at a time when Cyprus was hit by a very severe drought. As the private sector did not see any profitability in agricultural insurance, the AIO was the logical consequence. Many areas in Cyprus are highly exposed to risk, and cannot obtain feasible premium by applying the market rules.

184. **The participation in agricultural insurance is compulsory for all farmers in Cyprus.** They must insure all their insurable crops against all risks covered by the agricultural insurance scheme. AIO follows the objective to safeguard farmer’s welfare as a consequence of specific non-predictable climatic risks. While not specified, this social objective of the AIO also provides an instrument to stabilize farmer’s income.

185. **Within the EU, the most common institutional mechanism for agricultural insurance is run by the private sector. Only in Greece and Cyprus, agricultural insurance runs completely in governmental hands.** While nearly half of the EU member states subsidize agricultural insurance, these are channeled through private insurance companies. While private insurance focuses on profit, and often avoid paying compensations, the governmental run scheme has the advantage that the level of premiums do not vary from one year to the next, regardless of compensation claims. Considering the small-scale Cypriot farmers and the average profit margin from private insurers of 15-35%, many farmers in Cyprus would not be considered by agricultural insurance under a private scheme.

**Table 6: Agricultural insurance schemes in the EU**

Member State	Single Risk Insurance	Combined Insurance	Yield Insurance
Austria	Private & subsidized	Private & subsidized	Private & subsidized
Belgium	Private		
Bulgaria	Private	Private	
Cyprus	Government, compulsory &subsidy	Government, compulsory &subsidy	
Czech Republic	Private & subsidized	Private & subsidized	
Denmark	Private		
Estonia	Private		
Finland	Private	Private	
France	Private	Private	Private & subsidized
Germany	Private		
Greece	Private	Government, compulsory &subsidy	
Hungary	Private	Private	
Ireland	Private		
Italy	Private & subsidized	Private & subsidized	Private & subsidized
Latvia	Private & subsidized		
Lithuania	Private & subsidized		
Luxembourg	Private & subsidized	Private & subsidized	Private & subsidized
Netherlands	Private		
Poland	Private & subsidized		
Portugal	Private & subsidized	Private & subsidized	
Romania	Private & subsidized	Private & subsidized	
Slovak Republic	Private & subsidized	Private & subsidized	
Slovenia	Private & subsidized	Private	
Spain	Private & subsidized	Private & subsidized	Private & subsidized
Sweden	Private	Private	
United Kingdom	Private		

Source: Individual member states

186. **The enforcement of farmers’ mandatory participation has been done through an automatic deduction of the premium value out of the complementary national direct payments (CNDP) delivered to farmers through CAPO.** Farmers growing cereals, dry fodder and grapes, do not actually pay their insurance premiums directly. However, upon the mandatory phase-out of the CNDPs, as per EU CAP rules, there is major uncertainty as to how the implementation of the scheme will be continued. Cyprus is currently discussing with the European Commission the possibility of deducting the premiums

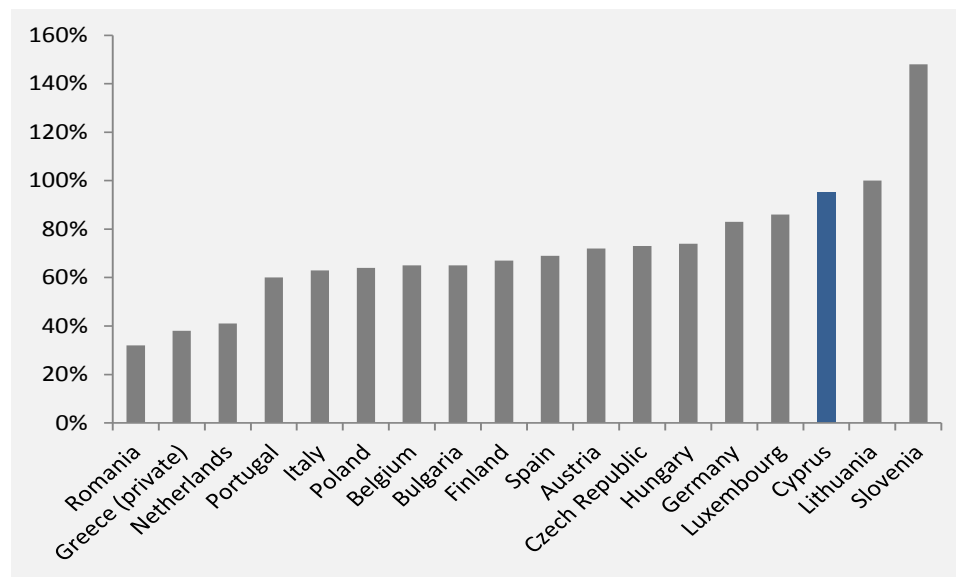


directly out of the EU-funded direct payments, but this has EU legal implications that need to be fully explored first. Considering this as well as the constraints on the national budget, AIO is facing a challenge on how to collect the farmers' contributions in a reliable way. Furthermore, the defined procedure to take a farmer to court when not paying has been implemented, although it is acknowledged that it worsens the AIO relations with farmers. At the moment, selected cases owing considerable amounts are driven to court. Recent years show that the default rate has been increasing.

187. **The Government of Cyprus provides financial support to the insurance premiums of farmers, but also grants support of the AIO's administrative costs.** Currently, half of the insurance premiums are to be paid by the farmers and the other half are covered from the state budget. But according to an amendment in 2007, commercial farms are not eligible for the 50% premium subsidy, as it is considered that they have sufficient capital. In Cyprus, only 2 farms fall under this definition. As the AIO is playing a social role and the participation in agricultural insurance is compulsory in Cyprus, the European Commission has confirmed that the government is permitted to pay the AIO's administrative costs.

188. **The loss ratio supports the argumentation that agricultural insurance is not profitable in Cyprus.** The loss ratio is calculated by dividing the total indemnities, administrative costs (27%) and the reserve (10%) by the total amounts paid. In the period 2000-13, the overall loss rate had been deficient with 1.08%. Especially cereals, deciduous fruits and loquats had deficient loss rates, while citrus fruits, grapes and beans provided a surplus. Only Lithuania and Slovenia prove to have a poorer loss rate within the EU compared to Cyprus (Figure 26).

**Figure 26: Share of premiums versus compensations in various EU countries (loss ratio)**



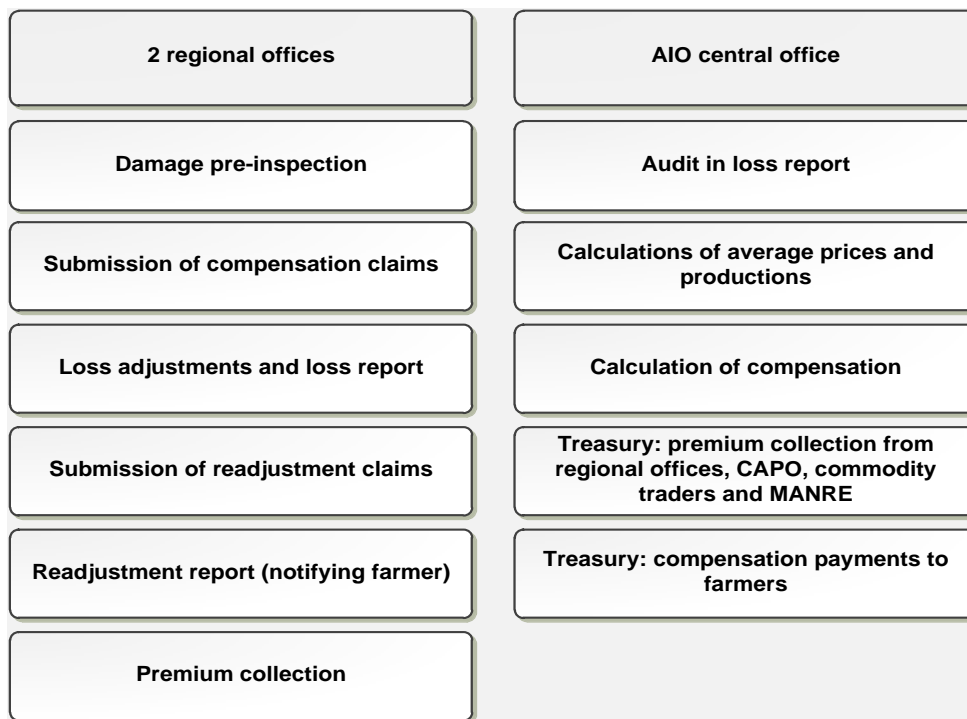
189. **In addition to managing the agricultural insurance scheme, AIO is also in charge with delivering certain ad-hoc compensations and future calamities could be addressed through the National Framework for State Aid.** The former cover risks/crops not covered by the regular insurance scheme, and require no premiums. AIO took over the management of the National Framework from the Department of Agriculture in 2012. The latter refer to ad-hoc payments delivered in case of extraordinary natural calamities (e.g. major droughts) or rare events (e.g. compensations for the Naval Base explosion in 2011). Any potential calamities in the future could be addressed through the National Framework for State Aid. But regarding the massive drought of 2008, AIO only contributed by supplying its database for the crops insured, and not by paying any compensation outside its scheme. The Department of

Agriculture retained limited competencies for state aid scheme delivery (e.g. fire relief compensation, *de minimis* aids).

190. **Under these programs, farmers received compensations for non-insured situations.** Total payments for 2008: EUR 876,000 in 2008 (of which EUR 530,000 attributed to bananas), 2009: EUR 610,000 (of which EUR 330,000 for hail damaging tomatoes and other vegetables in the mountainous region) 2010: exceeding EUR 8 million (of which 7,3 million referring to prolonged rainfall on potatoes). The payment for 2010 has yet to be executed. Since its establishment in 1977, the reserve pool of the AIO has been exhausted three times (1997, 2000 and 2008). The reserve pool accounts for EUR 12,786,489 (as of December 10, 2013), and is totally available for the compensation payments (up to exhaustion). In contrast, the most recent severe drought of 2008 called for indemnities worth EUR 16 million. While MANRE had certain flexibility prior to the EU accession by covering the gap with loans, indemnities to farmers are now paid pro-rata. The AIO has a reputation of paying the indemnities within the year of the occurred calamity, but is obliged by its law to do so.

191. **The procedures of AIO provide a balance between the central office and the two district offices.** The headquarters of the AIO consist of the central administration, the technical sector, the treasury and the archive. The central administration is responsible for the proper operation and can be considered as the liaison to the MANRE and other stakeholders. The technical sector deals with statistics and calculates the prices and values for compensations. The treasury is responsible for premium collection, which goes beyond the CAPO deductibles from national funded payments. As the following graph shows, the district offices are mainly responsible for the regional work, especially handling the compensation claims.

**Figure 27: Breakdown of AIO procedures between headquarters and regional offices**



192. **Consistent annual budget, aging staff and high share of graduate employees of the AIO will require solutions.** The AIO has a total staff of 37, of which 73% have a university degree (A8 and above). Based on the “Agriculturist Registration Law”, the AIO officers undertaking damage assessments are obliged to have a university degree. AIO officers practicing on-the-spot controls differ from those from CAPO and DA. The average age of the AIO is in the upper 40’s and within the next 5 years 5 of 37

employees will enter retirement, in 10 years it will be 10 employees. For the last 10 years, the total budget of the AIO (2013: EUR 2.6 million), especially the employee expenditure has remained constant.

193. **With the future expansion of the EU-funded risk management tools in agriculture, for the 2014-20 programming cycle, there is some uncertainty as to how the policy framework, and associated implementation arrangements, will change.** There is consideration around Cyprus including some of the risk management instruments made available under the new rural development menu into its 2014-20 RDP. Some of the compensations (i.e. those that are currently delivered under the National Framework for State Aid in Agriculture) could be shifted to the mutual fund measure (article 39 of the new EU Regulation on Rural Development). Under the new Rural Development regulation, the mutual fund can be supported up to 65% from the EU. Should that be the case, AIO could become the implementing body for the respective support scheme. A major uncertainty lies though in the ability of farmers to contribute to the mutual fund (mandatory prerequisite tied to the EU co-financing). So far, the state aids have been providing free-of-charge compensations to farmers in the eligible situations. As of now, France and Romania are also considering introducing the mutual funds.

194. **Regardless of the future changes, the current and future implementation of the risk management tools in agriculture rests on a strong collaboration with various other public structures.**

195. **Department of Agriculture:** in conducting its activities, AIO relies greatly on collaboration with the Department of Agriculture on several levels.

- Firstly, the Extension Service in the Department of Agriculture helps with the training and information of farmers as regards risk management, amongst others. Strong coordination is paramount for the farmers to gather the needed knowledge regarding risk management, but sometimes AIO officers may provide some specialized advice – which raises question of possible duplication.
- Secondly, the district officers of the Extension Service often provide pre-inspection on site, to determine whether there are damages of sufficient scale to mobilize AIO. This situation is due to the fact that AIO lacks sufficient field presence (staff based in the cities only) that the Department of Agriculture can compensate for. It also helps address seasonal fluctuations in AIO's workload. The arrangements for such cross-support are not formalized.
- Thirdly, the Department of Agriculture is involved in providing data that AIO needs, for instance, to determine the amounts of compensation. Regarding the National Framework for State Aid, the data is provided by DoA to AIO, as the DoA was operating this scheme prior to the shift to AIO. Reversely, the AIO provides any data derived from running its insurance scheme and maintaining a tailor-made database. There are functional fog and gaps on this matter, also extending to ARI. In the past, ARI used to provide norms for farm data, which has now become the competence of the DoA. Nevertheless, the latter is not calculating input-output data, while ARI terminated this exercise in 2008. As a result, this may have negative impact on its calculations. The only parameter that AIO is updating in yearly basis is the “average fuel price”, which is delivered from the fuel companies newsletters, although this only partly compensates for the lack of sufficiently updated data in the farm norms. Also, the various operations undertaken throughout the year are revised by AIO (e.g. number of sprayings of irrigation hours), but the per-unit charge can only be derived by the 2008 norms.
- Fourthly, the Department of Agriculture (mainly through its productivity, seed production and/or land/water use sections) provides technical/agronomic cooperation on any matters needed to inform the insurance management processes.
- Fifthly and lastly, the DoA is involved in the handling of forms and compensation claims from farmers, especially for the claims falling under the National Framework for State Aid in

Agriculture. While typically such a task should be AIO's responsibility, the organization is suffering from insufficient field presence, particularly in the mountainous/remote areas. To overcome the challenge, AIO relies on the district agricultural offices. The organization of these processes holds significant potential for improvement.

196. **Cyprus Agricultural Payments Organization:** The interface with CAPO is also multi-faceted.

- Firstly, CAPO collects the insurance premiums for cereals, dry fodder and grapes. This is an essential service for the operation of the agricultural insurance scheme as currently designed, which would otherwise risk facing a potentially significant drop in farmers' contributions.
- Secondly, CAPO provides data (e.g. plot areas, surfaces planted to certain crops) that is necessary for determining the eligibility and amount of farmers' indemnities, but also for determining the final compensations (the damage must be multiplied by the area).

However, the AIO also operates its own "bluebyte" database for insurance purposes, which is independent from the database of the Integrated Administration and Control System (IACS) of CAPO. The AIO's database collects crop-related production and damage-related losses data, but also average prices for the commodities of interest. There are about 50,000 farmers in the AIO's database, of which most are also managed under the IACS database of CAPO. The databases of the AIO and CAPO not only vary as regards to the number of farmers, but the IACS database lacks some crop information needed by the AIO. The AIO database includes data on citrus fruits, deciduous fruits (including stone fruit and nuts), loquats, artichokes, beans and potatoes, which are crops not covered by the IACS database.

The operations and functions of the AIO and CAPO show that the existing collaboration is already strong, but could even be expanded. As the farmers insurance premiums are deducted from their national top-up payments, illustrate that CAPO and the AIO have already a strong cooperation. As the national top-up payments have been limited due to the financial crisis and will even be phased out in years to come, considerations should focus on deducting the premium out of the farmers' final payments, independent of the funding source. As AIO requires additional information, it could be considered to strengthen the IACS-database with additional crops provided by the beneficiaries. In addition, the AIO is getting assistance from CAPO as regards to their introduction of a Geographical Information System (GIS). While still at a pilot stage, the introduction of GIS could reduce the amount of field work and improve efficiency on making compensatory payments.

197. **Meteorological Service/Trade Service/Department of Labor Inspection etc.:** are sharing data with AIO in their respective areas of competence (e.g. climatic data, export data, or ash particles in atmosphere/solar radiation), respectively. These exchanges appear to work smoothly.

## **Reform Options**

198. **Further integration between AIO and CAPO could be considered as regards to a common database and merging on-the-spot controls.** Based on the existing cooperation between the AIO and CAPO (e.g. deducting premiums from national top-up payments, providing GIS data to reduce field work) and the above listed recommendations, additional scenarios to strengthen the cooperation could be envisaged, like:

- Expanding the IACS-database of CAPO to completely integrate the AIO database. As CAPO has an IACS-database in place, which follows the conditions of the Land Parcel Identification System (LPIS), it is a reliable source of information on crops and area. Since the AIO requires more specific crop variety information, the applications from CAPO could be expanded. This is a common practice in other EU member states (e.g. Austria). Reducing administration to one

database, minimizes the margin of error, reduces bureaucracy for both the farmer and the administration and thereby also helps reduce administrative labor and costs.

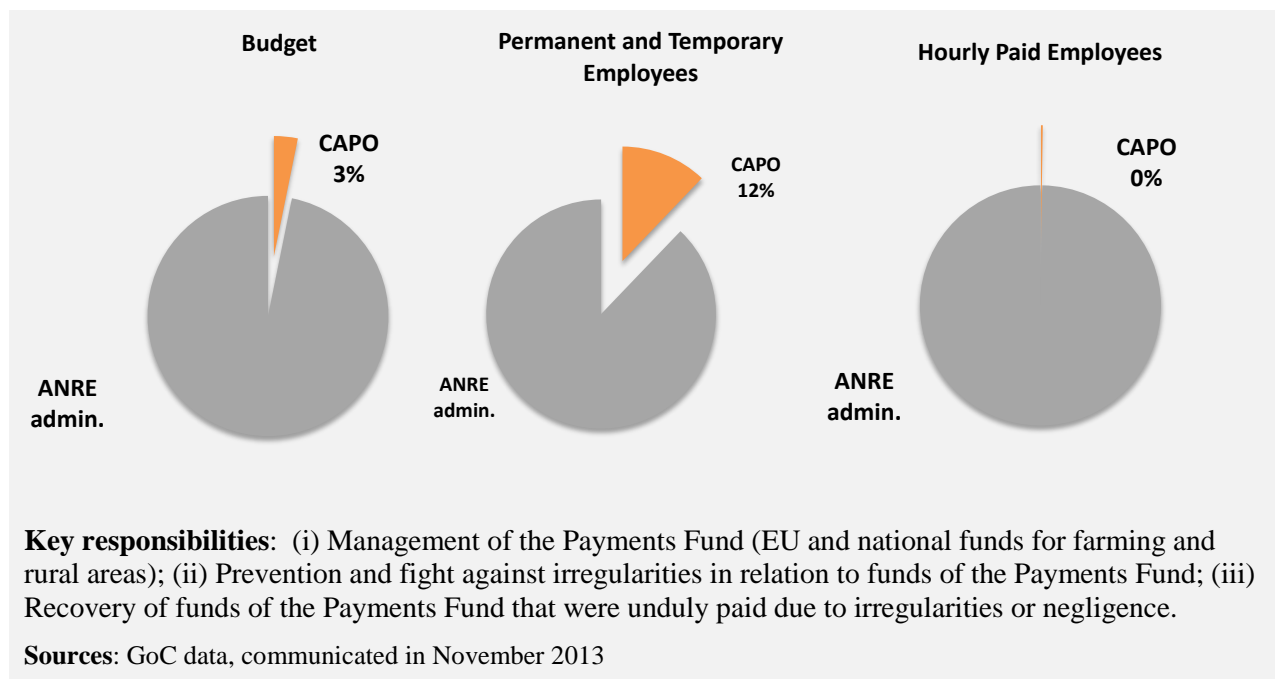
- Merging the activity of damage assessments of the AIO with the technical control department of CAPO. As the technical control department is already practicing control functions on-the-spot and the expertise of the controllers have sufficient farm-related know-how on damage assessments, this option could lead to improvements in making administration more efficient and even less bureaucratic for farmers. While merging these activities, the “Agriculturist Registration Law” must be respected, as the officers involved in damage assessments require a university degree.
- Considering that the Mutual Fund will be funded under the rural development plan 2014-20, premium deductions (collection of premiums) would easily be managed through the IACS-database of CAPO.

199. **Consolidate the function of advising farmers on agricultural insurance with the activities of the extension services of the Department of Agriculture.** Two scenarios are possible:

- Transferring the function of advising on risk management completely to the AIO. The advantage is that the AIO already covers all farmers, and has a long-standing presence in the field. However, this scenario would also require the AIO to broaden their expertise, as risk management in agriculture is not limited to insurance schemes, but covers a variety of ex-ante (preventive) and ex-post measures against numerous risks in agriculture.
- Transferring the function of advising farmers on risk management completely to the extension services of the Department of Agriculture. As the Department of Agriculture has the expertise on extension and risk management is a broad field going beyond insurance policies, this scenario could prevent an overlap.

200. **Finally, the option of dissolving AIO and splitting its responsibilities, functions and staff between the Department of Agriculture and CAPO leads to the biggest impact.** Based on the above described interfaces and the potential to improve the cooperation, the Department of Agriculture could take over the risk management competence (in the broader sense), preferably by creating a dedicated service, called “Risk Management”. Such a structure would present the benefit of maintaining the profile that risk management tools deserve in the current and future agro-climatic context in Cyprus. As the DoA is already now dealing with certain tasks that could also be managed by the AIO (e.g. de minimis), it would be recommended to merge all affiliated activities into the newly created “Risk Management” unit within the DoA. A closer integration with the DoA could also take advantage of the extension service – which could include a strengthened focus on risk management, while being functionally distinct from the section/division which may deal with damage assessment and compensations (to avoid possible conflict of interest). At the same time, CAPO could take over the management of the database, with the possible adjustments needed, establish a joint technical control/damage assessment unit and also deliver the payments to the farmers. Such a merger would also entail organizational adjustments at the district office level – with gains in terms of reducing AIO’s total annual budget of EUR 2.6 million by outreach and administrative costs. Of AIO’s total staff (37), the 18 Agricultural Insurance Officers dealing with damage assessments, should be integrated withing CAPO, the others transferred to DoA. Dissolving AIO on central level and merging the district offices of DoA and AIO, while also transferring the specific damage assessment competences to the CAPO district level structures would address the current shortcomings with regard to field presence, as well as the functional duplications identified above.

## 2.5 Cyprus Agricultural Payments Organization



### Status quo: Diagnostics

201. **The Cyprus Agricultural Payments Organization (CAPO) is accredited as a paying agency under the EU regulation and is responsible for the implementation of the CAP of the EU.** Based on the Council Regulation (EC) no. 1258/1999 (today: no. 1290/2005) on the financing of the CAP and the Commission Regulation (EC) No. 885/2006 regarding the implementing rules on the accreditation of paying agencies, Cyprus established their paying agency CAPO. By means of the national decree no. 64/2003 the establishment and operations of the Cypriot paying agency have been defined. Also, prior to Cyprus accession into the EU, the Cypriot paying agency was already accredited conditionally, but 10 months after its accession, in February 2005, CAPO was accredited by the Minister of Agriculture, Natural Resources and Environment as an EU paying agency.

202. **The CAPO is established as an independent legal entity and reports directly to the European Commission as regards to their financial declarations.** The national decree no. 64/2003 defines the independence of CAPO, which operates not only institutionally, but also functionally autonomous. Like most paying agencies in the EU (see Table 7), CAPO is not integrated within any Ministry or any other governmental department. Yet, although the Competent Authority is the Minister of Agriculture, Natural Resources and Environment, CAPO sends their monthly cost declaration directly to the European Commission for EU-funds and to the Ministry of Finance for national funds. In addition, the Commissioner of CAPO reports directly to the President. As stipulated by the Commission Regulation (EC) No. 885/2006 regarding the detailed rules for the accreditation of paying agencies, the direct reporting by CAPO to the European Commission is possible, as there is only one paying agency in Cyprus and therefore no Coordination Body in place. The political weight of the paying agency is also strengthened by the fact that CAPO also represents Cyprus at the EAGF Committee in Brussels. This autonomy of CAPO from the government (e.g. from MANRE) might provide advantages as regards to its flexibility, but bares risks as to having the adequate controls in place. Still the Certifying Body, which is initiated MANRE audits CAPO, especially regarding the clearance of accounts.

**Table 7: Institutional set-up of paying agencies within the EU Member States**

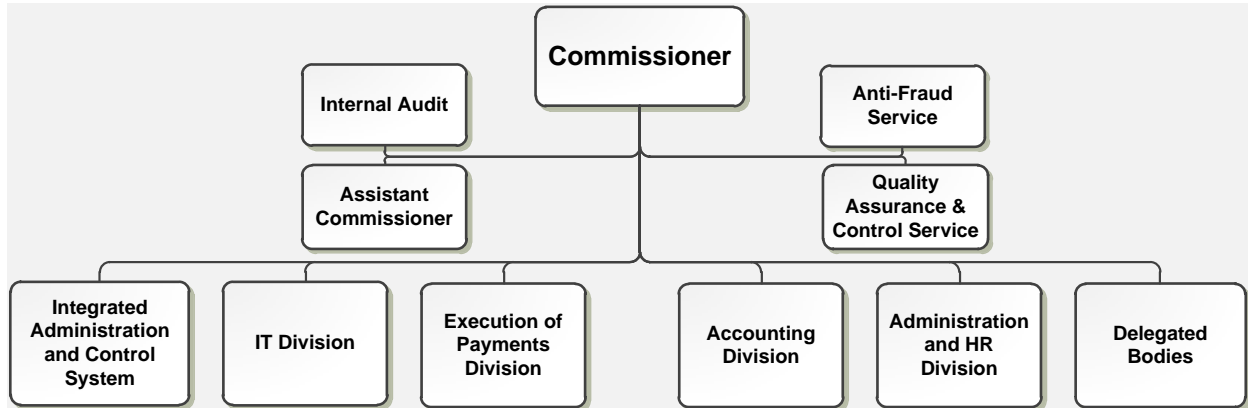
Member State	Within Ministry	Outside Ministry	Explanation
Austria		X	Agrarmarkt Austria ( <a href="http://www.ama.gv.at">www.ama.gv.at</a> )
Belgium	X		2 paying agencies, one within each of the two regional Flemish and Walloon MoA
Bulgaria		X	The State Fund Agriculture is managed by Managing board of 11 members with Minister of Agriculture being the chairman
Cyprus		X	
Croatia		X	Paying agency for Agriculture, Fisheries and Rural Development
Czech Republic		X	The State Agricultural Fund, submits its budget through the MoA
Denmark		X	AgroFish Agency ( <a href="http://www.agrifish.dk">www.agrifish.dk</a> )
Estonia		X	Estonian Agricultural Registers and Information Board ( <a href="http://www.pria.ee/en/">www.pria.ee/en/</a> )
Finland		X	Mavi (Agency for Rural Affairs)
France		X	Has several paying agencies
Germany	X		Each Bundesland (16) has its own paying agency, which is usually part of MoA
Greece		X	Private legal entity supervised by the MoA
Hungary		X	
Ireland	X		
Italy		X	Several regional paying agencies
Lithuania		X	National Paying Agency
Luxembourg	X		
Latvia		X	
Malta		X	
Netherlands		X	Will be decentralized in 2015
Poland		X	Agency for Restructuring and Modernization of Agriculture operates under supervision of MoF
Portugal		X	Distinct agency with administrative and financial autonomy
Romania		X	2 paying agencies APIA & APDRP
Slovak Republic		X	Agricultural Paying Agency ( <a href="http://www.apa.sk">www.apa.sk</a> )
Slovenia		X	While mentioned in the organizational chart of MoA, it is a distinct agency
Spain	X		Regional agencies
Sweden		X	Swedish Board of Agriculture is subordinate to MoA
United Kingdom	X		Regional agencies under umbrella of DEFRA

Sources: national websites of Paying Agencies and Ministries of Agriculture; [http://enrd.ec.europa.eu/general-info/whos-who/implementing-authorities/paying-authorities/en/paying-agencies\\_en.cfm](http://enrd.ec.europa.eu/general-info/whos-who/implementing-authorities/paying-authorities/en/paying-agencies_en.cfm)

203. **The organization of CAPO is structured to comply with the most important functions of an EU paying agency** (Figure 27). While the headquarters is located in Nicosia, CAPO has also 5 district offices to facilitate agricultural administration in rural regions of Cyprus. An additional regional office had been closed in April 2013. The organizational chart below reveals that CAPO fulfills the preconditions defined for an EU paying agency. Besides the functional separation of authorization, accounting and execution of payments, CAPO has also an established technical control department as well as an internal audit service. The paying agency is managed by a Commissioner and thereby does not have a board of directors. The Commissioner and the Assistant Commissioner are appointed by the Council of Ministers. To advise the Competent Authority as regards to CAPO fulfilling its accreditation requirements, the Advisory Committee is appointed. This Advisory Committee can also provide advice and support to the Commissioner, if he so requests. On average, the Advisory Committee meets once per

year. In addition to the Advisory Committee, a Technical Committee has been installed since November 2013. This committee is chaired by the Permanent Secretary, has additional 3 chairs for MANRE and 2 chairs for CAPO. This Technical Committee, which will meet more frequently, discusses among others, financial issues like cash flow forecasts and agreeing on an annual timetable for payments.

**Figure 28: Organizational chart of CAPO**

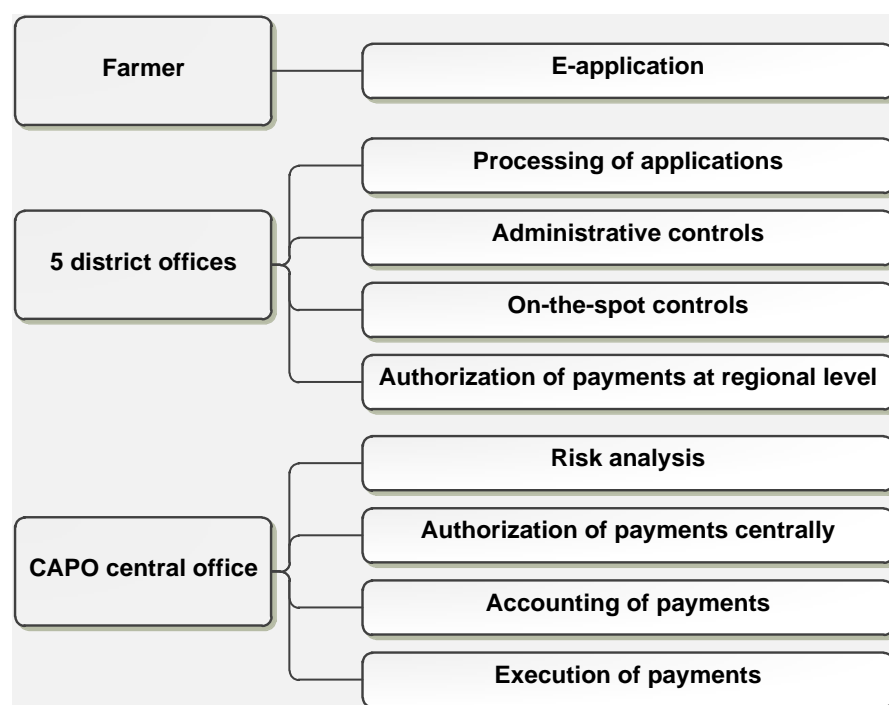


204. **While functioning as an EU paying agency, CAPO also administers national payments to support Cypriot farmers.** CAPO is responsible for the accounting and execution of payments for all subsidies (e.g. Single Area Payment Scheme) and rural development measures, but also for the implementation of the CMOs (e.g. market interventions and trade mechanisms) financed by the European Agricultural Guarantee Fund (EAGF) and the European Agricultural Fund for Rural Development (EAFRD). In addition, CAPO manages payments, which are funded from the national budget (e.g. Complementary National Direct Payments). Independent of the source of funding, the subsidy schemes and numerous measures administered by CAPO are managed under the conditions defined in the EU regulations of the Integrated Administration and Control System (IACS). Within the administration of the IACS, CAPO needed to establish the LPIS, which includes almost 0.5 million parcels in the system.

205. **To facilitate administration of the area-based subsidy schemes (e.g. SAPS, agri-environmental measures), CAPO focuses on decentralization by allocating most of the administrative functions to their 5 district offices.** While the headquarters of CAPO provides for hard- and software, and above all, for unified instructions, the procedures regarding processing of applications, administrative and on-the-spot controls, as well as authorizations of payments take place in the 5 district offices (see graph below). Based on a comprehensive database, the central office of CAPO deals with the selection of farms to be controlled on-the-spot using a risk analysis. In addition, CAPO headquarters is responsible for the central authorization, accounting and execution of payments.



**Figure 29: Workflow of area-based subsidy schemes**



206. **As stipulated in the Article 15 of the national decree no. 64/2003, CAPO makes use of the opportunity to delegate functions.** As Cyprus did not benefit from pre-accession measures and therefore lacked such experience when being obliged to establish its paying agency within a few months, CAPO has made use of the legal possibilities by delegating some of its functions to several different organizations. While CAPO is administrating 20 different subsidy measures, the following table shows that six different governmental organizations or SOEs have been delegated the function to administer 46 different subsidy measures up to authorization of payments. For instance, the DoA is the delegated body for investment schemes within the National Rural Development Plan (NRDP) and various measures of the Common Market Organizations (e.g. school fruits and vegetables scheme). The Ministry of Commerce is the delegated body for the processing and marketing measure of the NRDP. Due to the recent decision by the Council of Ministers, the staff of several marketing boards, e.g. the Cyprus Milk Industry Organization will be transferred to the central government and the Wine Products Council will be integrated within the DoA. Independent of the option to transfer their staff to CAPO, this would have implications on CAPO's existing agreements on the delegation of functions.

**Table 8: Delegated Bodies and measures**

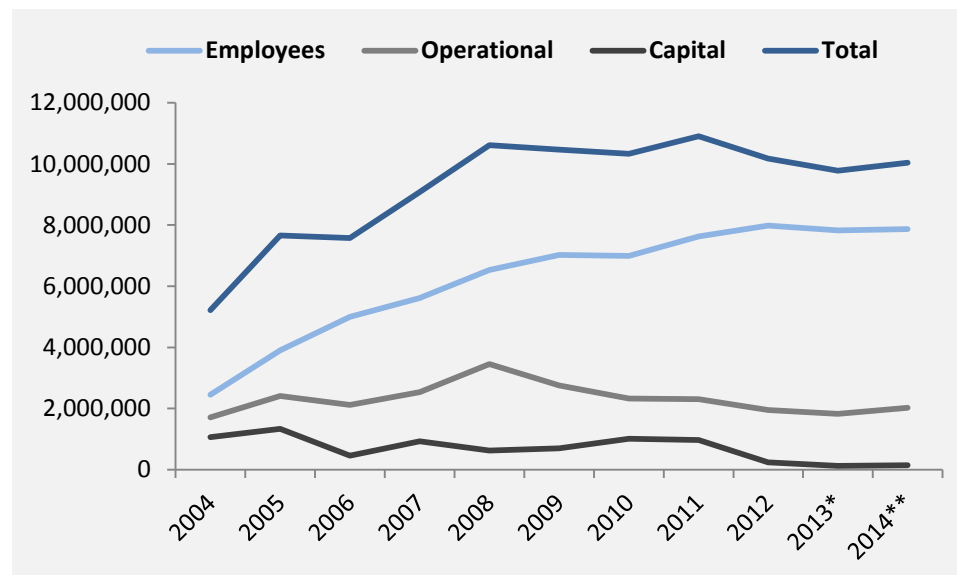
Delegated Bodies	Delegated measure
Department of Agriculture	19 measures of the Rural Development Program 2007-13 4 measures of the Common Market Organizations
Department of Forestry	9 measures of the Rural Development Program 2007-13
Ministry of Commerce, Energy, Industry and Tourism	1 measure of the Rural Development Program 2007-13 1 measure of the Common Market Organizations
Ministry of Interior	2 measures of the Rural Development Program 2007-13
Wine Products Council	8 measures of the CMO Wine
Cyprus Milk Industry Organization	2 measures of the CMO Milk

Source: CAPO

207. **CAPO's budget makes up 3% of MANRE's total expenditure, but has been reduced in recent years.** The annual budget from CAPO is approved by both the Council of Ministers and the House

of Representatives. Before this approval process, the annual budget is approved by the Ministry of Finance. MANRE has the opportunity to intervene at the Ministry of Finance as regards to CAPO's budget. While CAPO had an annual budget of EUR 13.0 million in 2009, it has been reduced to EUR 11.1 million in 2012. Even though CAPO is in the process of implementing the CAP-reform of June 2013, the annual budget for 2014 has been reduced to EUR 10.0 million. However, while the total expenditure of CAPO has been reduced in recent years (see Figure 29), the share of the employee expenditure (salaries) is continuously gaining weight and makes up nearly 80% of CAPO's annual budget in 2013. Considering that CAPO's operational and capital expenditure have been reduced in recent years, explains the relative growth in employee expenditure.

**Figure 30: Development of CAPO's Budget since EU accession (2004-14)**



Source: CAPO

208. **While the number of staff of CAPO has been constant over the years, there is a trend towards strengthening the number of permanent employees.** Including the district/regional offices, CAPO has a total staff of 232 employees. In recent years, just little more than half of CAPO's employees had permanent contracts (126), while 4 employees are hourly paid. There has been the effort to change the temporary contracts based on seasonal activities to permanent contracts, as this provides gains in experience and specialization. Of the originally hired 102 temporary staff, 98 have received indefinite contracts, as they have worked over 2 ½ years for CAPO. In addition, fluctuations in staff have had negative impact on the efficiency, as replacing personnel requires much time and resources. From the 232 employees, 96 have a university degree. Even though the majority of the work flow takes place at level of the 5 district offices, the majority of employees are posted at the headquarters. 150 employees are allocated to the implementation of the Integrated Administration and Control System (IACS), of which 76 are located at the district offices. Even though the CAP-Reform 2013 has led to substantial reductions in the EU-funds for the rural development program 2014-20 (EUR 120 million), CAPO argues for their staff needs with new elements (e.g. the greening element of the CAP).

**Table 9: CAPO's staff divided in type of employment and salary scales**

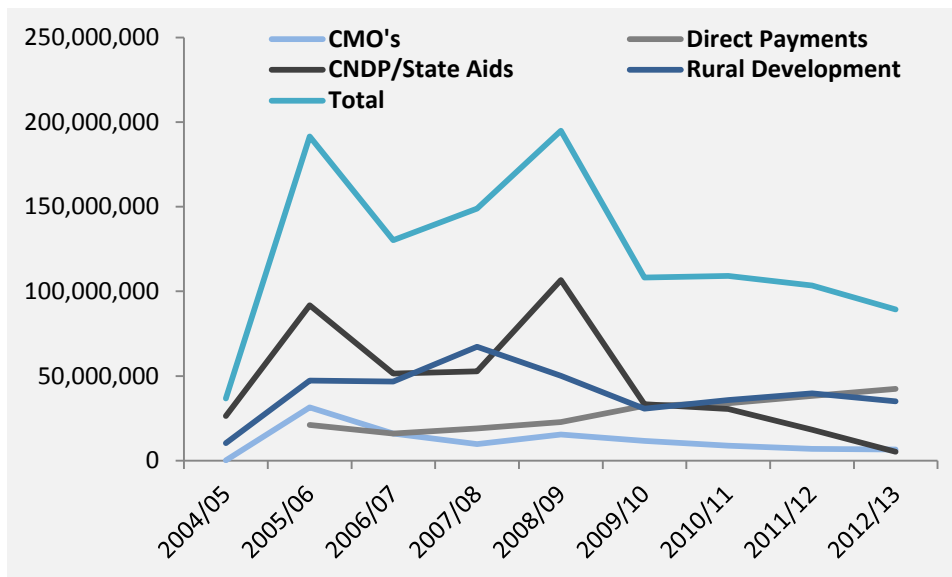
Salary Scale	Permanent	Contract	Total
A14	4	0	4
A13	3	0	3
A11	8	0	8
A9	1	0	1

Salary Scale	Permanent	Contract	Total
A8	39	41	80
A5	20	11	31
A4	6	0	6
A2	45	50	95
E5	3	0	3
E1	1	0	1
<b>Total</b>	<b>130</b>	<b>102</b>	<b>232</b>

Source: CAPO

209. **CAPO is granting payments from both pillars of the CAP, but the amount of annual payments to the beneficiaries, above all to the farmers, will be reduced in the period 2014-20.** While CAPO administered a budget frame for rural development of EUR 320 million in the programming period 2007-13, the most recent CAP-Reform led to drastic cuts and for 2014-20, as only EUR 200 million will be available for the 2<sup>nd</sup> pillar of the CAP. Even though Cyprus is entitled to grant national-funded top-up payments, which are awarded, in addition to the EU-funded direct payments, the financial crisis has led to a reduction in these complimentary payments. CAPO executes several payments, which are administered and authorized by their delegated bodies (e.g. within the CMOs and non-area based rural development measures). The following table shows the development of the direct payments, CMO payments and rural development measures.

Figure 31: CAPO payments since EU-accession (2004-13)



Source: CAPO

210. **Decreasing payments puts pressure on administrative efficiency.** For every euro paid to the beneficiaries, CAPO's administration in 2012 costs 9 cents (2004-13 average is 7,8 cents). Considering that CAPO has had several financial corrections based on audits by the European Commission totaling EUR 12 million would have even more negative impact on the administrative efficiency. While CAPO's administration was more efficient in the years 2006-09 by costing just 4-7 cents per every euro spent, the financial crisis, leading to cuts of the complementary national direct payments have had a negative effect on the administrative efficiency. Comparing the administrative efficiency with one of its delegated bodies, shows that in 2012, the DoA works just little more efficient with 7 cents for every euro spent. Considering that the most recent CAP reform has led to cuts on the frame for the Rural Development Plan by EUR 120 million will cause the cost/payment ratio of CAPO to grow to 13-15 cents per euro spent.

211. **Considering the cost of administration, CAPO does not belong to the most efficient paying agencies of the EU.** To compare CAPO's administrative efficiency with other paying agencies within the EU is difficult, as benchmarking requires a fair share of comparable standards. That said, a serious comparison is only possible, if factors like the number of farms, size of agricultural area (economies of scale), number of rural development measures, degree of delegating functions, and level of administration (central/decentralized) are the same. The following table might invite to say that the Austrian paying agency AgrarMarkt Austria ([www.ama.gv.at](http://www.ama.gv.at)) is three times as efficient as CAPO, but considering that cost-relevant functions have been delegated to the Chambers of Agriculture and the budget of the delegated bodies is not reflected in this table, puts the data below into perspective. Another more extreme example is the Swedish paying agency, which has delegated practically everything except for accounting and execution of payments and therefore provides even better efficiency ratio.

**Table 10: Comparing administrative efficiency between CAPO and the Austrian paying agency AMA in 2011/12**

Indicator	Cyprus	Austria
Number of farmers	40,000	165,000
Total agricultural area (ha)	146,000	2,879,000
Number of Rural Development measures incl. agri-environmental measures	34	56
Staff within paying agency	232	494 permanent 177 temporary
Share with University degree	40.5 %	23.5 %
Payments to farmers	103,431,727	1,828,373,213
Annual Budget (EUR million)	10.2	52.5
Delegated functions (no staff numbers available)	Authorization of payments for: <ul style="list-style-type: none"> <li>• Non-area based RD measures to DoA</li> <li>• Non-area based RD measures to DoF</li> <li>• Non-area based RD measures to MoC</li> <li>• Non-area based RD measures to MoI</li> <li>• Numerous measures with CMO to WPC and CMIO</li> </ul>	Application processing including data entry and partial administrative controls: <ul style="list-style-type: none"> <li>• All area and non-area CAP measures to Chambers of Agriculture</li> </ul> Authorization of payments: <ul style="list-style-type: none"> <li>• RD measure on processing and marketing to the GMF</li> <li>• Other non-area based RD to Chambers of Agriculture/State Governments</li> </ul>
Administrative cost for every Euro spent (Ratio Budget/Payment)	9 cents	3 cents

Source: CAPO and [www.ama.gv.at](http://www.ama.gv.at)

212. **Based on a good human and ICT capability, CAPO has achieved some efficiency gains in administration.** The establishment and implementation of the IACS was managed by CAPO's own ICT department. Having qualified ICT staff has proven to be an advantage, as the paying agency is not dependent on outsourced companies for the implementation. Only the software for the NRDP 2007-13 required to be outsourced. The IT capabilities also play an important role in administration, as in recent years, CAPO has increased the share of area-based payment applications, which are managed electronically. The applications for the Single Area Payment Scheme (SAPS) can be submitted through the internet as well as 90% of all rural development applications, which are area-based. Only the non-area-based rural development measures still require paper-based applications. Using information technology has provided several opportunities for CAPO to run their administration more efficiently.

213. **CAPO's GIS plays an important role for the paying agency, but provides services to other organizations as well.** The establishment of a GIS database played an important role for CAPO when establishing the LPIS. For the electronic submission of applications, farmers are provided with digitalized satellite images with GIS data to facilitate parcel identification and measurements. The technical control department of CAPO also uses their own GIS database when conducting on-the-spot controls. Using satellite images, CAPO's control department is able to perform measurement controls of surface area in an efficient manner. The technical control department of CAPO sees discrepancies between their own GIS system and the GIS system of the (soon to be) former Wine Marketing Board. GIS information is also provided to the AIO as a pilot project.

## **Reform Options**

214. **Transferring the delegated measure "Restructuring of Vineyards" from the Wine Products Council (WPC) to CAPO would be beneficial.** The measure of restructuring of vineyards is a classical area-based measure. CAPO is responsible for all other area-based measures (e.g. direct payments and agri-environmental measures), has the administrative infrastructure, all procedures for administrative and technical controls in place, and is equipped with a comprehensive database. Many farms manage both, arable land and vineyards. Even though the GOC has decided to dissolve the WPC (Bill from February 28, 2014) and transfer its competency to DoA, moving the responsibility of this measure under the umbrella of CAPO will not only reduce overall administrative costs (WPC respectively DoA), but also simplify administration from the point of view of the farmer. Now, a farmer is controlled by the WPC (or in the future by DoA) and by CAPO. By implementing this transfer, the farmer would only be inspected once.

215. **Strengthening the overall administrative efficiency of the GoC by repealing the delegation of functions.** As already recommended by the Auditor General in the annual report 2012, the administration of 46 different measures, which had been implemented by the 6 delegated bodies for the last 10 years, should be transferred back under the direct competence of CAPO. The delegated bodies had been originally assigned with the authorization of payments for various measures due to the urgency of establishing complete operations under EU legislation in a limited amount of time. Meanwhile, CAPO is well established and has a pool of experienced experts in agricultural administration. While the 6 delegated bodies require 111 employees to fulfill the tasks of administering the respective measures, CAPO has stated in a letter, dated July 2, 2013 that they would be able to succeed with just an additional staff of 15-20 (see table below). The difference of over 90 employees could invite to imagine that CAPO has a surplus of under-utilized staff. Yet, the administration of the various subsidy schemes under one roof provides many synergies: using just one data base, over applying CAPO's automated IT-capabilities, all the way to reducing one layer of controls (CAPO controlled a random sample of applications, which were authorized by the delegated bodies). While CAPO would weaken its administrative efficiency by hiring additional 15-20 employees, the surplus of 111 employees in the 6 delegated bodies could be seconded to other areas and thereby fill missing gaps that the hiring stop has evoked. The administrative efficiency of CAPO could also be improved by merging the functions of AIO (database, damage assessment), as referred to in the previous chapter, into the paying agency.

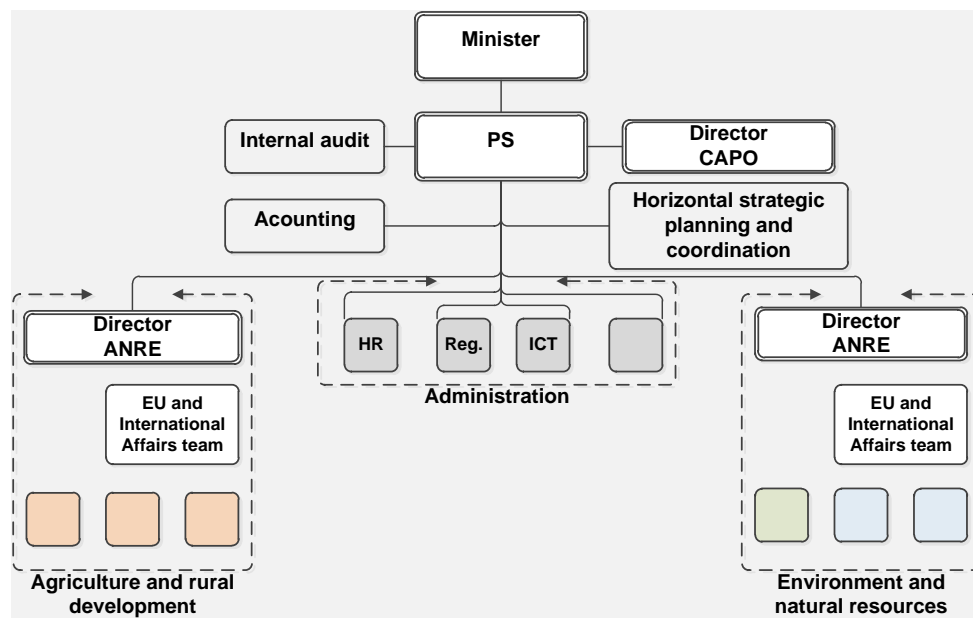
**Table 11: Staff used by delegated bodies and requirements by CAPO**

No	Delegated Body	Staff assigned for delegated function (as indicated by the Delegated Body on 4.2.2014)	Staff requested from Capo for Delegated Function (letter dated 2.7.2013)
1	Department of Agriculture	38	not specified
2	Department of Forests	8	not specified
3	Ministry of Energy, Commerce, Industry and Tourism	9	not specified
4	Ministry of Interior	11	not specified
5	Cyprus Milk Industry Organization	13	5
6	Wine Products Council	32	not specified
<b>Total</b>		<b>111</b>	<b>15-20</b>

Source: Delegated bodies and CAPO

216. **Amending the national decree 64/2003 to improve the interface between CAPO and MANRE.** It is paradox that the Minister of ANRE is the Competent Authority, yet the Commissioner of CAPO reports directly to the President, the European Commission and the Ministry of Finance. Independent of the institutional and functional separation of a paying agency, the Ministry of Agriculture should always be the first point of contact. As an administrative body, it is not conceivable that CAPO represents Cyprus at the EAGF, as a paying agency is non-governmental. There must be a strict line between the Ministry, which is responsible for policy formulation and an administrative body implementing the policies. To improve these deficiencies, it is recommendable to amend the national law constituting CAPO and have the paying agency report only to MANRE. While amending the national decree, it would be beneficial to change the type of management of the CAPO. That said, once the Commissioner and the Deputy Commissioner step down in their function, it would suffice to install a non-political Director for CAPO.

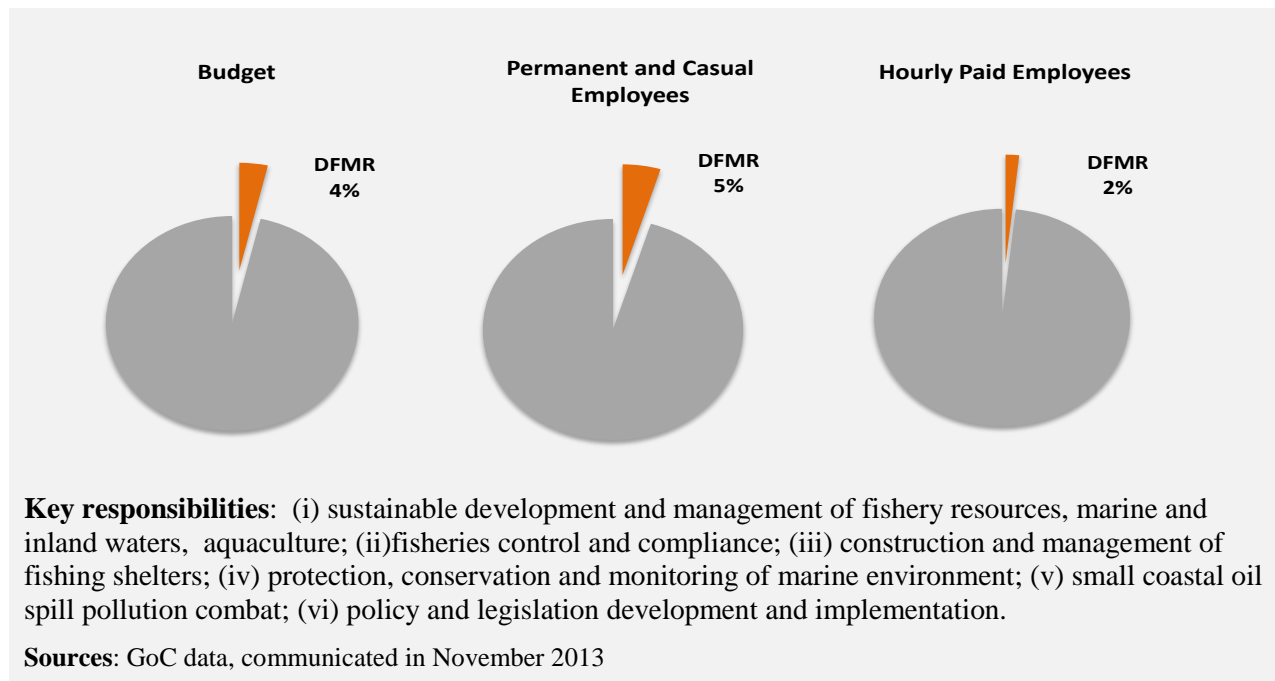
**Figure 32: Integration of CAPO into MANRE’s organization**



217. **Integrating CAPO into the organization of MANRE provides more flexibility as regards to surplus staff.** Considering this option, MANRE must preserve the functional independence of CAPO and this functional separation between policy formulation and agricultural administration should be made

visible in the organizational chart of MANRE (Figure 32). It could be considered to have the Director of CAPO report directly to the Permanent Secretary. Naturally, the staff of CAPO would become civil servants, which in fact must be considered a contradiction to the overarching goal to mitigate the number of civil servants. This will therefore have no implications on the annual budget for operational costs and capital expenditure, which is budgeted over EUR 2.15 million in 2014. Still, once CAPO's staff has become civil servants, the surplus staff can be used for secondments and therefore have an impact on the annual budget for CAPO's staff, which totals EUR 7.8 million for 2014. The effective savings in staff can only be calculated after assessing the potential duplication of activities between MANRE and CAPO. This assessment on potential duplications shall respect the completed implementation of the most recent CAP-Reform 2013 and also take under consideration, that the option of repealing delegated functions will provoke additional changes within CAPO, As the agricultural administration under CAPO has led to numerous financial corrections in recent years and CAPO had taken the blame, it must be clear to the Minister of ANRE that in case of financial corrections, the Minister will have no one outside MANRE to delegate the responsibilities and will have to defend the misconduct in the public.

## 2.6 Department of Fisheries and Marine Research



### Status quo: Diagnostics

218. **Cyprus is a small island country in the Mediterranean, with a rich fishing history and culture coupled with significant tourism.** Thus, fishing development and sound management as well as preservation of the integrity of its coastal waters are in the forefront of fisheries and environmental policies. Whilst having a minor contribution to Gross National Income (~ 0.3%), the fisheries sector is an important element of the Cyprus economy: it generates significant income and work opportunities and caters to the needs of the population for a balanced diet and to those of the tourism industry. Cyprus is not self-sufficient in its fish product needs. Fish caught in 2010 were 5,422 tons and, in addition, 5,900 tons were imported.<sup>xxv</sup> Aquaculture production (both marine and inland, mainly sea bass and sea bream cultures) represents about 80 - 85% of the volume and value of the total fisheries production respectively. It is one of the major sectors that will be supported under the new European Maritime and Fisheries Fund (EMFF).

219. **The National Policy for the coastal / marine environment is to a large degree dictated by EU Policy, Regulations and Directives<sup>15</sup>, and includes the implementation of international conventions<sup>16</sup>.** The strategic priorities for the fisheries sector are laid out in the OP Fisheries 2007- 2013. They are ultimately decided by the Department of Fisheries and Marine Research, but after consultations with stakeholders. Unlike for agriculture and food, the measures regarding the processing of fish products

<sup>15</sup>Common Fisheries Policy (CFP) & Regulations such as the Mediterranean Regulation (1967/2006) concerning management measures for the sustainable exploitation of fisheries resources, European Fisheries Fund (EFF), European Maritime & Fisheries Fund (EMFF), Regulations concerning fisheries control system etc ; EU Directives such as Marine Strategy Framework (2008/56/EC) Directive, Water Framework (2000/60/EC) Directive (coastal waters), Habitats (92/43/EEC) Directive (coastal/marine waters).

<sup>16</sup>Such as some of the Protocols of the *Barcelona Convention for the Protection Of The Mediterranean Sea Against Pollution* and its Protocols (SPA/BD Protocol, Dumping Protocol) and programs (MED POL), ACCOBAMS.



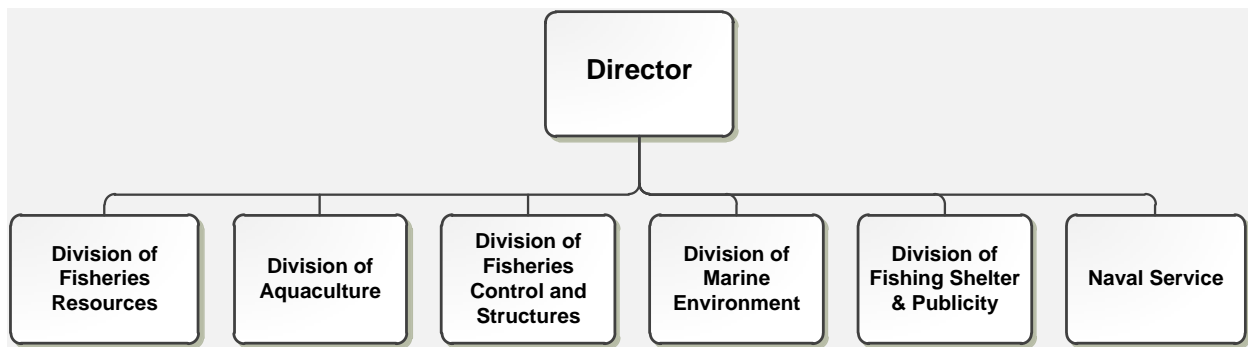
are implemented by the Department of Fisheries and Marine Research. More than 1,300 projects were approved under the 2007-13 OP, and EU funds were fully absorbed. A management and control system has been set up, including procedures for reliable accounting, monitoring and financial reporting and audit. For the upcoming period 2014-20, DFMR will utilize all available funds, particularly the European Maritime and Fisheries Fund (EMFF 2014-20).

220. **The new Common Fisheries Policy (CFP) 2014-20 is currently being developed with ample stakeholder participation.** It focuses on maximum sustainable yields, and sets 2020 targets for fishing stocks.<sup>17</sup> It will also cover inspections and controls, reflecting the EU's increased focus on ensuring sustainable fishing. Interaction with Brussels happens mostly at the technical (i.e. department) level, and few issues are elevated to the central level. The latter typically include the matters that are on the agenda of the EU Council.

221. **A major challenge, to which attention is now turned under the CFP and the Marine Strategy Framework Directive, is the recovery of fish stocks, easing overfishing, restoring the balance of ecosystems and generally achieving or maintaining good environmental status of the marine environment by 2020.** Measures implemented or planned, include the reduction on the number of licensed vessels, increase of the selectivity of nets and restriction of two areas from fishing with trawl nets on a rotational basis.

222. **The strength of the Department of Fisheries and Marine Research lies in the existence of appropriate infrastructure and of specialized and well-trained personnel.** The former includes vessels, equipment, laboratories, and aquaculture research stations. The latter includes marine scientists, inspectors, boat masters, boat engineers, etc. This has contributed to successful generation of knowledge, for the development and management of various activities in the marine environment. This knowledge is also made available to other governmental departments, the private sector, scientists, and the general public.

Figure 33: Organizational chart of the Department of Fisheries and Marine Research<sup>18</sup>



223. **One of the main challenges the Department convincingly argues that it faces is staff availability in light of its extensive sphere of responsibilities, which runs across the whole interface between food, natural resources management, recreation and nature protection.** As reflected in its organizational set up, the Department covers a wide spectrum of activities, which go beyond traditional fishery activities. They include the sustainable use of marine resources; the development and sound

<sup>17</sup> According to expert assessments, 95 percent of the fish stocks in the Mediterranean and Black Seas are overfished and overall catches would have to decrease by 45 to 51 percent in order to reach sustainable catch levels. (Max Cardinale & Giacomo Chato Osio: Results for stocks in GSA 1-29 (Mediterranean and Black Sea), EC JRC, Ispra, 2012). During 2011, stock assessments conducted for the most important demersal stocks of Cyprus (picarel, seabream, red mullet) which are exhibiting constant decline in catches, showed that all stocks have high fishing mortality and are in an overfishing state.

<sup>18</sup> The Department also has registry and accounts sections.

management of fisheries and aquaculture; supporting programs including, inter alia, the construction/improvement of 16 fishing shelters; monitoring and protection of marine waters; fighting sea pollution; and preserving the marine ecology.

224. **In 2013, 475 full time fishermen and 692 part time fishermen were licensed for inshore fishery.** There are 9 trawlers, 2 operating in the territorial waters and 7 in international waters. Polyvalent fishery is practiced in the territorial, EEZ/Cyprus as well as in international waters in the eastern and central Mediterranean. There are 22 boats licensed for multipurpose fishing and 1 purse-seiner operating in the coastal waters of Cyprus. Moreover, there are about 4,000 individuals licensed sport fishermen at sea, while an even larger number of people fish along the coast with rod and line without the need of license. Also, about 3,500 licenses are issued for angling in freshwater dams and reservoirs.

225. **The Department has 92 employees:** 52 permanent (14 positions are vacant), 28 hourly paid, 4 interchangeable and 12 casual. There are 5 full-time equivalent staff for all OP-related activities. To ensure controls in all districts, the Department has 17 district officers (who are supported by headquarters-based staff as needed).

226. **Regarding fisheries controls,** Vessel Monitoring System (VMS) and Electronic Reporting System (ERS) are being operated. Inspection and compliance are conducted at sea (coastal, EEZ and international waters) and on land. During 2011, the total number of patrols conducted was 2,617, resulting in the reporting of 318 infringements.

227. **Staff availability is directly associated with the Department's capacity to carry out controls, issue licenses, and implement maritime protection provisions.** The latter require the development and implementation of management plans, e.g. the Department manages and monitors the maritime section of NATURA 2000 sites and appropriately informs the Department of Environment which is the coordinating agency. To cope, staff is currently multi-tasking, e.g. carrying out inspections and managing program funding. Pressures on staff are particularly acute at the district offices that also issue amateur fishing licenses, and control imports from third countries.

228. **One substantial constraint is the incompatibility of existing working hours of the Fisheries Control Inspectors (day-time) and the time most fishing activities take place (late night/early morning).** To some extent, the Department has been cooperating with the Marine Police on controls of illegal fishing, but their mandates are different.

229. **Another challenge is managing the process of issuing professional fishing licenses every year.** The licensing process is generally cumbersome and lengthy, further complicated by the appeals process. Fishermen have to fill out the forms either at district or capital city level, and they also have to submit the invoices they issued throughout the year to prove their "professional" status. About 500 licenses are issued every year; there is an annual cap and a committee to evaluate the selection. The applications are all manually recorded into a database. The Committee makes recommendations on who should receive the license. Those who do not may appeal within 30 days to an Appellate Committee. This process is also burdensome and risky for fishermen, who might need a longer term perspective if they apply for bank loans to finance their activities and investments. Additionally, beneficiaries of EU funded investments will see an adjustment in their funding if they lose their fishing license. No convincing arguments have been put forward on the necessity to sustain such a yearly cycle of permitting.

230. **There is shared responsibility with the Department of Merchant Shipping in the Ministry of Communications and Works for oil pollution control, based on a 2011 Council of Ministers' decision.** The DFMR is responsible for dealing with incidents of smaller scale along the coast<sup>19</sup>, based on its existing capabilities, while the Department of Merchant Shipping is responsible for dealing with incidents of greater scale, which might also require international cooperation, e.g. through the European

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<sup>19</sup> During 2011, the oil pollution response team was summoned to 58 oil pollution cases.

Maritime Safety Agency (EMSA). Although there are contingency plans in place, the capacity to respond to large oil pollution incidents both off- shore (EEZ and territorial waters) as well as in the coastal area requires enhancement, considering the already under way intensive activities to develop the country's offshore hydrocarbon potentials with all that processes will entail (e.g. oil rigs, drilling, oil platforms, pipeline placing, costal installations to liquefy gas, storage installations, the substantial rise in shipping, etc.) The Department of Fisheries and Marine Research is also in charge of contributing the reporting on the Barcelona Convention on maritime pollution to the Department of Environment.

## Reform Options

231. **The main options to further explore for addressing current and expected challenges include:**

- a. *Introducing the possibility for inspectors to work on a shift (24/7)/ “special hours” system or a combination thereof, so that they can carry out inspections/controls during regular fishing hours as part of normal tasks. The Department has reported that it is in the process of establishing a control unit with inspectors having the possibility to work on a 24 hour basis using the shift system, considering it as a major move towards a more effective and efficient control system. Although this may not necessarily also be the lowest-cost option<sup>20</sup>, this move makes sense, it could be broadly accepted (when appropriately negotiated and designed) and is well- tested, both in Cyprus and abroad. The system could include long-term shifts and change or rotating ones, temporal or spatial arrangements, etc., although account needs to be taken of its risk factors (health, social, family). The system could be designed taking into account other similar arrangements as well as that of the Ports/ Marine Police, with which the aim is to establish more inspection synergies. The option of also considering a “special-hours” system was raised. Such system(s) may be amenable for some types of work, executives, economic sectors or special employment relationships and could be considered during the process for the negotiation/ design of the shift system or of an appropriate mixture. Nevertheless, it is not at all clear whether Cyprus civil service departments and staff are broadly familiar with such a system or whether it is relevant and can be effective for the specific line of work in question.*
- b. *Strengthening the District Offices appears also to be a valid concern that merits a detailed assessment. This report has focused additional work and in- depth analysis only on the departments for which agreement was made with the Government, without elaborating further on the rest, such as the DFMR. Nevertheless, the arguments put forward by the Department and the figures submitted, do argue in favour of a dedicated analysis of the current set up and its requirements for improvement/ strengthening, including of the present location (in Nicosia) of the Department or some of its Divisions or parts of them, and the support to the Districts offered by headquarters-based staff which appears to be more regular than incidental.*
- c. *Outsourcing some of the controls, as well as staff secondments could also assist in expanding capacity, even if existing budget constraints are just as limiting for*

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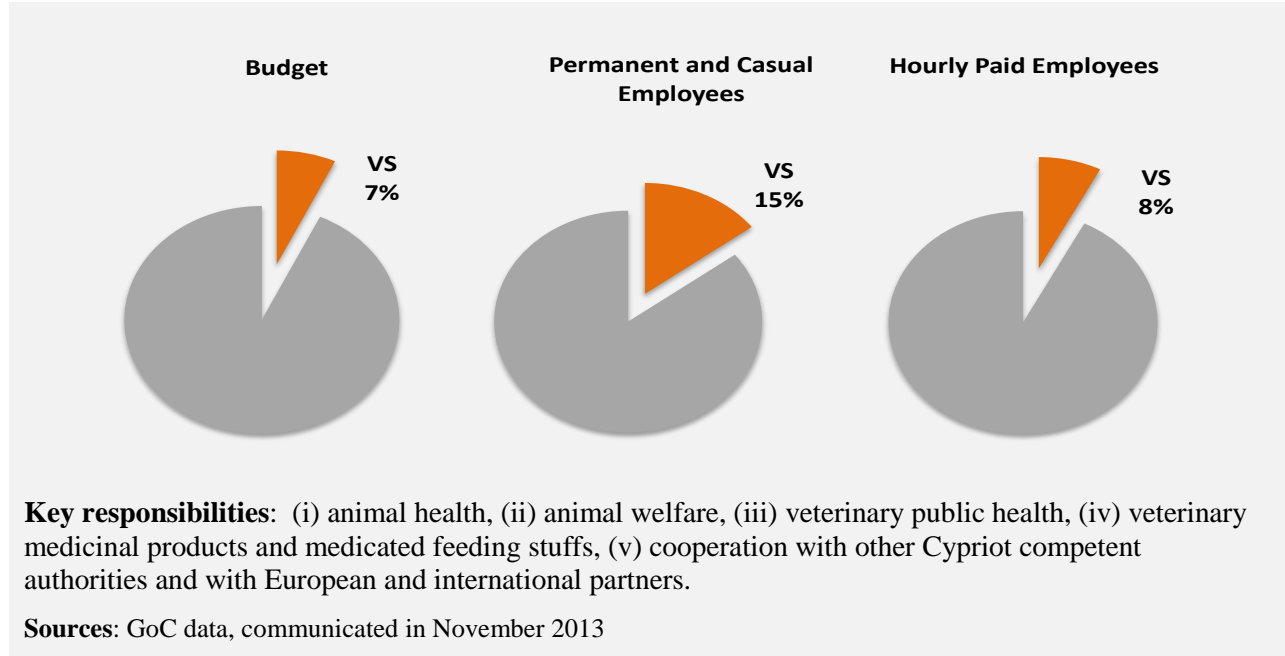
<sup>20</sup> Although in theory this could be a lower-cost option (reducing extra personnel costs stemming from overtime pay for employees working outside their –currently- prescribed schedule), it has been pointed out by GoC that the cost of overtime pay for employees is much less than it used to be, due to changes in expanding service hours and decreasing the proportion of compensation.

outsourcing functions as they are for hiring own staff. One possibility would be to better distinguish between surveillance (monitoring and data collection) and control (enforcement) activities, the former being more amenable to being contracted out. Utilizing the research potentials at the Cyprus Universities such as the Oceanography Institute at the University of Cyprus also merits further consideration.. Looking at the potentials for secondments is also suggested, even if at first impression not much volunteer interest is expected to be exhibited for inspectors duties, particularly if a shifts system is introduced.

- d. *Extending the professionals licensing cycles to e.g. 5 years, instead of the current yearly application process* is another option that should be very seriously considered. This would have the value added, in addition to contributing to easing the pressures on staff, of also reducing the administrative burdens and the uncertainties for fishermen, who might need a longer term perspective. However, further exploring this option would have to take into account the potential impact of five years licenses on over-fishing and in complacency in compliance and inspection. Expanding the duration of the thousands of other licenses (ornamental, coastal, dams, amateur could also provide overall efficiency gains.
- e. *Re-assessing the system in place for oil pollution prevention and control at oil rigs, the EEZ, the territorial waters and the coastal zone also requires special attention.* This is particularly imperative in light of the gradual but speedy intensification of related activities. A comprehensive and integrated system has to be in place, aiming to ensure beyond any doubt that Cyprus can handle leaks, spills and accidents, large or multiple smaller ones. The system should be credible, functional and without gaps in governance, clear in the distribution of responsibilities and obligations of all concerned (oil companies, support companies, major coastal installations, shipping companies, public agencies), with full early warning parameters, and ample resources and equipment in place.
- f. *Concerning Inspection*, the Department could focus more its control/ inspection activities by better structuring and organizing them to cover as many as possible of all Divisions' needs, perhaps in line with the model suggested for the dedicated inspectorate division at the DoE. Other better (smart) regulation measures could also be taken on board, such as separating licensing and management from inspection/ enforcement, preparing annual inspection programs, risk appraisal, etc. (see Section 2.8). More synergies could also be explored with other agencies, such as the Port and Marine Police, the DoF, DoE, the Game Fund, such as for common inspection programs and visits, broadening the coverage of visits by the agencies concerned, exchange of information, sharing equipment, etc.

232. **Additional options to be considered include:** a) more active protection of marine ecosystems through management plans and better integration of management measures with those on the coastal strip, and b) focusing on the implementation of measures to allow stock recovery to sustainable levels and addressing capacity shortages in periodic monitoring and assessing the status of fishing stocks. .

## 2.7 Veterinary Services



### Status Quo: Diagnostics

233. **In 2010, in Cyprus, the value of livestock production was about EUR 335.3 million.** EUR 209.5 million worth of animals were slaughtered – the main ones being pork (734,064 animals – EUR 92.7 million) and poultry (13,772,950 – EUR 72.7 million). 191,908 tons of milk were produced, the vast majority from cows (151,015). The total animal population consisted of poultry (2,981,000), pigs (463,000), sheep and lambs (328,900), goats (307,400), and cattle (55,500)<sup>xxvi</sup>.

234. **The Veterinary Services (VS) are operating in accordance to EU and national legislation.** Personnel and budget-wise they are the fourth largest department within MANRE, consisting of divisions on animal health and welfare, public health, a section on medicinal products, laboratories, and five district offices (Figure 32). Five veterinary stations also cover the most remote areas of Cyprus. VS currently have 324 employees and 41 vacant positions, plus 16 contractual staff (Table 12).

**Table 12: VS employees**

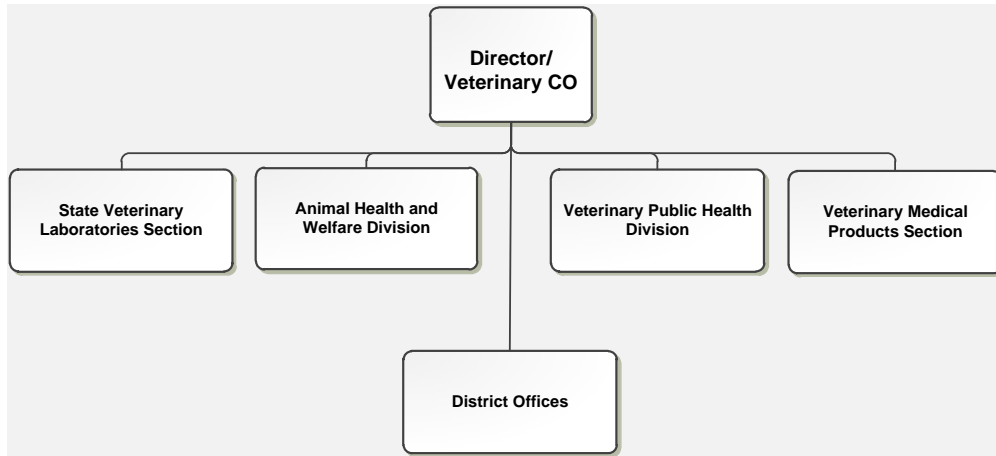
Permanent Posts	Vacant Posts	Permanent Employees	HPE	Service Posts of Interchangeable Staff	Casual Employees	Outsourcing (contractual staff)
189	41	148	124	20	52	16

**Source:** Data communicated by MANRE on November 11, 2013. Reflects status as of 30.09.13; Outsourcing represents contractual staff with six month up to annual contract. 3 seasonal interns (young graduates placed via a project of the Human Resource Development Agency) are not included in the table. 1 Veterinary Officer is seconded to Brussels. 6 persons will be transferred from the Cyprus Milk Industry Organization, which will be abolished. HPEs include both regular HPE posts (113 posts, out of which one vacant) and temporary HPEs (ca. 12).

235. **The activities and competencies of the Veterinary Services in Cyprus are strongly tied to implementing/enforcing the stringent demands of the EU food safety and animal health and welfare legislation.** The main functions/ activities of the VS include inspections and controls, approval and

registration (e.g. of veterinary medicinal products, slaughterhouses etc.), epidemiological analyses and contingency planning etc. VS also advise farmers on compliance with animal health and welfare (while the Department of Agriculture advises them on animal husbandry).

**Figure 34: Organizational chart of the Veterinary Services**



236. **With regard to animal health**, the main responsibilities of the VS include the identification and registration of animals (a mandatory function under the CAP, both for delivery of livestock payments and for traceability purposes); design and implementation of control, eradication and surveillance programs and contingency plans; analyses for the investigation and the diagnosis of animal diseases and research on zoonoses and on major problems of the livestock industry (genetic resistance against Scrapie in goats); and official controls on intra-community trade and imports of animals.

237. **Several key services in the livestock sector are private, which is in line with good international and European practice.** Thus, the treatment of animals (both pets and livestock) is done by private veterinarians, while animal rendering/carcass disposal services are also entirely outsourced. Furthermore, animal breeding is fully entrusted to breeders' unions.

238. **With regard to welfare of farm, companion and exotic animals**, the Animal Health and Welfare Division at central level and the District Veterinary Offices at local level, perform: official controls at animal farms, as well as during transport and slaughter of animals. They also carry out official controls at zoos, animal parks, companion animal establishments and pet shops, investigate complaints for animal abuse, mistreatment, etc., and inspections non-permanent animal exhibitions (e.g. dog shows, cat shows, bird shows).

239. Respecting EU animal welfare requirements (for livestock) is allegedly a challenge that requires increased focus of the authorities. **This is an area where clear coordination between the Veterinary Services and CAPO** – in the field of cross-compliance checks – **is critical**. Such on the spot controls are carried out jointly with CAPO. The paying agency determines the control sample, while the Veterinary Services provide the technical checks in their area of competence. The division of roles appears functional and natural.

240. **On animal health and welfare, the Veterinary Services also play an advisory role.** The demarcation line with the extension services of the **Department of Agriculture** is clear-cut. While the former advise on compliance with animal health and welfare regulations, the latter cover animal husbandry.

241. **To ensure public health**, the Veterinary Public Health Division, the State Veterinary Laboratories Section and the District Veterinary Offices cooperate through: official checks of establishments producing, processing, handling, transporting, storing and marketing food of animal

origin<sup>21</sup>, checks performed on samples from all products of animal origin, as part of the National Residues Monitoring Program. The VS are also responsible for the preparation and implementation of the Crisis management plan for food-borne diseases and for the management of the Rapid Alert System for Food and Feed. Finally, public health is ensured through the safe collection and disposal of animal by-products from farms and establishments producing food of animal origin. It is important to stress that the human resources needed for the food inspections needs to be linked to the number of establishments (e.g. slaughterhouses, processing plants etc.).

242. **The Veterinary Medicinal Products Section aims to ensure the quality, safety, efficacy and sufficiency of the Veterinary Medicinal Products and Medicated Feedingstuffs marketed within Cyprus and exported to other countries.** This is achieved through (i) a Pharmaceutical Quality System which registers veterinary medicinal products and issues marketing authorizations; (ii) an Official Controls and Inspection System for Veterinary Medicinal Products and Medicated Feedings which carries out inspections along the production and marketing chain<sup>22</sup>, market surveillance and sampling, investigates results out-of-specification, complaints and suspected products or activities, and handles Rapid Alert Notifications and recalls; and (iii) a PharmacoVigilance System which inspects the Marketing Authorization Holders, assesses reports sent by veterinarians or animal owners regarding suspected adverse reactions and assesses and files the Periodic Safety Update Reports.

243. **The VS are working jointly with the Department of Agriculture and the Department of Medical and Public Health Services (DMPHS) of the Ministry of Health (MoH), as part of a sound and comprehensive control system for food safety, animal health, animal welfare and plant health** (Table 4). In 2010, two thirds of public employees working within this control system were employed by the VS<sup>23</sup>. A Food Safety Board, composed by representatives of all competent authorities and chaired by the Ministry of Health is in charge of policy development and coordination of the activities of the various institutions. The strategy, priorities and overall approach for food safety are laid out in a Multi-Annual National Control Plan<sup>xxvii</sup>, prepared by the VS in collaboration with all competent authorities under the guidance of the Food Safety Board.

**Table 13: Organization food safety system in Cyprus**

Responsibility for proposing food safety policies, defining priorities and coordinating activities between institutions:				
<b>Food safety board</b>				
Responsibility for almost all the controls on food safety, animal health, animal welfare:				
Ministry	<b>Ministry of Agriculture, Natural Resources and the Environment (MANRE)</b>		<b>Ministry of Health (MH)</b>	
Department	<i>Department of Agriculture (DA)</i>	<i>Department of Veterinary Services (VS)</i>	<i>Department of Medical and Public Health Services (DMPHS)</i>	<i>State General Laboratory (SGL)</i>
Area of Control	Feedingstuffs; Marketing and use of plant protection	Animal health; Food of animal origin; Imports of live animals and products of animal origin; TSEs and	Food hygiene; GMOs in food; <sup>24</sup> Pesticide residues in certain foodstuffs; Imports of	Provision of laboratory services

<sup>21</sup> Such as slaughterhouses, milk plants and dairy product establishments, farms of milk producing animals, meat products and meat preparation establishments, fishery products establishments, cutting plants, butcheries, eggs and eggs products establishments, edible by-products establishments, cold stores, rewrapping centers, vehicles transporting food of animal origin (MANRE communication, September 2013)

<sup>22</sup> i.e. of manufacturers, importers, wholesalers, distributors, and retailers,

<sup>23</sup> 440 out of 665 according to DG SANCO (2010). Country Profile. The Organization of Food Safety, Animal Health, Animal Welfare and Plant Health Control Systems. Cyprus (p. 64).

<sup>24</sup> The release of GMOs in the environment is regulated by the DoE. Cyprus enforces a strictly prohibitive policy on this matter.

Responsibility for proposing food safety policies, defining priorities and coordinating activities between institutions:			
<b>Food safety board</b>			
Responsibility for almost all the controls on food safety, animal health, animal welfare:			
Ministry	<b>Ministry of Agriculture, Natural Resources and the Environment (MANRE)</b>		<b>Ministry of Health (MH)</b>
	products; Plant Health.	animal by-products; Residues of veterinary medicines; Animal welfare.	foods of plant origin; Imports of certain foods of animal origin (honey and ice-cream).
Regional offices	4	5	5 (19)

Source: Hadjigeorgiou et al. (2013: 729)

244. **MANRE-DoA and VHS, as well as MoH – DMPHS each have their district offices which carry out the controls in their respective areas of responsibility.** In some areas, other offices are also involved, such as Border Inspection Points (BIPs) on imports of animals and food of animal origin, working under the VS (Animal Health and Welfare Division), and ten autonomous municipalities on general food hygiene, working under the coordination of the DMPHS. The (soon to be) former Milk Marketing Board used to conduct controls at the collection points for cow milk, and alert VS if any issues were identified. For sheep and goat milk, farmers have agreements with the dairies, which have the obligation to conduct the tests<sup>xxviii</sup>.

245. **The competencies for testing and analyzing are spread across a number of laboratories at MANRE VS and Department of Agriculture and at the State General Laboratory (SGL) of the MoH.** At the VS, the State Veterinary Laboratories include the Laboratory for Animal Health (LAH) and the Laboratory for the Control of Foods of Animal Origin (LCFAO). The Veterinary Medicinal Products Section (VMPS) of the VS uses the SGL's Laboratory of Pharmaceutical, Food Supplements and Cosmetics for analysis of veterinary medicinal products. The Department of Agriculture's Division of Horizontal Sections includes (i) the Analytical Laboratory and Feed Control Section (ALFCS) and the Plant Protection Section (PPS), which operate a series of laboratories, e.g. a Laboratory for the analysis of feed and feed additives, Laboratory for Formulation Analysis (LFA), Pesticide Residue Laboratory (PRL), Plant Protection Laboratory (PPL) etc. The SGL has a total of 19 laboratories, including some such as the Veterinary Drug Residue Laboratory, the Pesticide Residue Laboratory, the Food Contamination Laboratory etc. The Laboratory of ARI is also involved in some analyses on plant health<sup>xxix</sup>.

246. **The overall food control system works well in ensuring consumer protection and public health, in accordance with the EU *acquis* requirements.** This is amply evidenced by EU audits and reports on food safety and related issues. E.g. out of the 205 recommendations formulated between 2005 and 2010 by the audits of the Food and Veterinary Office (FVO) of the Directorate-General for Health and Consumers of the European Commission 194 had been implemented by 2011 and only 11 were still being followed up. Among other, as the 2009 audit recommended, by 2011 measures had been taken to strengthen coordination and co-operation between and within competent authorities, to ensure an adequate number of well trained staff able to carry out controls, to avoid conflict of interest, particularly for staff working in remote locations, to develop risk-based systems for the prioritization of controls, to ensure enforcement of effective sanctions for non-compliance, and many more<sup>xxx</sup>.

## Reform Options

247. **One possible reform option would be to consolidate all food control responsibilities into a single competent authority for food safety.** The single competent authority would be in charge with the definition and coordination of the policy concerning risk management, which includes the formulation of



the food safety policy, the preparation and enforcement of laws and regulations, and inspections to check the good implementation of laws by operators. In most countries, the competent authority is the Ministry of Agriculture, although various inspections (e.g. catering, processing, primary production) may be then shared with other ministries. In such a case, it is important to ensure that the division of responsibilities does not leave any gaps, and that all data are collected and centralized by the competent authority. In the EU, the vast majority of EU member states have a single food safety authority<sup>xxxii</sup>, and most of them place it under the Ministry of Agriculture. Having a central – integrated – food control authority is also recommended by international organizations like FAO and WHO<sup>xxxiii</sup>. Possible models include: (i) a single agency in charge of both policy-making and enforcement, or (ii) a food agency focusing more narrowly on policy development, risk assessment and cross-agency coordination, while inspection, enforcement, education and training activities remain with existing sectoral ministries or agencies<sup>xxxiii</sup>, or (iii) separating risk management and risk assessment and communication into two separate agencies, with the former centralizing the (operational) food safety activities of the Public Health Services, the VS, the Department of Agriculture, and the State Laboratories, and the latter being in charge of higher-level policy, coordination and communication<sup>xxxiv</sup>. As a matter of principle, it would be preferred to have the risk assessment and risk management be functionally separated.

248. **Nevertheless, examples of food safety systems where more than one agency is in charge of different issue areas can be found in a number of EU countries.** For instance, in Slovenia, competencies at national level are split between four Ministries and their related agencies, animal health, animal welfare and plant health are assigned to: Ministry of Agriculture, Forestry and Food (food and feed safety, animal health, animal welfare and plant health), Ministry of Health (food supplements, food for special nutrition and medical purposes, food catering, food contact materials and drinking), the Ministry of the Environment and Spatial Planning (animal by-products, for protection of water sources for drinking water and GMO), Ministry of Finance (Customs Administration - imports of products of animal origin for personal consumption, non-commercial movement of pet animals and for the detection of illegal imports.) One of the tasks is also control on feed of non-animal origin from third countries)<sup>xxxv</sup>. In the Slovak Republic, the responsibility for controls throughout the feed and food chain is shared between the Ministry of Agriculture and Rural Development (animal health, animal welfare, feedingstuffs, food safety and plant health), and the Ministry of Health (control of catering premises, of food in catering premises and of production and placing on the market of certain products). District control services implement operational control activities<sup>xxxvi</sup>. This illustrates that more dispersed systems of food control can also work well under certain circumstances. The prerequisites are a clear division of responsibilities and a good communication procedure; equally, it would be important to have a single database that covers all operators, while all the concerned agencies participate in data-sharing.

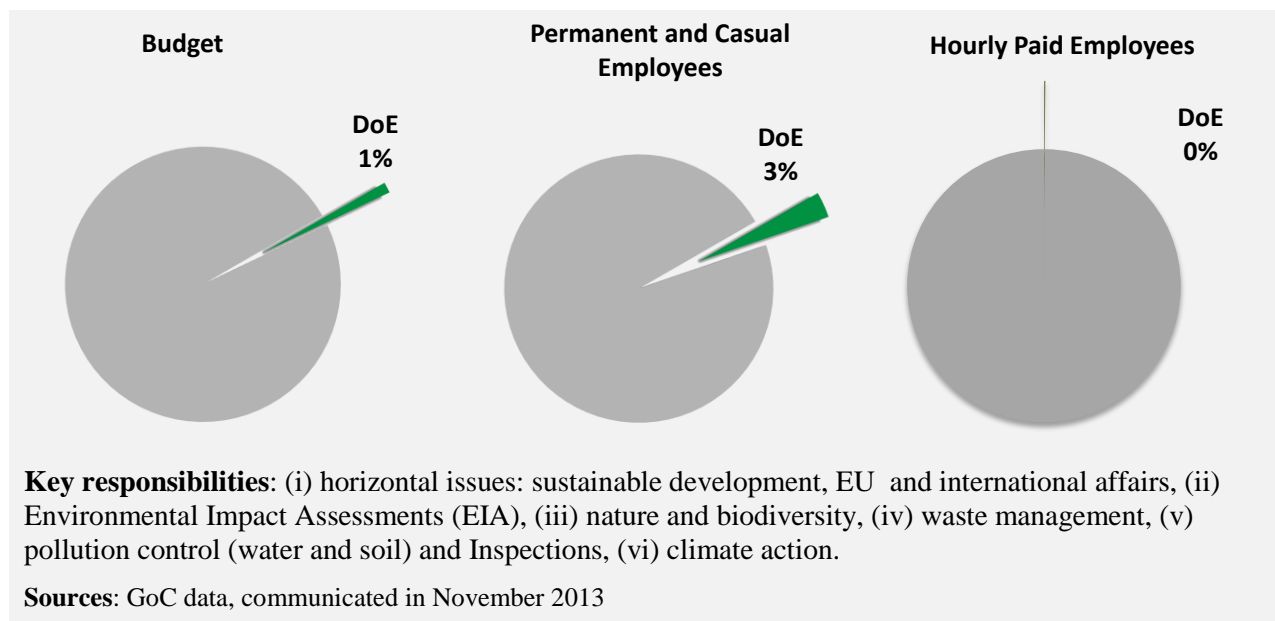
249. **In the context of Cyprus, setting up a single food safety agency may need to be further analyzed at this point in time, considering that the system works effectively as it is, and that any re-organization entails transition costs.** The marginal benefits of organizational consolidation need to be carefully examined through a specialized and dedicated cost-benefit analysis. In absence of institutional consolidation, the current deficiencies could be addressed in a more targeted manner, by reviewing the areas of overlaps individually and clarifying and streamlining responsibilities where duplications/inefficiencies are still being observed (e.g. training, chemical residues, communication about health risks from contaminated foods, EU representation/ communication etc.). Consideration could be given to apply the goat and sheep milk control model, via dairies, to cover also cow milk.

250. **In the same vein but on a narrower scale, a review of the existing distribution of responsibilities, equipment and expertise of the laboratories in various MANRE departments (VS, DoA, ARI etc.) could also help identify further potential areas of overlaps or synergies, and contribute to efficiency gains.** This would also merit a specialized in-depth analysis that could be pursued subsequently to this functional review. A principle to consider would be to further group together laboratories that are using the same or similar technologies for testing, even if the test are done

for different objectives (e.g. ALFCS and LFA). Beyond food safety, the review could also include the laboratories testing water, because some synergies are possible in areas such as pesticide residues or heavy metals. Further emphasis could be given to the private laboratories and their possible involvement in the food control system.

251. **The role of the private veterinarians in the regulatory missions could be assessed further.** It is allowed for the veterinary services to delegate one part of their inspection missions to private veterinarians. This could be a way to further optimize the use of veterinary staff resources, particularly at district level.

## 2.8 Department of Environment



### Status Quo: Diagnostics

252. **Policies, programs and institutions in the environment sector have all the attributes to be considered as a priority:** they are required for protecting public health and safety; there is strong social demand for them to continue; they support a multitude of governmental priorities; and they are required by national, European and international law. Meetings held by the European Commission in Cyprus showed just how much the environment authorities have to cover:<sup>xxxvii</sup>

- environmental infrastructure (still a major overhaul of landfills and other solid waste infrastructure; still quite a significant gap in urban waste water);
- general land-use (EIA, SEA, sensitivities with NATURA 2000);
- energy (the gas sector given the role of environmental directives);
- hunting dossiers (one of the most high profile).

253. **Over the last decades, Cyprus has moved from a pastoral to an urban society, mostly following a traditional, conventional-wisdom guided model of economic growth.** One result has been relegating environmental management in the twilight zone until the beginning of this century. In the last decade, EU accession has been instrumental in elevating environmental issues as a priority in the political agenda. The process to come in line with the EU *acquis communautaire* led to the strengthening of environmental policies and legislation. Wide-ranging (not, however integrated) environmental legislation was adopted.

254. **Most of the transposed legislation was put in place under extremely pressing conditions and without detailed analysis of impacts and choices.** This is particularly evident in relation to the implementation and enforcement systems adopted, which resulted in some fairly complex and intricate processes and considerable “dualism” in responsibilities. Laws, regulations and Ministerial orders have also proliferated and it is extremely difficult for any interested company, institution or ordinary person to go through them and comprehend their synergies with ease. There should be around 150 core legal texts

relating to the broader sector of environmental protection, approx. 400 if international agreements, various strategies etc., are also counted.

255. **The experience so far has shown that, as elsewhere, environment policy cannot be shaped in the right way neither can the environmental legislation be applied and enforced effectively, if the required administrative, technical and economic ingredients are not present.**

256. **Since the early 80s, Cyprus has been slowly moving towards a credible environmental management regime.** The environmental institutional set up has gained momentum during the EU-accession and follow-up process. Institutions and people both from within and from outside the country can relate to MANRE/DoE as a main focal point in the area of environmental policy. There is a very active and bi-partisan Parliamentary Committee for the Environment exercising its role with considerable bi-partisan agreement. Over the last seven years, an Environment Commissioner has been in place, with an advisory role to the President. Committees (most of them formalized by law) established to play an important role in policy formulation, implementation and coordination are extensively used with broadly similar mandates and composition. Ad hoc inter-ministerial committees are also frequently established.

257. **Still, the institutional model in place is not characterized by strong cohesion and articulation.** It is not yet an integrated system, in the sense of being a set of interacting or interdependent components forming a whole moving towards the same direction. A number of environmental management improvement studies/reports have not been adequately utilized with regards to those proposals which related to the overhaul of the institutional framework and impinging on the distribution of responsibilities.<sup>xxxviii</sup> Initial determinations and commitments for a more unified system and greater integration and coordination were not followed up by hard political decisions on the face of reactions. Even the renaming of the then Ministry of Agriculture and Natural Resources to Ministry of Agriculture, Natural Resources and Environment (MANRE), in 1993, was accompanied by the caveat that the change in name did not affect the then legal responsibilities of other Ministries. The most recent (2010) identification of inherent weaknesses and potentials for improvement (e.g. on coordination; planning; follow up on commitments; monitoring of progress/ identification of problems and early action) in the previously quoted report of the Internal Audit Commissioner<sup>xxxix</sup> have also not led to any changes.

258. **Hence and as a result of the above and even though there is a general consensus that environment is a very important issue, the Environment Ministry (MANRE) continues to be a weak partner in government, compared with other countries.**<sup>xl</sup> In Cyprus, the allocation of the environmental portfolio(s) differs from the prevailing model in most European countries, of a Ministry of Environment in charge of all core environmental issues. Table 14 attests to this:

**Table 14: Distribution of core environmental functions**

Country	Water Management	Nature and Biodiversity	Air Quality Management	Pollution Control (Water, Soil, Waste)	Spatial Planning	Agriculture and Fisheries	Energy and Climate	Environmental Health and Chemical Safety	Nuclear Safety and Radiological
Cyprus	X	shared	--	shared	--	X	shared	--	--
Austria	X	X	X	X	X	X	X	X	X
Belgium	X	shared	X	X	X	shared	X	X	--
Czech Republic	shared	X	X	X	--	--	--	--	--
Denmark	X	X	X	--	X	X	X	X	--
Finland	shared	shared	--	--	shared	shared	--	--	--
France	X	X	X	X	X	X	X	X	X

Country	Water Management	Nature and Biodiversity	Air Quality Management	Pollution Control (Water, Soil, Waste)	Spatial Planning	Agriculture and Fisheries	Energy and Climate	Environmental Health and Chemical Safety	Nuclear Safety and Radiological
Germany	X	X	X	X	--	--	--	X	X
Greece	X	X	X	X	X	--	X	--	--
Hungary	X	X	X	--	--	--	X	--	--
Ireland	X	--	X	X	--	--	--	--	X
Italy	--	X	--	X	--	--	X	X	--
Luxembourg	shared	X	X	X	X	--	X	--	--
Netherlands	shared	X	X	X	X	--	X	X	X
Poland	X	X	--	X	--	--	X	--	--
Portugal	X	X	X	X	X	--	X	X	--
Spain	X	X	X	X	shared	--	--	--	--
Sweden	X	X	X	X	--	--	X	X	--
UK	X	X	X	X	--	X	X	X	--

**Source:** Adapted from OECD (2009)<sup>3xii</sup>, which referenced the original Source ( World Bank (2007): Journey to a Cleaner Future)<sup>xiii</sup> and based on web-sites of environmental ministries and OECD Environmental Performance Reviews (latest year available). The Table was compiled by Valerie Sturm, Geneva University. Data on Cyprus were inserted for the purpose of the present Review.

259. **The frequent transformations in the set ups of environmental institutions in Europe is not surprising, as management systems particularly in new, “uncharted” territories develop gradually, in an evolutionary rather than a revolutionary manner.** Changes reflect developments in knowledge, the size of the country, administrative and legal traditions, local institutional cultures, and government political agendas through the years. The general pattern that has evolved in the EU Member States through such gradual transformation, is one of composite environmental systems with core Ministries of Environment and/or Environment. Usually, these ministries have responsibility for international and European relations; all core environmental domains; most or all of natural resources; follow- up on implementation of policy; approving strategies and setting goals; monitoring and information; permitting and inspection; research promotion; inter- ministerial collaboration and co-ordination of cross- sectoral matters such as climate action, sustainable development and green economy; etc. They also supervise a number of quasi- independent executive agencies.

260. Within MANRE, the Department of Environment has a considerably broad environment portfolio and is tasked to fulfill a variety of functions which, in other countries, are normally performed by stronger and better resourced Environment Ministries- Agencies: strategy development; submission of proposals for the formulation of policies; coordination of other competent Agencies/Departments; focal point for almost all of the U.N Conventions and Protocols regarding global and regional environmental issues; implementing environmental policies in a wide range of thematic sectors emanating from approx. 120 EU legal texts. Almost all the responsibilities involve permitting, inspection, reporting, taking offenders to Court, development of management plans and programs, maintaining databases, etc.

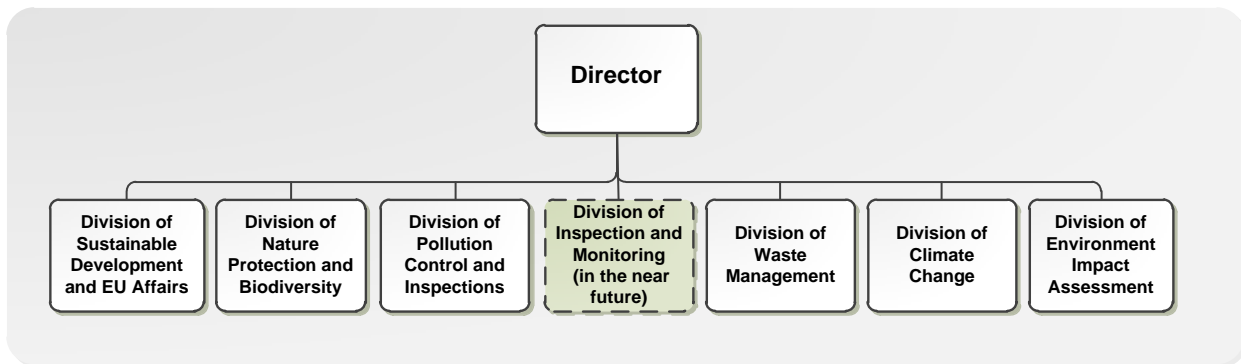
261. **The Department is organized as a “mini” Ministry of the Environment.** In other countries, some of its divisions, such as nature, waste or pollution control are the responsibility of distinct Departments/ Agencies. It has a mixture of a functional and a flat structure, on one hand divided according to functions, on the other characterized by a minimum of hierarchical layers. There is considerable vertical integration within its small divisions, a situation that runs the risk of narrowing staff perspectives and making communication among Divisions problematic.<sup>xliii</sup>

262. Its organizational chart (Figure 33) reflects the diversity of the thematic areas it covers:

- **Sustainable Development:** Sustainable development; eco-innovation; green economy; EMAS and ECOLABEL; green products; environmental noise; environmental liability.
- **Nature Protection:** Habitats Directive (NATURA 2000 network); ecosystems and species protection and management; GMOs; invasive alien species; trade in species.
- **Pollution Control:** Water and soil pollution control; IPPC; nitrates; bathing waters; sludge; permitting and inspection in pollution control and waste management; waste shipments.
- **Waste Management:** Solid and hazardous waste hierarchy; recycling (packaging; electrical and electronic; batteries and accumulators; waste tires; end-of-life vehicles; ship dismantling).
- **Climate Change:** Emissions trading; fluorinated greenhouse gases; ozone depletion; mitigation and adaptation to climate change; environmental issues from hydrocarbons exploitation.
- **Environmental Impact Assessment:** Assessment of environmental impacts from plans, programs and projects and issuing environmental opinions/permits.

The Department plans to establish District Offices (3 officers have already been posted in Districts) and an Inspection and Monitoring Division.

**Figure 35: Organizational chart of the Department of Environment**



263. The DoE has grown from a handful of people 20 years ago to one with currently approximately 42 regular – permanent and temporary - employees, supplemented by 26 seconded staff and contractual agents (Table 15).<sup>25</sup> The posts are distributed relatively equally between the 6 divisions.<sup>26</sup>

<sup>25</sup> In addition, there are: 1 accountant; 5 clerical staff; 2 office assistants; and 8 seasonal interns.

<sup>26</sup> Nature Division: 10 (+6 contractual, half time); Pollution Division: 9 (+7 contractual, full time); Sustainable Division: 8; Climate Division: 8; Impacts Division: 7; Waste Division: 4 (but inspection covered by the pollution division).

**Table 15: DoE staff**

Permanent Posts and Employees			Casual Employees	Other staff	
Permanent Posts	Vacant Posts	Permanent Employees		Outsourcing (contractual staff)	Secondments
32	5	27	15 <sup>27</sup>	13	13

**Source:** Data communicated by MANRE on November 11, 2013. Reflects status as of 30.09.13. Outsourcing represents contractual staff with six month up to annual contract. Seasonal interns (young graduates) and interchangeable staff are not included in the table.

264. **The staff with considerable service involved with the environment (not only in MANRE but also beyond, in various Ministries and Departments), have acquired a high level of technical competence.** This is mostly due to regular interaction with the European Commission and their peers in other Member States and represents a solid foundation upon which to build whatever improvements may be required. Irrespective of the high caliber of the staff the Department's diverse, complicated and dynamic responsibilities require additional skills.

265. **Nevertheless, there is an apparent divergence between the number, range and complexity of obligations and staff numbers.** All past studies and expert opinions agreed that the level of staffing should be enhanced if preventive work is to be carried out and substantial proactive initiatives taken. The extensive *acquis communautaire*, with its numerous requirements for participation, implementation and reporting, is the same for Cyprus as it is for any other, larger EU MS. In addition, requirements constantly change as, for example, new obligations created as a result of the Government's offshore hydrocarbon exploration activities in Cyprus's Exclusive Economic Zone (EEZ).<sup>28</sup>

266. **Such pressures on human and financial resources are exacerbated by the current drive to reduce overall government expenditure.** Resorting to purchasing outside services (13 contractual) can only deliver as much of the desired outcome as the personnel responsible to oversee and regulate their performance can extract from them. Secondments from other Departments<sup>29</sup> cannot be sustainable in the long term, since people bring with them justifiable aspirations and concerns about their future. They are expected to get on- the- job training. No professional development programs targeting these people (indeed any of the staff) have been identified.

267. **Furthermore, some cross- cutting strategic and coordination functions not solely environment- oriented (such as sustainable development and green economy) are, apparently, proving to be rather difficult to be exercised by the Department.** Until some years ago, this agency was an Environment Service placed at the Ministry's HQs, acting on behalf of its Permanent Secretary. For such responsibilities to be effectively carried out strong political empowerment is required and this is not readily available or evident at the level of departments. Therefore, strategic planning and environmental policy integration are, generally, weak. Interestingly, serious strategic planning initiatives were made in the past, such as with the Environmental Action Plan for Cyprus (1987), the Environmental Review and Action Plan of 1993 and the Program for Harmonization with the EU *acquis communautaire*, in the years prior to accession. Another worthwhile past initiative contributing towards planning and integration was the introduction of environmental considerations in the examination of project proposals during the budgeting process, a right move which was not sustained. Planning in relation to policy formulation mostly takes place within the context of the preparation of the Government's broader

<sup>27</sup> Two of the employees belong to the auxiliary staff.

<sup>28</sup> The Department's Climate division reports that approximately 30% of their time is devoted to the environmental aspects of hydrocarbons development, a priority need that was not there a few years ago.

<sup>29</sup> The 13 staff seconded come from Departments from very diverse functions and cultures- Forestry, Water Development, Land Consolidation, Agriculture.

strategic development planning or is directed towards sectoral compliance with the European *acquis* stemming out of obligations from EU strategies, directives and regulations, such as the ones for biodiversity, climate, air quality, waste, etc.

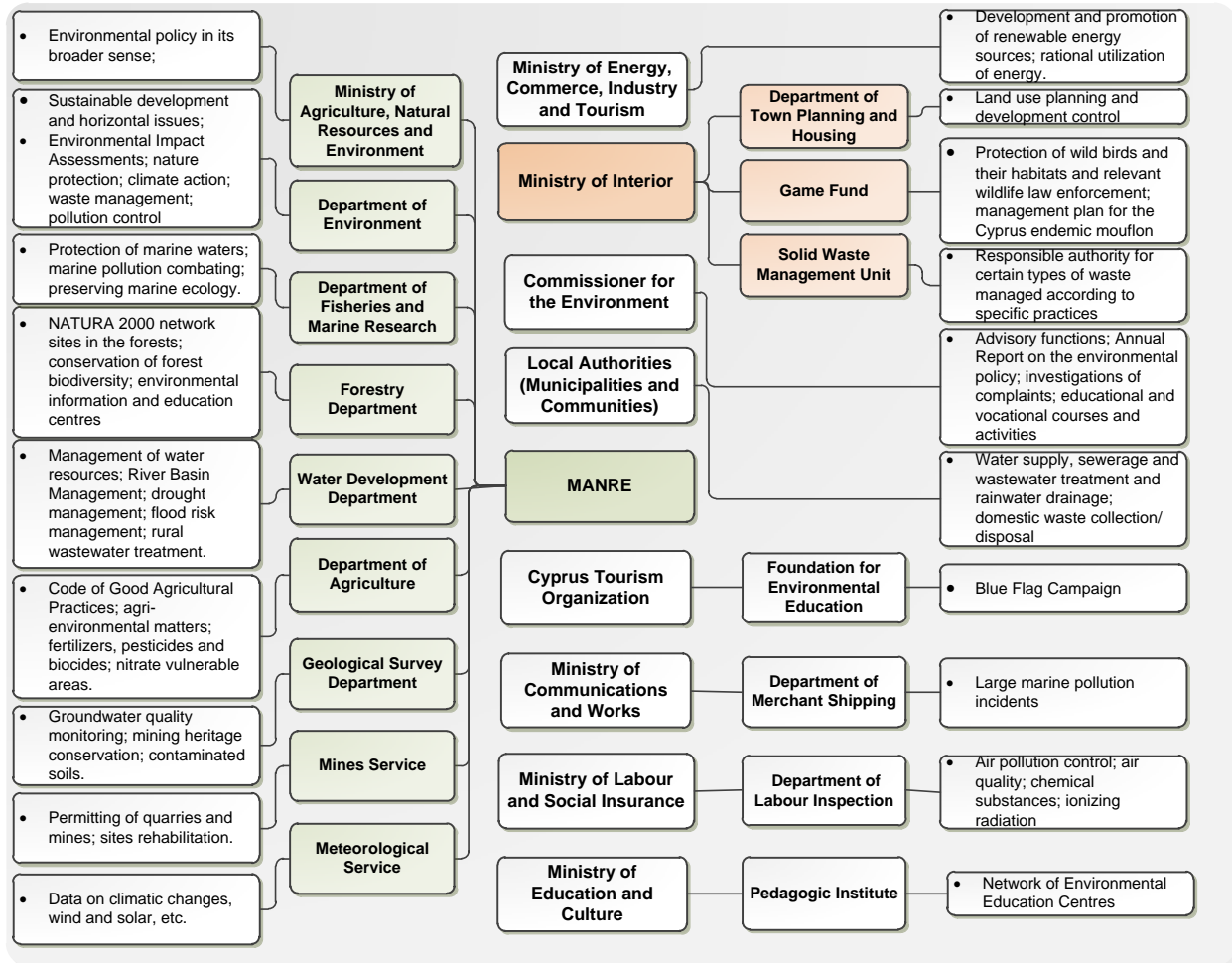
268. **A National Sustainable Development Strategy prepared in 2007 and revised in 2010 now needs to be reviewed, revised and updated to reflect broader developments over the last few years** (Rio+20, Mediterranean Strategy for Sustainable Development, etc.). The current Strategy<sup>xliv</sup> is mainly a compilation of the actions taken separately by various Ministries, rather than being a strategic document formulated under a structured, participatory process, guiding and integrating policies. Ministries and Departments still operate on the basis of their own agendas, not guided by a broadly agreed strategy allowing synergies. The governance aspects are not dealt with. There is no formal inter-ministerial coordination mechanism or entity to ensure that the (sometimes conflicting) objectives are properly balanced between different Ministries. There is no Council/ Commission for Sustainable Development. These aspects are further aggravated by the lack of an EU Affairs Unit at MANRE level (see Section 2.1).

269. **Cyprus is also a mostly weak to absent partner in international environmental activities despite legal commitments under numerous Multilateral Environmental Agreements.** Some of the major Conventions, such as on Climate Change, Biological Diversity, and Desertification, create substantial obligations to the Contracting Parties. During its Presidency of the EU Council, in 2012, Cyprus outsourced to other MS the exercise of most of its international obligations as Presidency. This failing appears to be due to lack of staff and resources in association with weaknesses in prioritization. There is no significant participation in the international environmental processes, even in those under the EU, although the situation is perhaps better in Mediterranean and climate change affairs.

270. **Overall, the system is currently characterized by a high degree of fragmentation** (Figure 34):



**Figure 36: Distribution of responsibilities on environment- specific/ environment- related issues**



271. **Concerns about fragmentation relate not so much to the vertical distribution of responsibilities within a Ministry:** they rather relate both to segmentation within a sector with responsibilities spread to more than one Ministries (e.g. diffused tasks for policy and permitting in waste management, pollution control, nature), with “dualism” in responsibilities introduced in the laws covering the related “pillar” directives of the EU environmental legislation.

272. **In its work in South Eastern Europe (SEE) the World Bank introduced a "fragmentation index" (FI)<sup>30</sup>.** Although it was meant to be used in the context of SEE, just for the sake of getting some reference parameters with respect to the situation in Cyprus, Table 16 presents the original WB calculations together with a calculation made for the FI for Cyprus, taking into account only the main environment- specific – or related responsibilities and not all of them:

<sup>30</sup> FI - SUM [the core environment ministry (1) and the number of other agencies that are coordinated by or which report to that Ministry] / SUM [the number of other ministries and agencies with environment competences].

**Table 16: Fragmentation of environmental management systems**

Country	Primary environment ministry	Subordinated agencies	Other ministries/ their subordinated agencies	FI
Cyprus	MANRE	3	5/ 5	2.5
Bulgaria	Ministry of Environment and Water	4	5/4	1.8
Croatia	Ministry of Environmental Protection, Physical Planning and Construction	1	5/8	6.5
Czech	Ministry of Environment	8	3/2	0.6
Estonia	Ministry of Environment	10	3/2	0.5
Hungary	Ministry of Environment and Water	9	4/3	0.7
Latvia	Ministry of Environment	12	4/2	0.5
Lithuania	Ministry of Environment	14	5/5	0.7
Poland	Ministry of Environment	15	5/1	0.4
Romania	Ministry of Environment and Water Management	8	4/2	0.7
Slovakia	Ministry of Environment	7	4/2	0.8
Slovenia	Ministry of the Environment and Spatial Planning	7	4/6	1.3

**Source** (except for the calculations on Cyprus): Karin Shepardson, the World Bank, reported in OECD, ENV/WKP (2009)3: Assessing Environmental Management Capacity: Towards a Common Reference Framework.

**Notes:** Cyprus has the highest Index after Croatia. It should also be noted that in the other countries the situation has become better since the calculation of the Index, due to substantial changes and overhauls in their environmental management systems.

273. **Partly aimed to offset the negative aspects of fragmentation numerous committees have been established, either by law or on an ad hoc basis.** All these committees are chaired by the Director of the DoE with the exception of the one on emissions and discharges, which is chaired by the Director of the Department of Labor Inspection. They have broad representation both from within the Government as well as from environmental organizations, scientific and other chambers, local authorities, etc. The committees mostly follow a common pattern of examining and advising on: terms of permits; impacts; measures for the reduction of the generation of waste, their management and their disposal; the declaration of protected areas; the formulation of strategies and policies; etc.

274. **Since passing the IPPC (Integrated Pollution Prevention and Control) law, in 2003, enforcement has reached adequate levels (despite some rather complicated procedures).** In the two main Departments involved in permitting and enforcement (Department of Environment, Department of Labor Inspection), one unit in both is responsible for permitting, monitoring and inspection/ enforcement.

275. **In nature protection, the responsibilities are widespread but mostly concentrated under the MANRE.** The Department of Environment has the broader responsibility for coordination and policy integration with regard to protected areas and is the focal point for the “NATURA 2000” Network, the EU-wide network of nature protection sites established through the EU Habitats- and Birds Directives. In Cyprus, this Network encompasses 60 sites in total, of which 40 fall under the “Sites of Community Importance” (SCIs) of the Habitats Directive and 20 are “Special Protection Areas” (SPAs) under the Birds Directive. In addition, 8 SPAs are also SCIs, and 1 SPA covers an entirely marine area. The Forestry Department (see Section 2.9) monitors and manages forest areas, plants, and terrestrial sites in forests that fall under “NATURA 2000”; while the Department of Fisheries and Marine Research (see Section 2.6) does the same for marine environment and aquatic species. The Game Fund Service executes

responsibilities under the Game Fund<sup>31</sup> (game development, hunting regulation) and, under the auspices of the Minister of Interior, implements various functions relating to the Birds Directive and the part of the obligations under the Habitats Directive relating to the mouflon, the island's larger protected mammal. While the MoI provides expertise in fauna-related aspects of nature protection, the DoF specializes in the flora-side habitats of "NATURA 2000", insects, some birds, etc. These shared competencies are mirrored in the Scientific Committee making decisions on "NATURA 2000" and advising the two Ministers involved. This committee is chaired by the DoE and includes members from the Game Fund Service, the DoF, the ARI, the DFMR, the DTPH, as well as various representatives (not necessarily specialists) appointed by the Ecological Organizations, the hunters' organization, local government, etc. Also, a Coordinating Committee for the management of the mouflon is chaired by the PS of the Ministry of Interior, with members from the Planning Bureau, the Game Fund, and the Departments of Environment, Forests, Agriculture, Veterinary Services and Agricultural Research.

**276. In Cyprus, environmental management (indeed the whole of public governance) is characterized by a high level of concentration at the civil service and the central government level.**

This, in conjunction with the small size of the country and the simple organizational structure in two levels of government (central and local) present opportunities to effectively address the gaps that exist. The role of local authorities is very limited, with most decisions (including those relating to the environment) taken by government agencies. At this stage of its evolution, the local environmental capacity (empowerment, personnel, know-how, financial resources) to undertake and exercise broad environmental responsibilities is not there.<sup>xlv</sup> A 2010 Local Government Reform study<sup>xlvi</sup> advocated devolution of responsibilities and funds, regional structures and consolidations or extensive co-operations between local authorities. A new study currently under way aims to find the balance between centralization and decentralization of functions. Although the final outcome from the later study is yet to come, it may be reasonably assumed that, at least for the near future, the bulk of administration will mostly remain at the national level.

**277. In some areas, outsourcing and cooperation with the private and non-profit/ non-governmental sectors seems to work well.** Outsourcing to the private sector is progressively used, such as for the preparation of studies and programs, monitoring and – recently – inspection (pollution control, nature). Contemporary communication techniques are used for information dissemination and awareness-raising, although this is an area where government could have done much more. National media play a significant role in spreading the sustainable development concept. The decision-making system is participatory and transparent, with the involvement and interaction of stakeholders. Participation and transparency are in-built in many laws. NGOs, civil society, the business sector, local government, are involved in the formulation of strategies.

**278. The overall set up in place still has some way to go before it can be characterized as adequate from the "good governance" and "better regulation" perspectives.** For example, economic instruments are not extensively used, they do not form part of a broader, targeted policy and they are formulated on an ad-hoc manner with the overriding purpose of increasing public revenues.<sup>32</sup> Better regulation encourages the use of a range of tools, from traditional command and control to economic instruments, risk-based approaches, negotiated or voluntary agreements, self-regulation, trading schemes, education and advice, etc. Not much has been done on the matter so far, although the staff involved is

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<sup>31</sup> The Game Fund was established by law in 1990, as a separate fund financed by hunting permits fees. It is administered by a Management Committee comprising government representatives and representatives from the Hunting Federation, chaired by the PS of the Ministry of Interior.

<sup>32</sup> Recent more focused measures refer to motor vehicle registration and road taxes and the EU ETS. A 1993 study on the potentials of economic instruments for environmental management has not been adequately used, other than introducing transferable development rights for the preservation of protected buildings (see paras 295- 295).

aware of its potentials. It should be noted that improving the regulatory framework is a central part in the Government's plan for civil service reform.<sup>xlvii</sup>

## Reform Options

### *The EU Environment Challenge*

279. **In his major concluding statement, J.V. Verstryngge summarized the essence of his suggestions as follows:**

“It is my opinion that Cyprus should strive to have the strongest possible entity dealing with Environment policy in an integrated way, so that the institutional organization put in place would match the relative importance of Environment policy vis-à-vis other policies of the Cyprus Government. This would bring Cyprus in line with what happens inside the E.U., and in all of its new or old Member States.”<sup>xlviii</sup>

280. **This Review agrees with this statement. The extensive *acquis communautaire* is the same for Cyprus as it is for any other, larger EU MS.**

281. **In the past 30 years, the EU has adopted a substantial and diverse range of environmental measures and a body of environmental law which amounts to hundreds of Directives, Regulations and Decisions.** The *acquis communautaire* constitutes a formidable body of obligations for all MS. The *acquis* is broad, demanding, constantly evolving, covering such issues as climate action; air quality; waste management; protection of water resources; chemicals control; environmental impact assessment; noise pollution abatement; radiation protection; industry and technology; marine and coast protection; nature and biodiversity protection; etc. Major cross- sectoral issues relate to the pursuit of sustainable development; green growth; and the mainstreaming of environmental concerns in other sectors. The EU is also a leader in the international arena and its initiatives to addressing the interlocking global environmental crises are steady and unwavering. Its Member States are obligated to ensure the appropriate implementation of the *acquis*. The European Commission, as the "Guardian of the Treaty", oversees performance and may (and repeatedly does so) open infringement procedures<sup>xlix</sup> against any MS.

282. **Regardless of their substantial differences, interaction with the European institutions and structures and between MS, as well as practical experience, have gradually led to a generally adopted pattern of an institutional framework consisting of basically one main Environment Ministry exercising traditional environmental responsibilities frequently with the support of one or more executive departments and/ or agencies.** The systems have been changing partly in response to the requirements under the *acquis*, which necessitate the separation of policy, regulatory and service functions as well as broad decentralization.

283. **In the case of, basically, larger MS as well as in the majority of the new MS, Ministries of Environment have created, under their sponsorship and supervision, specialized bodies of information, enforcement, research, funds and project management, etc.** These bodies are mainly public entities with various degrees of autonomy of action, serving the Ministries of Environment that oversee them, as executive and regulatory agencies, advisers or suppliers of information or for the preparation of special studies. Quasi- autonomous agencies and/or inspectorates for environmental quality monitoring can be found in at least 15 MS and for inspection/ enforcement in at least 16 MS.

284. **A look at smaller to medium size countries, shows that, usually, there are 3 to 4 national bodies dealing with the environment, all under the Ministry of the Environment, thus ensuring better coordination, integration and oversight by the Ministry:** 3 in *Denmark*<sup>33</sup> (Ministry of the

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<sup>33</sup> Also, a Ministry for Climate, Energy and Building

Environment, Danish Forest and Nature Agency; Environmental Protection Agency) and *Sweden* (Ministry of Environment, Environmental Protection Agency, Chemical Inspectorates); 4 in *Estonia* (Ministry of the Environment, Estonian Environmental Inspectorate, Nature Conservation Department, Environmental Information Centre), *Latvia* (Ministry of Environmental Protection and Regional Development, Environmental State Inspectorate, State Environmental Impact Assessment Bureau, Environment Agency) and *Slovakia* (Ministry for the Environment, Slovak Inspectorate of the Environment, Department for Nature and Landscape Protection, Environmental Agency); 5 in *Finland* (Ministry of the Environment, Northern Finland Environmental Permit Authority, Land Use Department, Environment Institute, Regional Environmental Centers (13)) and the *Czech Republic* (Ministry of Environment, Environmental Inspectorate, Department of Conservation of Biodiversity; Agency for Nature Conservation & Landscape Protection, Environment Institute).

285. **In most MS, environmental responsibilities are also exercised by provincial, regional and local authorities**, particularly in the federal ones, *Ireland, Netherland* and the *Nordic* countries (*Denmark, Finland, and Sweden*).

286. **Obviously, systems are never static but do evolve with time, developments and experience gained.** In recent years, changes leading to the further consolidation of environmental responsibilities and to elevating the importance of the environment in government policies were effected in *Malta, Greece, France, Ireland, Hungary, Latvia, Netherlands, Portugal, Slovenia, UK, and Denmark*, the last two establishing new Ministries for Climate Action together with energy. In addition, the *Malta* Environment and Planning Agency is in the process of being split into an Environment and Resources Authority and a Planning Authority; *Belgium* established a Federal Environmental Agency; *Estonia* merged two environmental organizations to form the Estonian Environment Information Centre; *Lithuania* merged into a single body the Lithuanian Environmental Protection Agency, the State Environmental Protection Inspectorate and the Marine Research Centre; etc.<sup>1</sup>

287. **A representative model would be a Ministry for the Environment with its policy Departments**, overseeing, guiding as well as guided by an Agency monitoring and reporting on the state of the environment, an Inspectorate for permitting and inspection and an Agency or Department for nature protection. Enforcement functions would be delegated under guidance and supervision to appropriately empowered local authorities.

288. **In the European Commission, almost all of the core environment issues are included in the portfolio of DG ENV**, a directorate general responsible for all mainstream environmental issues (green economy, the natural capital, water and air quality, industrial emissions, integration, sustainable development). The exception is radiation protection, which was until recently covered by DG ENV. On the other hand, responsibility over some aspects of forests policy was transferred from DG AGRI to DG ENV. The Directorate-General for Climate Action (DG Clima), leads international negotiations on climate, helps the EU to deal with the consequences of climate change and to meet its targets for 2020, as well as develops and implements the EU Emissions Trading System.

### ***The capacity to deliver***

289. **Within the above framework, voluntarily entered into (and committed to) by Cyprus, the country is confronted with considerable challenges, the most pressing of which being the following:**

- establishment of synergies between the policies on the environment and climate change and those for transport, energy and land use planning;
- greening the economy;
- adaptation to climate change;

- decoupling waste generation from growth, closing and rehabilitating landfills, investing in new regulated waste infrastructure facilities, preventing, reusing and recycling waste;
- completing the program for waste- water collection and treatment plants and securing good management of the infrastructure in place;
- putting under full regulation all polluting activities;
- protection of the coastal environment;
- maintenance of good environmental status from hydrocarbon exploration and exploitation activities;
- properly managing the “NATURA 2000” network of Sites of Community Importance and Special Protected Areas.

290. **The question to be answered is whether Cyprus is in a position to fully comply with its obligations and address the national challenges.** After all, the environmental acquis is considered as one of the most difficult to comply with. As in previous years, most of the on-going infringement cases at EU level at the end of 2012 (272) concerned the environment.<sup>ii</sup> Indeed, Cyprus already faces a number of infringement cases: out of the 43 open infringement cases against the country at the end of 2012, 7 related to environment. At the end of 2013 they increased to 14<sup>iii</sup>. The situation should be expected to worsen as Cyprus is gradually coming under the scrutiny of EU regulation and people become more comfortable with the complaints procedures, and taking under consideration the problems already faced by the country and its weak performance in this field as, for example, indicated below.

291. **The Yale Center for Environmental Law & Policy<sup>iiii</sup> ranks Cyprus as 25<sup>th</sup> in its European list of 30 countries** as far as the Environmental Performance Index (EPI) 2012 is concerned (26<sup>th</sup> in the 2014 results) , and as the 29<sup>th</sup> in the trends for improving performance Index (Trend EPI):<sup>34</sup>

**Table 17: Yale country ranking based on an Environmental Performance Index**

Rank EPI	Country	Rank Trend EPI
1.	Switzerland	23
2.	Latvia	1
3.	Norway	22
4.	Luxembourg	27
5.	France	9
6.	Austria	20
7.	Italy	6
8.	United Kingdom	10
9.	Sweden	18
10.	Germany	17
11.	Slovakia	3
12.	Iceland	19
13.	Netherlands	24
14.	Lithuania	26
15.	Czech Republic	12
16.	Finland	16
17.	Denmark	14
18.	Poland	28
19.	Belgium	5

<sup>34</sup> The 2012 EPI ranks 132 countries on 22 performance indicators in 10 policy categories (e.g. Water and air pollution, Biodiversity, Agriculture, and Climate Change). These categories track performance and progress on two policy objectives: Environmental Health and Ecosystem Vitality.

Rank EPI	Country	Rank Trend EPI
20.	Slovenia	15
21.	Spain	13
22.	Greece	21
23.	Ireland	4
24.	Portugal	11
25.	Cyprus	29
26.	Hungary	8
27.	Bulgaria	7
28.	Estonia	30
29.	Malta	25
30.	Romania	2

Source: EPI (2012)

292. **The above situation needs to be taken seriously into account in the country's efforts to fully accomplish its obligations with the present environmental management set up.** The current unfavorable economic environment should not deter the Government in its resolve to put in place a credible system, addressing its administrative shortcomings, also considering the inevitable plight of environmental administration, which is the "implementation gap" between policy goals and results.

293. **In order to deliver, the system of environmental institutions needs to comply with a basic principle that has proved itself throughout Europe:** that of a unified system of environmental planning, management and regulation, flexible and responsive to contemporary concerns and changing priorities, sufficiently staffed, in position to respond to the obligations that come with the requirements of joining the EU and to the aspirations of society.

294. **In Cyprus, over the years it has been repeatedly argued by consultants, politicians and functionaries alike,** that one major underlying cause that creates efficiency and delivery problems is the wide spread of responsibilities (see Figure 34) on basic, traditional environmental issues, meaning those mostly addressed by core environment policy itself and normally under the portfolios of Environment Ministries in Europe: sustainable development; nature and biodiversity; waters; air quality; ozone; chemicals; G.M.Os; radiation protection; liquid and solid waste; land contamination; impact assessment; pollution prevention and control; environmental accidents; climate change; green products; environmental awareness; access to information; environmental liability; renewable energy; noise.

#### *Improving policies and processes*

295. **The Department of Environment's large number of 'inherently governmental' roles and functions cannot all be concurrently and effectively performed under the Department's status, form and manpower capacity.** Broader issues relating to strengthening policy integration and coordination, strategic planning and EU coordination at the level of the Ministry have been addressed under Section 2.1. Beyond that, the options that could be adopted in the environment sector in order to tackle shortfalls piled up over time, focus on priorities and create a fitting mix of institutions, could take the form of an integrated combination of measures running concurrently, clustered under the following groupings:

- a) *Good governance and better regulation* practices and arrangements.
- b) *Integration/ coordination:* establishing clear, undisputable formal integrative mechanisms and a structured system of interactions, synergies and coordination.
- c) *Consolidation/reorganization:* restructuring of competencies and moving traditional environment- specific functions and/ or associated personnel to MANRE/ DoE, accompanied by strengthening its capacity to fulfill its functions.

296. **The measures under a) and b) above are adopted all over Europe. Goals and examples are given under each measure.** The only concern refers to the aptitude and capacity of MANRE/DoE to devote enough time to proceed with the parallel examination/ consideration of the measures and their subsequent implementation, as well as to “service” the organs proposed to be established. Both concerns are a matter of will and determination and of setting the right priorities.

### Good Governance/ (Smart) Better Regulation<sup>liv</sup>

297. **In order to improve the efficiency and effectiveness of regulation and to reduce regulatory burdens,** also contributing to addressing the problems manifested due to the constantly rising workload under conditions of staff shortages and constraints, the potentials offered in the EU Smart and Better Regulation Programs need to be taken advantage of<sup>lv</sup>: they aim to ensure effectiveness in EU action with such tools as impact assessments, regulatory simplification, auditing compliance, simplifying legislation, etc. Relevant suggestions (e.g. follow up on permits, avoid multiple permits, separating permitting from inspection) made by the Cyprus Internal Audit Commissioner also merit consideration and appropriate action.<sup>lvi</sup> Such measures are particularly effective and required in cases of staff shortages and weak coordination arrangements.

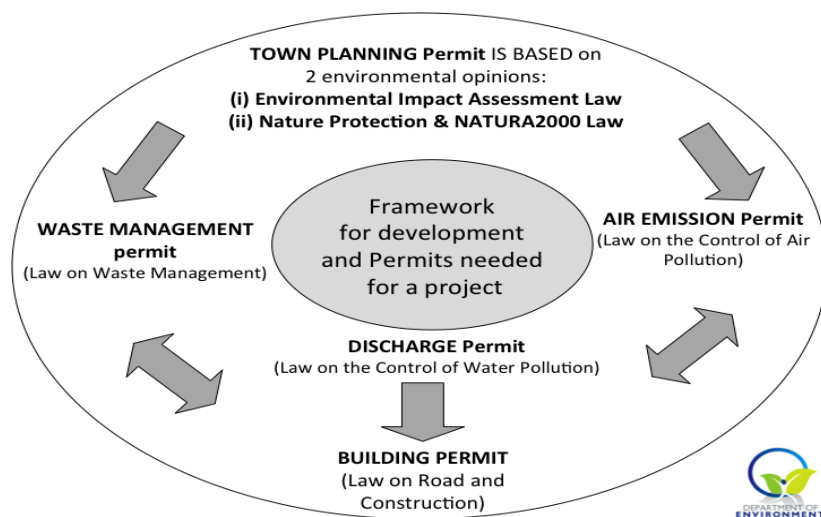
### Revisit laws

298. It is believed that the decision- making provisions put in place under the extensive body of law adopted under considerable time pressure and a number of unknown parameters regarding the actual requirements of the EU *acquis communautaire* merit their revisiting. Although the Cyprus environmental legislation closely reflects EU legislation, many procedures have been prescribed that might be worth simplifying and rationalizing in the light of the experience gained with a view to making the system more efficient in serving the public at large.

### “Single” permit

299. **The requirements to obtain a permit to execute a project are rather complicated.** The process for a normal permit of an activity with pollution and/ or waste potentials involves a minimum of 7 permits, not to mention the other specific permits required to actually operate a project (e.g. quarry, hotel, etc.).

Figure 37: Flow of permitting



Source: Presentation by the Director of the Department of Environment.

300. **The new Industrial Emissions Directive<sup>lvii</sup> requires better coordination and a single permit for the large polluting facilities it covers.** The Government has already submitted a relevant



transposition bill to the House of Representatives. It remains to be seen whether the obligation for a single, integrated permit will be complied with under the existing distribution of responsibilities. It is suggested to re- examine the assessment/ permitting system of environmental regulation with a view to as far as possible simplify, integrate and consolidate the following:

- EIA, SEA, appropriate assessment: Department of Environment.
- Wastewater discharges: Department of Environment.
- Air emissions: Department of Labor Inspection.
- Waste management: Department of Environment/ Ministry of Interior.

### Committees

301. **It is advisable to review the effectiveness of the numerous committees set up and operating under numerous laws:** environmental impact assessments (EIA); impacts from plans and programs (SEA); appropriate assessments in “NATURA 2000” sites; scientific committee on nature conservation; GMOs; emissions & discharges permitting (air & water); waste management activities and installations; Emissions Trading Scheme (ETS).

302. **There may be more than needed formal committees, with more than needed members, making the permitting process too long, taking up the time of a large number of people, some of them perhaps not necessarily skilled.** For example, the assessment of environmental impacts is covered by two formal and one ad hoc Committee, occupying considerable time of the personnel and other people involved: the EIA Committee holds approximately 30 meetings per year, the SEA Committee meets quarterly, the waste committee holds approximately 12 meetings per year; 35-40% of the time of the Nature division is spent for “appropriate assessments”.

303. **It would thus be useful to re- examine the role and composition of these committees,** to establish the necessity of their existence and, where necessary, to adjust them accordingly, the aim being to reduce them in number and composition without compromising substance, openness and the obligations under the relevant EU Directives. A quick look into the matter points out to the potentials to consolidate them in the following 4, with a more flexible and open- ended scientific representation:

- Environmental Impacts.
- Pollution/ ETS.
- Waste/ Packaging.
- Nature/ GMOs.

### Impact assessments

304. **In many EU Member States, various tools are being progressively used for the prior assessment of the implications (economic, social, and environmental) of proposed policies, strategies, programs, etc., in order to help integrate sustainability into the decision- making processes, identify and assess the expected effects of regulatory proposals to enable the most effective and efficient options to be systematically chosen, etc.** In *Ireland*, for example, assessments address broader environmental and social impacts; in *France*, bills have to be accompanied by an impact assessment; *Belgium’s* Federal Government added SIA to accompany major policy proposals; the *European Institutions* have adopted this approach for all their documents, and the Commission has issued Impact Assessment Guidelines.<sup>lviii</sup>

305. **MANRE is advised to tap into the accumulated knowledge on the matter and proceed with the adoption of a similar policy aimed to lead to informed decisions.**

### Performance assessment and auditing

306. **The use of auditing to assess performance can help improve delivery.** The potentials present at the offices of the Auditor General and the Commissioner for Internal Audit can be tapped towards this

goal. The government's recent decision to establish internal units at the Ministries can also be utilized, if such units do not just act as watchdogs for irregularities but rather as facilitators and supporters to the Departments to better their performance: the UK's Environmental Audit Committee has extended its remit beyond the purely financial; in Denmark, the Environmental Protection Agency uses Audit Plans to ensure compliance with its duties.

### **Environmental management systems**

307. **The Department could also proceed with its registration under an environmental management system.** Incidentally, the EU's Environmental Management and Audit System (EMAS) is administered by the Department. In Austria, the Federal Ministry of Life and the Federal Environment Agency have registered for EMAS.

### **Market- based instruments<sup>lix</sup>**

308. **Throughout Europe, economic (or market, or fiscal) instruments are extensively used.** They are aimed not to just implement the relatively narrow- focused "polluter- pays- principle" by internalizing externalities and making polluters face the costs of their actions, but also to encourage and induce people and companies modify their behavior; raise revenue for environmental actions; compensate individuals for loss of economic benefits arising from conservation and contribution to the public good, etc.. For example, *Estonia's* Environmental Charge Act regulates resource usage; *Lithuania* has imposed taxes on pollution, environmentally harmful goods and packaging by the Law on Pollution Tax; in *Greece*, a "Green Fund" was established whose resources would inter alia come from fees from energy distribution and network management companies or penalties from violating environmental legislation; in the *Netherlands*, a Fiscal Deduction (MIA) and a Random Deduction (Vamil) apply for green investments; *Latvia's* natural resources tax applies for the use of natural resources, emissions, the sale of environmentally harmful goods, waste disposal, packaging, etc.

309. **In Cyprus, in 1993, a study concerning the potentials of economic instruments<sup>lx</sup> identified 16 instruments for evaluation.**<sup>35</sup> A shortlist of five potential instruments were further assessed:

- Restructuring of water pricing.
- Water conservation credits.
- Environmental Development Charge.
- Transferable/ tradable development rights.
- Development completion bonds.
- In addition, the study looked at the potentials of user charges, which constitute the prevalent instruments used.

310. **Re-visiting the issue of designing a targeted system of environmental fiscal instruments is suggested, with the goal to find a balanced combination of direct regulation and economic instruments.** The matter could be re- opened, the above-mentioned study be updated including by assessing the adequacy of the current tools and suggesting related changes, proposing new instruments, etc., and its results be seriously taken under consideration so as to put in place another tool for good environmental management.

### **Enforcement<sup>lxi</sup>**

311. **A wide range of tools and initiatives targeting the regulated are being exercised all around Europe.** The Department should have no difficulty in exploring and taking them on- board, particularly as it has full access to work at the IMPEL Network.<sup>lxii</sup> Such tools are, for example, "self-monitoring" by

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<sup>35</sup> Water pricing; water conservation credits; tax on irrigated land; subsidies for use of treated effluent; auction of fishing licenses; compensation for withdrawal of fishing licenses; development completion bonds; development quotas; environmental development charge; transferable development rights; green space transfer; deposit refund schemes; direct support for recycling firms; water pollution charges.

operators; encouraging approaches that go beyond compliance; information dissemination to the regulated community (e.g. UK's NetRegs website<sup>lxiii</sup>); facilitating the electronic submission of applications; etc.

312. **In the UK, the Hampton Principles<sup>lxiv</sup> advocated for risk assessment, accountability, reasoned inspections, minimizing the administrative burden, etc., as the basis for enforcement programs.** In parallel, the Macrory Report<sup>lxv</sup> also proposed a number of enforcement principles (e.g. sanctions to change users' behavior) and characteristics (e.g. transparency) in order to improve compliance. The Regulators' Compliance Code<sup>lxvi</sup> has incorporated such principles in a statutory code of practice aimed at improving the efficiency and effectiveness of the work of the regulators without imposing unnecessary burdens on those regulated. The purpose of the Code is to embed a risk-based, proportionate, targeted and flexible approach to regulatory inspection and enforcement.

313. **Until the environmental management system in Cyprus becomes more consolidated (or in case it does not and remains as it is), better collaboration arrangements would be needed, such as joint bodies for supervision of issues of ongoing mutual interest and joint inspections.** In Hungary, the "Green Commando" initiative has led to inspection teams from inspectorates, civil protection, the policy, health offices, etc.; in Austria's Styria Province, a database allows inspectors access to up-to-date information on industrial facilities.<sup>lxvii</sup>

314. **It is also recommended that the Department prepares a 3- year, risk- based, Enforcement Program (permitting, inspection) accompanied by detailed plans for annual inspection visits.** The Program should be regularly reviewed and updated, accompanied by a freely accessible, easy to reach electronic archive. The DoE has already issued 245 waste discharge permits with another 450 cases outstanding. With regards to waste management, the respective numbers are 190 and 400. In the absence of such a Program, there is always the danger to end up with an overkill or "knee- jerk" approach to inspections, many of them made for the sake of inspection or as a response to complaints (founded or unfounded) rather than taking into account the risk of each facility and its historical record. During 2012, the outsourced inspectors at the DoE carried out approximately 1,000 pollution and waste inspections, a considerable figure taking into account the Cyprus situation.<sup>lxviii</sup> In the UK, the Environment Agency has developed some quite useful tools (Compliance Assessment Plans, Operator Pollution Risk Appraisal (OPRA) and the Compliance Classification Scheme (CCS)).<sup>lxix</sup>

### **Environmental Impact Assessment**

315. **It is also suggested that the Department considers (reconsiders?) the need to move into a closer oversight and regulation of the firms/ professionals preparing the various types of environment impact studies.** Such an action should not, however, direct attention away from the need to continue pursuing improvements through EIA guidance on scope, coverage, methodologies and quality assessment, documentary disclosure and access to information, transparency, training of reviewers, etc. In the UK, the Institute for Environmental Assessment accredits consultancies, publishes guidelines on methodologies, and reviews impact reports, its revenue coming from membership subscriptions and fees for services rendered.<sup>lxx</sup>

### **Environment Code**

316. **One way to better serve all concerned and the public at large is to summarize the existing dozens of legal texts in a coherent, harmonized "Environment Code".** Experience in other countries can point out to directions to be followed without conflicting with the Anglo- Saxon legal system in Cyprus. Such a Code would make it easier for legal professionals, administrators and the public at large to refer to, whereas it could introduce widely applicable and broadly referred to environmental management principles currently misused or differently interpreted (e.g. the precautionary principle)

317. **In Sweden, the 2006 Environmental Code<sup>lxxi</sup>, consolidated several acts, transposed EU Directives, introduced good management principles and strengthened procedures.** It relates to land

and water management, nature conservation, species protection, hazardous activities and health protection, water operations, genetic engineering, chemical products and waste. The Code does not generally go into details. More specific rules are often made by regulations. The rules apply to all activities potentially detrimental to human health or the environment, damaging to the natural or cultural environment or depleting biological diversity.

318. **In France, the Environmental Charter, promulgated by law in 2005, has a constitutional standing, protecting the right to a clean environment.** A codification process has been followed, contributing to the collection of environmental laws, norms and regulations in the *Code de l'environnement*,<sup>lxxii</sup> regularly updated and transformed. The Code encompasses a whole range of measures and sets targets to achieve biodiversity conservation, address light, noise and air pollution, prioritize the prevention and recycling of waste, promote energy efficiency, low carbon technologies and reduce greenhouse gases emissions. Its approach is based on the principles of precaution, preventive and corrective action, the polluter pays, and participation. The law also reformed the environmental impact assessment procedure and associated public enquiries. The Code's amendments in 2012, covered, inter alia, the organization of the environmental police and penalties in cases of the Code's violation.

### **Outsourcing**

319. **Possible tasking support services to the private sector, the universities and other departments or institutes with research capacity, also needs to be pursued in a more structured way.** The aim would be to make full use of expertise available, such as for appropriate research and policy analysis, the preparation of policy documents, managing sites, etc. Five of the country's Universities offer degrees in Biological Sciences, Chemistry, Oceanography, Environmental Engineering, Energy, Biotechnology, Environmental Education and Sustainable Development.

320. In *Luxembourg*, the national Administration for the Environment (AfE) has outsourced routine monitoring and inspection to accredited contractors. AfE performs occasional on- site visits in response to complaints and to verify the work of the external experts.

### **Strengthening Integration/ Coordination**<sup>lxxiii</sup>

#### **Overhauling the institutional framework for environmental management**

321. **The strategic function of MANRE in setting, implementing and monitoring environmental policy needs to be further strengthened by clarifying its relationship with other Ministries and public institutions, whilst exercising caution in order not to end up with “over- kill” coordination.** Sending strong political signals by the Government and adopting policy – making and co- ordination mechanisms can considerably strengthen efforts to mainstream environmental concerns in all public policies (e.g. energy, transport) and administrative levels (central, local) and achieve better intergovernmental coordination.

322. **To this respect, it is proposed that a decision be taken by the Council of Ministers,**

- empowering the Minister of MANRE to secure horizontal coordination, integration and synergies across government on matters pertaining to sustainable development, green economy and the environment;
- forming a Council for Sustainable Development, to advise the Minister on the Sustainable Development Strategy (preparation, follow- up) and other related matters; the Council would be appointed by the President, be chaired by the Minister of MANRE and have a mixed representation;
- establishing an inter- ministerial Environment Committee chaired by the PS of MANRE to deal with practical horizontal coordination and conflict resolution matters.

323. **All over Europe, EU Member States have established numerous similar inter-ministerial and cross-departmental political or administrative or mixed mechanisms from which to draw and built upon:**<sup>lxxiv</sup>

## Intergovernmental committees/ bodies

324. **Germany's State Secretaries' Committee for SD (StA) is, besides the Cabinet of Ministers, the second most important decision-making body on SD policy.** All government ministries are represented in the Committee by their State Secretaries. The chair of StA is the Head of the Federal Chancellery (status of Minister). The StA concentrates on general aspects of SD; in *Austria*, horizontal coordination is secured by the Committee for A sustainable Austria, co-chaired by the Federal Chancellery and the Federal Ministry of Life. The Committee includes representatives from several federal ministries, social partners, and the regions; in the *UK*, a Cabinet sub-committee considers the impact of policies and ways of improving the relevant performance of departments. A SD Task Force includes ministers and is chaired by the Secretary of State for the Environment. The Sustainable Development Program Board (SDPB), chaired by the Department for Environment, Food and Rural Affairs (Defra) has as its main aim to oversee the delivery of the UK's NSDS. The Board consists of high-ranking government officials. It is supported by a Sustainable Development Policy Working Group (SDPWG); in *France*, the government's policy on sustainable development is based on the work of the Inter-Ministerial Committee for Sustainable Development (ICS), chaired by the Prime Minister. The ICS is supported by the Permanent Committee on Sustainable Development comprised from Senior Civil Servants.

## Advisory bodies

325. **The advisory Council for Sustainable Development and Environmental Protection of Croatia has 9 members coming from a variety of public and private bodies;** in *France*, the National Committee for Sustainable Development and Environment Roundtable (CNDDGE), chaired by the Minister of Sustainable Development, ensures follow-up and implementation of the commitments of the Environment Roundtable. The CNDDGE has 41 Members and 39 replacements, coming from the government, the Senate and the House of Representatives, local authorities, business, trade unions, environment NGOs, etc.; the *Czech* Council for Sustainable Development (CGCSD) has 27 members and is led by the Prime Minister, the Deputy Prime Minister and the Minister of Environment. Members come from ministries, institutions and civil society organizations.

326. **The lack of coherence due to conflicting goals and objectives cannot be tackled by mere coordination arrangements.** A number of tools can be effective in securing that government institutions work towards the same direction:

## Green budgeting

327. An effective means can be the making of budgetary allocations conditional on setting, but also delivering, environmental objectives. The *UK* uses departmental spending reviews and Public Service Agreements; the *Netherlands* employs departmental financial statements. In the past, Cyprus has also tried such an approach in the preparation of its then development budget, but it might have been too early for it to be sustained. Conditions have since changed (e.g. joining the EU, better staffed environment agency, stronger awareness in economic agencies, etc.), perhaps meriting the re-consideration of this tool.

## Strategy for sustainable development<sup>lxv</sup>

328. **A Strategy for Sustainable Development is obligatory for Cyprus, and the existing one needs to be revisited anyway.** When appropriately developed, such a Strategy can guide and coordinate policies, secure coherence and synergies, and integrate economic, social and environmental objectives, especially if it is accompanied by SD action plans from the various major Ministries.

329. In the *UK*, each ministry is obliged by the NSDS to publish an SD Action Plan (SDAP), setting out its contribution to meeting the country's SD objectives and to report on progress.

## Strategic environmental planning

330. **The Government's decision to establish strategic planning units at the Ministries (see Section 1.4) would require strengthening the relevant capacity both at the MANRE Admin and at the Departments.** This process could help enshrine environmental issues in high-level national strategic planning and provide an additional mechanism to improve co-ordination if it is properly focused, e.g., if it incorporates the preparation and monitoring of a medium – term (3-5 years) broad strategic environmental policy integration plan with a clear allocation of roles and resources, etc. All the ingredients for such an exercise are there: the UN, EU, Mediterranean and National SDSs; the numerous EU and MEAs thematic strategies and action programs and plans; national sectoral strategies; the milestones and timelines in EU legislation; etc.

331. **For example, the Swedish government has formulated 15 national Environmental Quality Objectives (EQOs) with over 200 sub-goals and sectoral goals to be achieved.** A responsible agency has been identified for each objective or sub-goal.

332. **The Government could also consider broadening the relevant information / monitoring provisions in the law for Strategic Environmental Assessment of Plans and Programs to all other environment- specific laws.** These provisions: a) require the planning authority to inform the environment authority as to its decision on the environmental assessment, monitor developments and submit relevant reports and, b) authorize the environment authority to publicize the information, maintain a registry and inspect on its own choice the implementation of the measures it has suggested.

### The Environment Commissioner<sup>36</sup>

333. **Instituting the post of Commissioner for the Environment does not appear to have been the outcome of an in-depth study.** The “Verstryngé” proposals submitted to the Council of Ministers did not provide for the appointment of a Commissioner. This is not surprising, since such an institution is not prevalent in Europe. No Environment Commissioners have been identified in other European countries with political mandates similar to those of the Cyprus Commissioner.

334. **The Commissioner's already assigned (by political decision) responsibilities extend beyond those of an adviser.** They could potentially conflict with executive responsibilities of MANRE, the DoE, the Auditor General, the Ombudsperson, the Internal Auditor, etc. (e.g. those relating to preparation of statistics, recording the annual environmental situation, monitoring progress, identifying and solving problems, delegating scientific reports, conducting inspections, investigating complaints, giving instructions, checking procedures for the issuance of a decision or permit.)

335. **The linkages and synergies of the post with the Ministers and the Departments have apparently not been thoroughly considered *ab initio*.** Uncertainties have been identified which, unless addressed, could lead to dysfunctions. The decision has added another institution to the already complicated institutional framework, legitimately seeking a meaningful role and place in environmental policy-making.

336. **Since this is a political appointment, the Commissioner's presence is taken as given.** However, in order to prevent overlaps, duplications and upsets in a complex web of interactions and responsibilities, the Government could consider making it more clear that the Commissioner's *raison d'être* is that of an adviser to the President.

### Local government<sup>lxvii</sup>

337. **Currently, local authorities are neither ready, nor (apparently) willing to undertake substantial environmental functions, such as permitting of installations, more substantial waste**

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<sup>36</sup> The Commissioner's is a political post, outside the civil service system and not part of MANRE, its territorial structures and the quasi- governmental organizations it oversees.

**management regulation or protected area management.** Yet, as in all other EU MS, there should have been, by now, in Cyprus, a better vertical assignment and distribution of responsibilities and powers in the framework of multi- level governance. Local governments could have been empowered to exercise responsibility for at least simpler environmental regulation and implementation, the environment ministry retaining guidance, co-ordination, and oversight and enforcement functions in several strategic areas and complex installations.

338. **In almost all EU MS, local authorities do have a significant role in implementing the environmental acquis.** In most cases, their responsibilities are similar, e.g. undertaking waste management, often controlling waste water systems and discharges, some regulating small industrial pollution sources. For example, in *Ireland*, local authorities issue single media licenses to smaller industries and are largely responsible for compliance checking and enforcement; in *Denmark*, the Environmental Protection Agency's 3 environmental centers are responsible for permitting, inspection and enforcement of most complicated installations, the rest being regulated by the approximately 100 municipalities; in *Estonia*, regional units are involved in controlled installations work, permitting being the responsibility of county authorities; local authorities in *France* undertake ambient air quality monitoring.<sup>lxxvii</sup>

339. **In considering the potential de- concentration of functions to lower tier(s) of government, the results of the new local government reform study under way will need to be taken into account.** Although a balance needs to be found between centralization and decentralization, which functions could be devolved, decentralized or delegated will depend on whether appropriately empowered regional and/ or local institutions will be established, and on when they will be ready to take over responsibility with efficiency and effectiveness. Naturally, devolution is not a universal remedy. If it is not carefully designed and timed, and local councils are not ready to take on the political costs many times associated with hard environmental management decisions, devolution can lead to uneven implementation and enforcement relaxation. At this stage, any such choice in Cyprus would lead to a non- desirable sub-optimal situation and significant EU compliance problems.

340. **Nevertheless, it is suggested to initiate an institutional dialogue between MANRE and the local authorities (they do have their own representative structures).** The aim would be to jointly agree on a commonly- shared goal to improve local environmental conditions through a structured, gradual, shift to a decentralized system. The road map could include an assistance program that would allow local authorities accumulate sufficient knowledge and practical experience and establish shared services at the regional (district) and/ or "metropolitan" level, to carry out, for example, domestic waste management, and permitting and compliance assurance functions in non- IPPC installations, the DoE exercising oversight and guidance.

#### *Pursuing consolidation/reorganization*

341. **Many responsibilities for environment- related matters although widespread are either within the MANRE set- up, or focused and integrated with the specific functions and domains of the services involved.** No extensive dysfunctions have been identified that would necessitate suggestions to restructure or consolidate them. Nevertheless, information exchange, in particular, appears to be lax and incidental, suffering from the prevailing "my responsibility" culture. The same holds true regarding monitoring, e.g. water quality. Rather than aiming for an overhaul of responsibilities and systems, bringing them under the broader coordinating and integrating umbrella proposed above is the action suggested.

342. **With regards to the interaction of environmental with land use policy,** the Department of Town Planning and Housing includes the DoE in its consultation processes and the PS of MANRE is a full member of the (land use) Planning Board (though represented at a lower level). The DTPH is also represented in almost all Committees established under the environmental legislation. The unquestionable obligation of both Departments to respect the provisions of their separate laws does, however, create

problems as far as proper coordination and interaction and observing time constraints are concerned. Obligations could be exercised better by addressing some of the issues again under the better regulation and coordinating measures.

**343. Concerning the environment- specific competencies, major concerns arise out of the fragmentation of functions and its impacts regarding the following competencies:**

- a) those under the *Ministry of Interior's* waste management unit concerning the permitting of certain categories of waste management practices for certain waste streams (mostly domestic non- hazardous), as well as those for purely nature- specific activities carried out by the Game Fund; and
- b) those of the *Ministry of Labor and Social Insurance (MSLI)* –Department of Labor Inspection (DLI - Cyprus's Health and Safety at Work service) that concern the quality of the air, the regulation of gaseous emissions from installations and, perhaps, chemicals.

**Fragmentation**<sup>lxxviii</sup>

**344. Through the years, Cyprus has taken a piecemeal approach to environmental issues, responding to them as they emerge and in isolation from one another.** This approach has led to a fragmented manner on the way the country treats its commitments. Legislation is spread over a considerable and totally unrelated number of legal texts, managed by agencies with different mandates and priorities, with little or no co-operation and coordination between them.

**345. This underlying cause, exacerbated by over-bureaucratization and capacity constraints (lack of man-power resources) is usually manifested in a number of delivery weaknesses, such as:**

- on efficiency and effectiveness in the use of resources (several systems, agencies, procurements, secretariat costs, financing of meetings, etc., exerting a burden on scarce human and time resources);
- weak implementation (inconsistencies, discrepancies and variations in the interpretation of legal commitments and EC guidelines);
- neglect of linkages and conflicting policies (due to sectoral and medium- specific approaches and over- specialization);
- overregulation (same facility regulated by different permits and agencies);
- overlaps (duplicate inventories, reports and information programs, time spent to collect information and resolve disagreements);
- “turf wars” and disputes (time and energy spent on defending territories or resolving disagreements) leading to structural inefficiencies;
- externalization of inefficiencies to development costs (costly and time-consuming delays in decision-making);
- gaps in control leading to lack of accountability and inaction (dumping of problems elsewhere);
- environmental concerns relegated to an inferior level (conflicts with other functions of the 'host' ministry).

**346. Indeed, fragmentation across institutions is not generally associated with the optimal use of resources, resulting in inefficiencies and increasing the need for co-ordination.** Certainly, there are degrees of fragmentation, each having different performance weaknesses. For example, “regulated” fragmentation could lead to specialization and the deepening of the involvement of staff with particular issues.

**347. On the other hand, many of the above negative aspects are manifesting themselves in the Cyprus environmental management set up.** Indeed, it contrasts with almost all other state policies which are unified and integrated, such as health and safety, labor, social welfare, water management, town planning, hunting.



348. **One way to try and address the situation would have been not to interfere with the status quo per se, but follow the approach suggested for the environment- related functions,** and tackle the problems through the broader coordinating and integrating umbrella proposed above, this time aiming through political determination to make the system more compliant and less resistant. Indeed, the Cyprus legal and political systems have been providing and advocating, respectively, for synergies, cooperation and interactions. In practice, however, the system appears to be less interactive and more antagonistic; less cooperative and more conflicting; less one- directional and more multi- directional, the compulsory dialogue put in place under the committees' set- up not generally being one of assent. Also, it should be taken under consideration that the environment- specific matters in question refer to the core and complicated obligations of the *acquis communautaire*, a situation not analogous to the softer, environmentally- related ones. This path is not, therefore, considered advisable to follow.

### **Consolidation**

349. **It reasonably follows from the discussion so far (e.g. diagnostics, EU situation, capacity to deliver) that the option of aiming for a less fragmented, more coherent institutional set up would contribute to environmental issues being taken more fully into account throughout the policy cycle (policy preparation and decision-making, implementation, monitoring and communication), leading to,**

- the unification and better implementation of environment policy and programs for the various sectors;
- increased awareness of environment policy by other Ministries and raising MANRE's capability to act as a mainstream environment Ministry, bringing Cyprus closer to what happens inside the European Commission and in all other Member States;
- making feasible an integrated permitting system, streamlining permitting and inspection;
- avoidance of competence disputes, making it easier to resolve conflicts (same Permanent Secretary/ Minister);
- reduced administrative burden and better economies of scale (avoidance of overlaps and of duplication of personal and budgetary resources);
- the reaching of a critical mass of personnel, the broadening and deepening of skills and allowing them to lead instead of following up on events and doing crisis management.

350. **Proceeding along these lines would lead to the consolidation under MANRE of the environment - specific functions at Labor and Interior, them being wholly environmental.** In such as case, in addition to the benefits from reducing fragmentation and increasing consolidation (see above), their integration with those of MANRE/ DoE, would place them under an Environment Ministry with whose core objectives they would be in line, being part of a Ministry with a strong environment culture and orientation.

### **Waste**

351. **The waste unit at MoI consists of 9 people altogether, equally divided (4 and 5) in two groups:** the one involved with authorizing/monitoring the management of some waste streams (mostly domestic)/practices for which the Minister of Interior is responsible; the other pursuing the implementation of numerous large and complicated waste infrastructure projects.

352. **Issues of conflicts of interest may thus be raised:** the same Ministry as well as the same small unit have the dual responsibility for promoting the design, construction and operation of waste infrastructure on the one hand, and of permitting and inspection, on the other.

353. **The second problem concerns the separate permitting of certain waste management activities in parallel with those of the MANRE/ DoE.** It results in a duplication and overlap of responsibilities and dual permits/ inspection to waste collectors or treatment facilities for different waste streams and different practices. So far, 25 waste management operators have been issued separate permits from the DoE and the Minister of Interior.

354. **According to the EU's Handbook on the Implementation of Environmental law,**<sup>lxxix</sup> the Waste Framework Directive requires an organizational structure to be developed for three main functions: waste management planning; waste regulation (including enforcement) and permitting; and data collection and reporting. This approach necessitates separating regulation from operation, allowing for easier enforcement action and preventing conflicts of interest between regulators and service providers.

355. **It is therefore suggested to enhance and consolidate the leading role of MANRE/ DoE in the regulation of all activities/ sites involved in the management of all waste streams.** In such as case, MoI/ local authorities would concentrate and focus in pursuing solid waste infrastructure implementation, management and oversight of the considerable obligations under the *acquis* for which Cyprus is already facing infringement procedures: contracts of the 2 new SWM plants in operation; tendering for the 2 new ones to be constructed in the next few years; rehabilitation of the 115 "closed" unregulated waste dumping sites; the 4 units for construction and demolition waste; and installation of the 38 "green points".

356. **In such case, there does not appear to be a need to move personnel, considering the similarity between the permitting/ inspection requirements with those of the DoE and the skills and knowledge acquired at the latter.** Anyhow, the personnel at MoI are required to promote the environmental infrastructure projects in cooperation with the local authorities and oversee contract compliance.

## **Pollution**

357. **The Labor Inspection Department's structure incorporates also the following environment-specific units.**<sup>37</sup>

- Air pollution control (1 Senior Officer, 4 Officers);
- Air quality (1 Senior Officer, 3 Officers, 5 Inspectors);
- Chemical substances (2 Officers, 2 Inspectors);

358. **These units cover the general protection of issues outside the workplace.** They typically fall within environment policy and in all other Member States are within the domain of environment Ministries. The responsibility for the first two of the above units could, therefore, be considered for transfer to the DoE.

359. **In addition to the discussion under fragmentation/consolidation, moving the pollution control unit has pragmatic considerations as well.** The activities of this unit and of the related one under the DoE are closely interweaved: they both examine applications, issue permits, inspect the same installations, jointly participate in meetings abroad, attend joint meetings, take action against non-compliance, and issue reports. 80 IPPC installations are regulated by both Departments. Most of these installations have actually been characterized as IPPC ones because of their potentials to pollute waters, many of them being slaughterhouses, livestock units, etc. Continuing this dualism would perpetuate, in the case of pollution regulation, the current situation: inspectorates and inspections are medium-based (e.g. water, air), each Department planning its permitting and inspection activities - many times of the

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<sup>37</sup> There is also an Ionizing radiation unit, with 1 Senior Officer and 3 Officers. However, in the EU the pattern of responsibilities for ionizing radiation is rather different from the other environment-specific issues. The situation is more diffused. Considering that radiation protection is mostly a worker- and patient-related activity, leaving the set up as it is may be preferable, particularly if the recommendations under coordination / integration are adopted and materialize.

same facility- separately. Although there is a common committee advising on permitting, the end result is not actually an integrated assessment. Neither of these units appears to have reached the critical mass required to really be on top of its obligations. Merging them would allow the establishment of a stronger and unified Division.

360. **The institutional implications from the recast of the relevant directive<sup>xxx</sup> regulating industrial emissions<sup>38</sup> argue for such an approach.** Inter alia, the new Directive establishes a permit procedure and lays down requirements, in particular with regard to discharges, integrated permitting, etc. In the EU MS, although there is considerable vertical distribution of responsibilities between the various tiers of government (national, regional, local, special agencies), overall responsibility at the national level is everywhere consolidated. Representation at the IMPEL Network<sup>39</sup> is from Ministries of Environment, Inspectorates (approximately 16 MS have such inspectorates with executive powers) and similar Agencies and, in a number of cases, regional and local agencies and authorities. Cyprus membership is from the Department of Environment and the Department of Labor Inspection.

361. **Air policy is also a core part of the EU environment policy.** With regards to the Air Quality Unit, the major rationale for the option of moving it is that it would assume its rightful place in a purely environment- oriented Ministry/ Department. It has not been possible to identify a system in other EU countries where responsibility for air quality is not placed either within an Environment Ministry proper or an agency operating under the auspices of such a Ministry. As in other environment-specific topics, in the EU 28 Air Quality Focal Points come from Ministries of Environment and Agencies affiliated with them. The Cyprus FP is the Department of Labor Inspection. The Unit could be moved to the Department of Environment as it is and operate as a separate unit and/ or form the core for the establishment of a new Environmental Quality Division with responsibilities similar to the functions and work of the numerous Environment Agencies established in most Member States, etc.

362. **It could have been argued that chemicals need to be transferred as well, since this sector also falls within the domain of the traditional responsibilities of Environment Ministries.** The EU Chemicals FPs, for example, do come from Ministries of Environment or Agencies affiliated with them. The UK has dual responsibilities (DEFRA and Trade). Cyprus is represented at the relevant meetings by the Department of Labor Inspection. On the other hand, the matter of chemicals regulation in Cyprus mostly refers to product- related controls. As either option (leaving the situation as it is or moving the unit) would not jeopardize effectiveness in delivery, it is not suggested to change the current scheme of things regarding chemicals. .

363. **Although the option of moving functions and not personnel has been raised, this is not an advisable route in the case of pollution control and air quality.** Such an approach would create much more dysfunctions than the status quo (loss of the considerable experience and knowhow gained at a substantial cost to the country, need to create new posts, training, etc.) The posts could be transferred under the Director of DoE, maintaining their pyramid parallel to that of the current posts at the Department.

## Nature

364. **The option of forming a separate Nature Protection Department at the Ministry to consist of sections from DoE, Forests, Fisheries and Game in the model of the Danish Nature Agency has been considered.** It would, however, be an option characterized by many complications, ramifications and potential conflicts of interest, whilst not merited considering that 3 of the 4 nature- specific

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<sup>38</sup> A transposition bill is currently before the House of Representatives.

<sup>39</sup> The Network for the Implementation and Enforcement of Environmental Law (IMPEL) is an association of the environmental authorities of the European Union MS, acceding and candidate countries of the EU, EEA and EFTA countries. The mission of IMPEL is to contribute to protecting the environment by promoting the effective implementation and enforcement of EU environmental law.

responsibilities are already under the common umbrella of MANRE. Any coordination problems should be easy to address, either at the level of the Directors or at the level of their common PS.

365. **It is, therefore, suggested to retain the current state of affairs within MANRE.** DoE's nature division's role in "NATURA 2000" is in line with what is happening all around the EU28. Furthermore, the Habitats Directive's commitments are closely interwoven with other responsibilities of the division under international conventions (e.g. Bern, Biological Diversity, CITES). Nevertheless, to-day it is considered as good practice for authorities that establish regulatory requirements (in this particular case, management) to be separated from those that monitor compliance. (The DoE carried out almost 700 inspections in the 28 SCIs during the last year.) Management would be separated from inspection. With regards to the other two agencies with nature-specific functions, those functions are well integrated within their set ups and are inseparable parts of their activities. This is true both for the Forest Parks and Nature Conservation Sector<sup>40</sup> of the Forestry Department and the Marine Environment Division<sup>41</sup> of the Department of Fisheries and Marine Research.

366. **The fourth pillar in the nature regime is the Game Fund Service under the Ministry of Interior.** Its responsibilities are to prevent poaching, manage hunting, regulate the game population and take nature protection measures. The latter do not constitute the main task of the Fund as far as personnel time and funds are concerned. The mouflon management plan<sup>lxxxix</sup> is simple in its content and is implemented in cooperation with 5 agencies of the MANRE,<sup>42</sup> whereas so far no management plans have been prepared for the SPAs, a relevant contract reportedly having been assigned only recently. In addition, such functions clearly concern environment policy and the Game Fund is a part of it. It would, perhaps, be fitting for the responsibility for them to be exercised under the MANRE set up.

367. **The basic reasoning for such an option would be that:**

- a) the GFS is the odd- agency out in nature protection;
- b) the Service's nature protection activities form small part of its main portfolio in regulating hunting and game development;
- c) the GFS is the only unit in a Ministry with a different overriding goal (development);
- d) there are potentially inherent conflicts embedded in its goals and functions (game development/ regulation and nature protection);
- e) a lot of the GFS functions are carried out within the state forests and there are overlaps with forest management activities;
- f) a number of the measures under the mouflon management plan fall under the competences of several of the MANRE's Departments;
- g) in all other EU MS responsibility for the Birds Directive is with Ministries for Environment/ Nature Agencies.

368. **In the "Ornis" Committee, which assists the European Commission in the implementation of the 'Birds' Directive, representation is overwhelmingly from Ministries of Environment/ Nature Agencies.** Cyprus is represented by the Game Fund Service. In *Malta*, responsibility for hunting-related matters falls (together with other matters like agriculture and fisheries) under a Parliamentary Secretary ('junior minister') within the political responsibility of the Minister for the Environment. A 'Wildlife Crime Unit' is planned to be formed, to exercise better enforcement; in *Denmark*, forestry, "NATURA 2000" and hunting (as well as spatial planning) fall under the portfolio of the Nature Agency, in distinct units. The same holds true for *Greece*, but with game management falling under the Special Secretariat for Forests.

369. **The proposed action on this issue is the following:**

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<sup>40</sup> 1 Forest Conservator and 8 Forest Officers

<sup>41</sup> 1 Senior Officer and 8 Officers and inspectors

<sup>42</sup> DoE, DoF, ARI, VS, DoA.

- a) placing the Game Fund as a whole under the jurisdiction of MANRE with all its resources and core functions and subsequently establishing better synergies and interactions of its nature-specific activities with those of the Departments of Forests and Environment, including the potential exercise of such functions in forest areas by the Department of Forests, and deciding on its SPA activities outside forest areas (DoE and/ or DF) depending on the nature and content of the management plans to be prepared;
- b) leaving the Game Fund under present jurisdiction and dealing with only its nature- specific functions as in a) above.

370. **Action a) could be carried out in two phases:** first, changing jurisdiction and then, when better synergies between the Game Fund and MANRE are established, integrating the nature- specific functions with those of the other departments. Action a) may also allow the establishment of enough integration, synergies and coordination (same Minister and PS) to lessen the necessity to move functions away from the GF.

371. **In both cases, the Fund would keep its independent nature and continue to exercise in full its main responsibilities to regulate hunting, fight poaching (including of the mouflon) and game development.** Protocols of cooperation could also be adopted with the DoE to assign the Fund “policing” responsibilities in SCIs/ SPAs outside the forests. Joint management committees could also be established for all areas, following the informal model already agreed for the management of the 40 SCIs and extending them to the SPAs as well.<sup>43</sup>

372. **It is believed that no personnel movements would be necessitated.**<sup>44</sup> The management plan for the mouflon entails the involvement of numerous agencies, including the Game Fund. With regards to the SPAs, a lot will depend on what the management plans to be prepared will require.

373. **Going ahead with the consolidation option of moving functions (and personnel in the case of Labor Inspection) would most likely bring about an upset in the scheme of things and of the way of doing business:**

- in the case of Labor Inspection, synergies may have been established through the years between the units concerned and other units in the same agency;
- with regards to MoI, this Ministry and local authorities have been traditionally responsible for municipal waste collection and disposal;
- historically, MoI has been closer to local authorities, either because of well- established channels of interaction or due to their heavy reliance on the Ministry’s financial and technical support;
- currently, staff in the districts may be called upon to offer assistance in, at least, simple cases, for both the units under Labor as well as those under MoI and the Game Fund;
- staff and unions reactions might be encountered at, both at the “providing” as well as the “receiving” agency, either due to inherent negative dispositions to change from the familiar and habitual situations, or to differences in salary scales and seniority (professional staff salary scales at Labor

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<sup>43</sup> The Sites of Community Importance (SCIs) will be managed by each department according to their zone of responsibility: DFMR: 2; DoF: 9; DoE: 13; Joint DFMR and DoF: 1 (both marine and state forest land); DoE with the support of DoF (in some of the areas there is forest land) and DFMR: 15. No similar arrangements have been made for the SPAs, despite of the fact that numerous of them cover forest areas, marine environment, wetlands, and 8 of them are also SCIs.

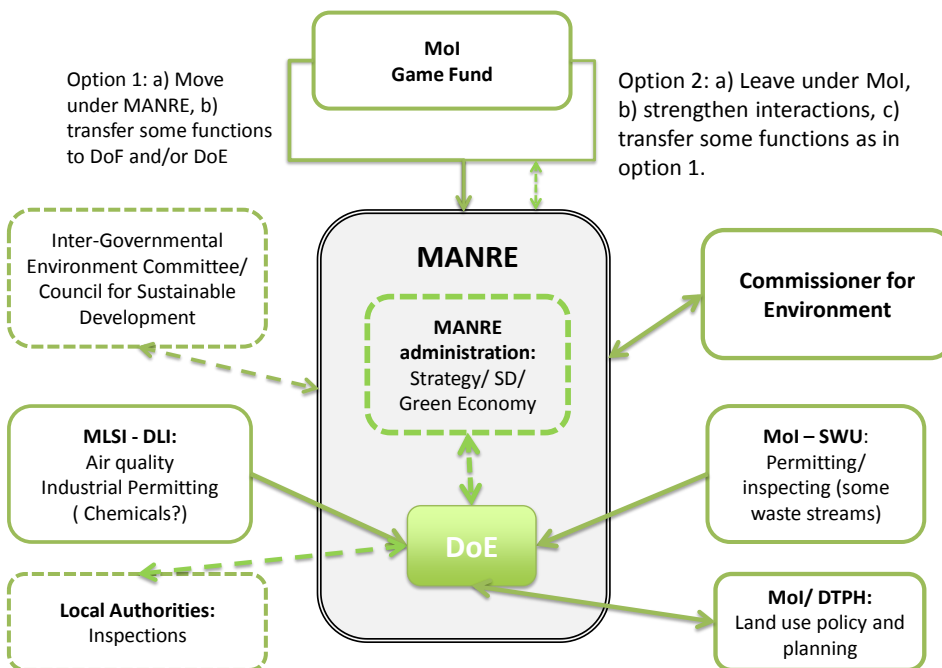
<sup>44</sup> The Fund’s wildlife section and its SPA Office are staffed by 1 Senior Officer, 1 Officer, 3 Wardens and 3 workers. Note that the staff do not half a civil servant’s status.

Inspection are higher than the ones in Environment) causing concerns about prospects for personnel advancement;

- stakeholders may feel that the change in the Ministry in charge might involve more restrictive policies;
- the transfer of responsibilities and/ or staff will require amendments to legislation and appropriate changes in the Budget.

374. **Figure 38 below summarizes the proposed set-up, with** transfers of units/ functions from/ to the MANRE/ DoE (one way arrows), and better integration of existing functions and processes by strengthening coordination and clarifying responsibilities and processes between the institutions involved (two-way arrows). In some cases, such as local governments, the MANRE Admin and new committees, de- concentration of functions and clarification of responsibilities will only be possible when capacity to undertake such functions has been strengthened or the new bodies are established (dotted lines and boxes).

**Figure 38: Potential environmental management system**



### *Reorganizing the Department of Environment*

#### **Functions**

375. Following on from the previous discussion, the situation at the DoE would be as follows:

#### **MANRE Administration**

376. **Provided the proposals for MANRE Administration** (see Section 2.1) **are adopted and once the system is established**, it is suggested to either move under MANRE’s responsibility the cross-sectoral, not-purely environmental issues of sustainable development and green economy, or for the MANRE PS to undertake more direct involvement on the matter in synergy with the relevant unit of DoE. Consideration needs to be given to the fact that presently the Department’s responsible unit may dedicate for both issues as much as half of its time.

377. **The relationship between MANRE Admin and the DoE would not be one of competing for extension of powers or influence:** the Department would consult MANRE Administration on all policy issues under its responsibility, while MANRE Admin would consult the Department on all issues having an effect on implementation and/or enforcement. The Department would refrain from dealing with policy-making issues (however it would be obligated to propose and advice on policies in its domain of responsibilities), while MANRE Administration would refrain from engaging in specific areas of technical responsibility.

### **Consolidated functions**

378. **The Department of Environment would perform tasks related to:**

- EU affairs and international environmental protection co-operation (synergies with MANRE Administration);
- sustainable development and green economy (synergies with MANRE Administration);
- protection of soil and water;
- noise abatement;
- climate protection action;
- waste management;
- nature conservation (trade in species, habitats and species);
- product- and- company related environmental performance measures;
- improving environmental protection status and achieving the environmental protection goals and standards;
- environmental management tools;
- environmental quality improvement;
- impact assessments;
- monitoring the state of the environment;
- environmental information system, registers;
- environmental awareness;
- financing environmental protection programs/ projects.

379. **If the full range of options of transferring functions is opted for,** then the Department would also take up responsibilities for the permitting of all waste streams, air quality, air emissions and, perhaps, chemicals and the management of SPAs outside forests.

### **Other issues**

380. **Secondments are part of the Government’s policy to enhance mobility and interchangeability** and do offer opportunities on one hand to cover staff shortages in understaffed agencies and on the other decongest overstuffed departments. Nevertheless, manpower on secondment appears to have been mostly selected from those interested and not necessarily on the basis of qualifications and knowhow. Also, they work under conditions of uncertainty, both for the Department as well as for the persons involved. Assuming that the choices were right, a focused program for their sustainable integration (including of their posts later on) and training needs is suggested to be prepared and implemented.

381. **As regards to the funds from the EU Emissions Trading Scheme (ETS)<sup>lxxxii</sup>, the Department has so far had no relevant actual experience that would allow the effective administration of the considerable revenues to be generated from the auctioning of allowances.** Estimates for the period 2013-2020 (approximately 11 million EUAs) put the expected funds from EUR 50 to 100 million. The Council of Ministers has apparently recently approved the establishment of a committee that would take decisions on allocation and oversee the process. Nonetheless, the committee would have to be served by the

Department of Environment which would be doing all substantial work. It is advisable to seek special training and perhaps external advice, not necessarily from outside the civil service.

382. **The matter of differentiating between permitting and inspection has been considered as well as the necessity for a dedicated inspection unit.** In EU MS, inspection issues are increasingly covered by dedicated departments or Inspectorates (approximately 16 MS have such inspectorates with executive powers) and similar Agencies and, in a number of cases, by regional and local agencies and authorities. There is a trend to separate permitting from inspection, although most countries have not yet taken it on board. In *Bulgaria*, permitting and inspection are undertaken by the same staff. On the other hand, in *Slovenia*, the Inspectorate for Environment is the inspection authority, the permitting authority being the Environmental Agency. Both bodies are under the Ministry of Environment. There is close cooperation between the Inspectorate and the Agency. Within this framework, the view that, to avoid conflict of interest, the same inspector should not be involved in setting requirements and checking compliance with them at a same installation is catching up. In Cyprus it would be better to have such a dedicated unit inside the Department to undertake all inspections, owing to the smallness of the country and the nature and frequency of the required inspections. Being in the same body, communication would be easier with close links between permitting and inspection. Information from inspections should be utilized to recheck and reconsider permitting.

383. **On the issue of environmental quality monitoring and information, numerous Environment Agencies or dedicated departments or units have been established in all Member States.**<sup>lxxxiii</sup> The choice to establish such a unit in the Department is brought forward for consideration. To this respect, MANRE could pay a fresh look at the study for an environment observatory prepared by the University of the Aegean<sup>lxxxiv</sup> which examined a number of options (e.g. the Department preparing all reports on the state of the environment based on information from all other agencies; or each agency preparing specialized reports in cooperation with the Department, the latter preparing general reports; or ad hoc reporting without the involvement of the DoE). On the matter, MANRE could request the support and advice of the European Environment Agency.

384. **The Department is in the process of opening district offices to raise inspection capacity at the local level, beginning with the attachment of some officers at the district offices of other MANRE Departments.** However, at least at this stage in the Department's evolution, it is not considered as advisable to go ahead with such a move: regulated facilities are concentrated in the Nicosia, Limassol and Larnaca triangle, making Nicosia more central to service this area; the number of permits and the minimum requirements for inspection do not assure the full utilization of the personnel to be attached to districts; maintaining staff concentrated would also allow the Department to utilize it more efficiently with speedier shifts according to needs; inspectors would also have more opportunities to gain a broader perspective. The matter could be reconsidered in future, staff levels, number of permits and local government reform allowing. In such an eventuality, the experience in other relatively small EU countries that have established regional set-ups could be taken into account, such as: *Croatia* (a Directorate for Inspection with a head office and 20 branch units in the seats of counties); *Denmark* (the Environmental Protection Agency has established 7 regional environmental centers); *Estonia* (the Environment Inspectorate has a national level and 7 regional units); *Latvia* (a national Environment State Inspectorate and 8 Regional Environment Boards); *Slovakia* (the Inspectorate of the Environment has 49 district environmental offices responsible for all environmental sector permits).



## Structure<sup>45</sup>

385. **The EU environmental acquis does not implicitly define the MS obligations for their administrative arrangements**, the latter having the duty to ensure that competent authorities are established, with clear mandates and the necessary resources to ensure the *acquis* implementation.

386. **A potential model for Cyprus could take account of some of the more recent structures put in place by the newer MS (e.g. *Czech Republic, Estonia, Latvia, Lithuania, Malta, Slovakia, and Slovenia*)**. The *Czech* Environmental Inspectorate (minus its forest protection responsibilities) in particular, is perhaps closer to the DoE's suggested functions. It is an expert executive body within the state administration dealing primarily with air protection, waste management, nature, water and forests protection; ozone layer; chemical substances; industrial accidents; packaging; and GMOs.

387. **However, as indicated from the following Table 18, structures do widely differ**, influenced by a multitude of factors (administrative system, level in the government hierarchy, actual responsibilities, etc.).

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<sup>45</sup> No quasi-governmental agencies are being proposed. Considering the history and patterns in Cyprus, such a move would undoubtedly introduce other players with centrifugal tendencies to split from the "mother" process.

**Table 18: Structures in various environment bodies**

Country	Ministry /Agency	Subunit/ Directorate	Departments or Divisions <sup>46</sup>					
Czech Rep.	Regional Inspectorates		Air Protection	Water Protection	Waste Management	Nature Protection	Forest Protection	
Denmark	EPA		Soil and Waste	Eco-technology/ Procurement Centre	Pesticides and Gene Technology/ Chemical Inspection Service	Industry and Agriculture	Information Centre	
Estonia	EPA	General Supervision Directorate	Analysis and Planning	Environmental Protection	Nature Protection	Fisheries Protection		
Latvia	(Ministry) Secretariat for Environment	Department of Environmental Protection	Water Resources	Pollution Prevention	Environmental Quality and Waste Management			
		Department of Nature Protection	Protected Areas	Species and Habitats Protection				
		Department of Climate and Environmental Policy	Climate Change and Adaptation Policy	Climate Finance and Technology	Environmental Policy Integration			
	State Environmental Service	Head Office	Licenses	Legal	Monitoring	Fisheries Control		
Lithuania	Ministry of Environment	Environmental Quality Department	Environmental Technologies	Air	Chemical Substances	Radioactive Substances	Polluted Areas and Waste	
		Environmental Strategy Department	Environmental Strategy and Investments	European Union Integration	Programs and Projects Management	International Relations and Agreements	Information Management	Environmental Impact Assessments

<sup>46</sup> Excluding managerial, personnel, accounting and other support units.

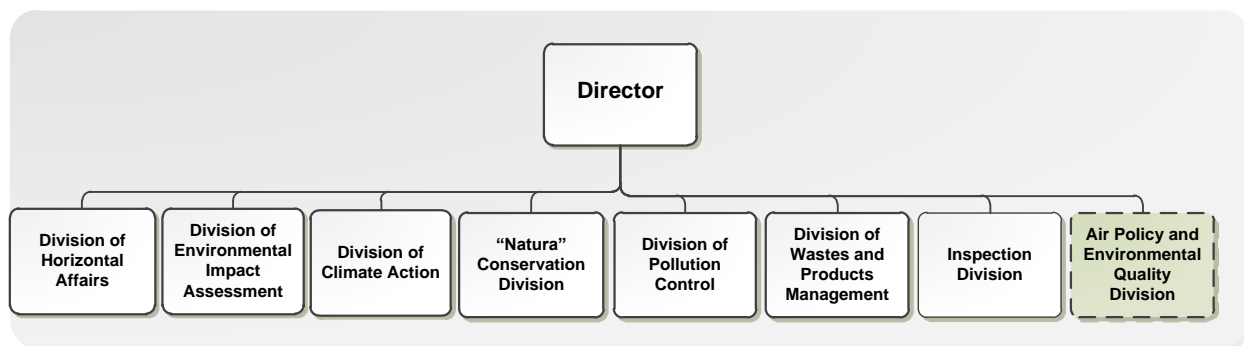
		Nature Protection Department	Biological Diversity	Ecosystems Protection	Nature Resources	Soil and Earth Entrails		
Malta	Environment and Planning Agency	Environment Protection Directorate						
		Directors Office-Implementation						
		Directors Office-EU and Multilateral Affairs	International Projects	EU Affairs	Multilateral Affairs			
			Environmental Permitting	Environmental Assessments	Ecosystems Management	Waste, Air, Radiation, Noise and Chemicals	Climate and Marine Policy	
Poland	Chief Inspectorate for Environmental Protection		Inspection and Administrative Ruling	Monitoring and Environmental Information	Environmental Emergency Response	Market Control	International Cooperation and Public Relations	
Slovenia	Ministry of Agriculture and the Environment	Environment Directorate	Legislative Drafting	Environmental Impact Assessment	Water	Environment and Climate Change	Conservation of Nature	
		Public Services for Environmental Protection and Investments in Environment Directorate	Public Services for Environmental Protection	Elimination of Consequences of Natural Disasters	Cohesion Policy	Investment in the Environmental Sector		

Sources: National Websites

388. **Considering the functions and size of the Department**, its present set up and prospective future, possible decisions to transfer functions, the needs for its effective management, and set ups in Europe, it is believed that it would be able to exercise its functions with the following units (Figure 37):

- 1) **Director:** Strategic management:<sup>lxxxv</sup> organizational structure and leadership; ensuring activity planning and management; organizing effective communication; managing human resources; assessing performance.
- 2) **Horizontal Affairs:** International and EU affairs, sustainable development and green economy (synergies with MANRE Admin); project preparation; strategies and programs; budget; funding programs; IT; good governance; awareness raising; EMAS and ECOLABEL; (noise regulation?); environmental liability.
- 3) **Environmental Assessment:** Assessment of impacts from plans, programs and projects; issuing environmental opinions/permits; regulatory impact assessments; appropriate assessments.
- 4) **Climate Action:** Emissions trading; fluorinated greenhouse gases; mitigation and adaptation to climate change; environmental issues from hydrocarbons exploitation.
- 5) **[Air Policy]/ [Environmental Quality?]:** (Air quality policy and monitoring); (noise?); (unit for environmental information/ monitoring/ reporting?).
- 6) **Nature Conservation:** “NATURA 2000” coordination; protected area management; species protection and management; GMOs; invasive alien species; trade in species.
- 7) **Pollution Control:** Water and soil protection policy coordination; permitting; integrated prevention and control of pollution; [air emissions]; nitrates; bathing waters; sludge.
- 8) **Management of Wastes and Products:** Solid and hazardous waste management and permitting (packaging; electrical and electronic; batteries and accumulators; waste tires; end-of-life vehicles; ship recycling); [municipal solid waste?]; waste shipments. (chemicals?).
- 9) **Regulation:** Compliance enforcement (pollution, waste, nature).

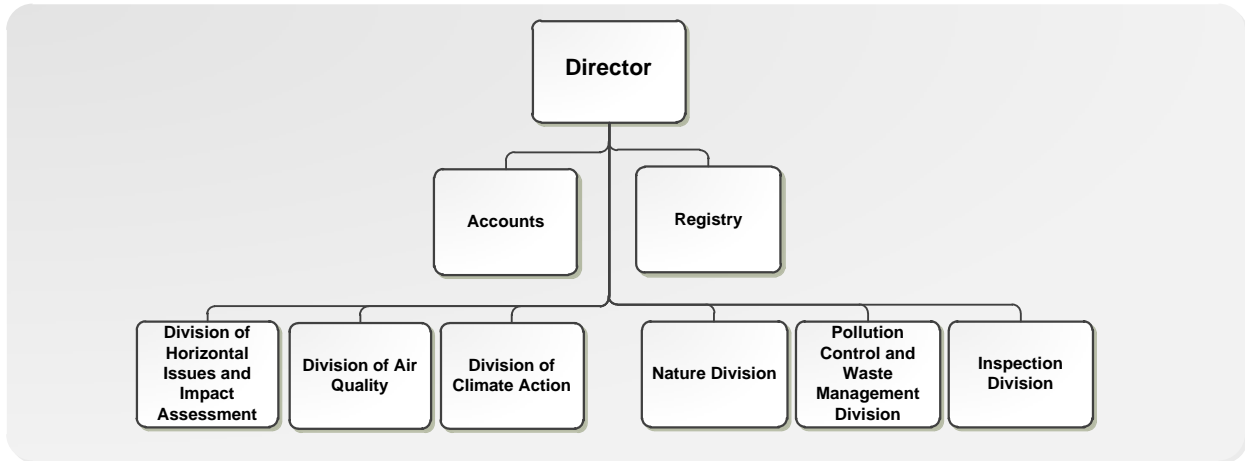
Figure 39: Department of Environment units



389. **Still, owing to the need to ensure internal coordination and synergies, and the necessity for the effective and efficient management of the Department**, it is not advisable to maintain all 8 of the units (plus the attaches in Brussels) as fully independent entities all under the direct command of the Director.

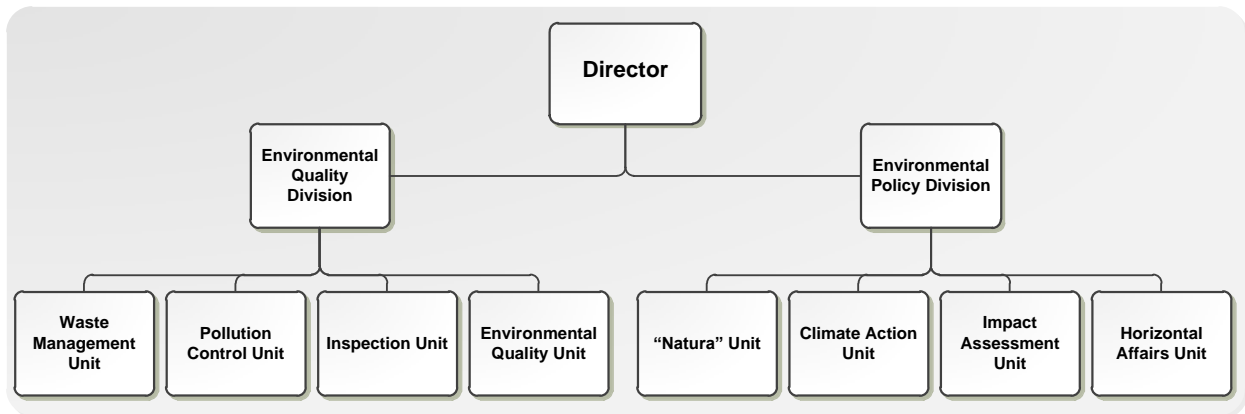
390. **At this stage of the Department’s evolution and to respond to its proposed functions, a sensible option would be to group some of the units** (e.g. Horizontal with Impacts, Pollution with Waste) to form a maximum of 6 Divisions (Figure 37) with 6 Senior Officers (present 4 plus 2 Senior Officers of the units from Labor Inspection if a relevant decision is taken):

**Figure 40: Department of Environment’s intermediate structure**



391. Looking further into the future (e.g. structure and needs is suggested to be reconsidered in approximately 5 years), the 8 units could be grouped into 2 Divisions, an organizational set-up that would necessitate revisiting the Department’s structure of posts<sup>47</sup>:

**Figure 41: Department of Environment structure at full development**



392. Regarding functions/ structures, good practices and coordination/ integration, optimal approaches are mostly universal in nature and broadly applied with various degrees of success in many EU MS, and beyond. However, when it comes to drawing broadly relevant conjectures regarding staffing and costs in the environment sector, other factors enter the picture, such as size and administrative systems. In such cases, country specificity becomes more important. In trying, therefore, to make comparisons on these matters the focus was aimed on countries with characteristics similar to those of Cyprus, which is a small (both in size as well as in population) unitary state with 2 tiers of government (strong central government, weak local government).

393. With the above criteria, a number of countries were excluded from further consideration, be they federal (*Austria, Belgium, Germany*) or devolved (*Italy, Spain, the UK*), large in population and

<sup>47</sup> The GoC has noted that this proposal implies, in practice, the need for the establishment of two new posts of scale A14(ii). Although this is correct under present practices, the suggestion for the structure relates to the (indeterminate) time when the DoE reaches full development. At that time, any posts and their remuneration would be assessed vis a vis the new policies to be put in place following the HRM decisions.

size (*Bulgaria, France, the Netherlands, Portugal, Poland, Romania*), or with 3 or 4 tiers of government and / or strong regional/ local structures (*Croatia, Czech Republic, Denmark, Finland, Greece, Hungary, Ireland, Romania, Slovakia, Sweden*). This has left the rest, unitary, small or relatively small, with two levels of governance: *Estonia, Latvia, Lithuania, Luxembourg, Malta, and Slovenia*. Due to incomplete data and in order to raise the representativeness of the picture, the relatively small in population but with a 3 tier governance system have also been looked up: *Croatia, Denmark, Ireland and Slovakia*).

## Staff

394. **In the environment sector, at least, any benchmarking with other countries (or even between other countries) needs to be approached with caution and not high expectations.** Data available are normally not comparable since they vary depending on what each country/ agency considers as “staff”, institutional competences, staff deployment, regulatory load, the structure of industry, the economy, the extend of protected areas, the separation of powers across administrations, multilevel government structures, etc. As far as it could be ascertained, no such uniform comparative statistics have so far been compiled by Eurostat.

395. **With the above caveat emptor, and aiming at the drawing up of some broad reference points and orders of magnitude, Table 19 has been compiled.** The distribution of core functions in Cyprus being what it is, any inferences would have to be drawn looking not only at the posts/staff available to the DoE per se (58, including secondments), but at the total staff involved in environment- specific matters in 6 agencies (112):

**Table 19: Human resources in environment agencies**

Country	Ministries and Agencies	Staff (no.)	Population (million) (Jan. 2012)
Cyprus	<b>Departments of Environment:</b> 58 / Forests (Forest Parks and Nature Conservation):9/ Fisheries (Marine Environment): 9/ <b>Min. of Interior</b> (Solid Waste): 9/ Game Fund ( Wildlife/ SPAs): 5/ Labor Inspection (Air, pollution, chem., radiation): 22	DoE: 58 Total, 6 Departments: 112	0.86
	Ministry of Environmental and Nature Protection / Department for Environmental Protection and Sustainable Development (93- atmosphere, sea, soil, environmental assessment, industrial pollution, sustainable development) /Directorate for Nature Protection (47- biodiversity and int. cooperation, protected species and areas, use of natural resources) /Directorate for Inspectional Affairs (110- inspection, including nature/ enforcement, IPPC, waste) Environment Agency (information/monitoring, EEA, EIONET) State Institute for Nature Protection (nature management, NATURA 2000)	250 (2012)        40 (2007) 53	
Denmark	Ministry of the Environment (environmental policy, EU and international affairs)	??	
	Environmental Protection Agency (policy/ strategies, programs, action plans) (enforcement)	450	5.56
	Nature Agency (waters, climate, nature, forests) (enforcement) Total: 1.300	??	

Country	Ministries and Agencies	Staff (no.)	Population (million) (Jan. 2012)
Estonia	Ministry of Environment (environmental management, air and radiation, nature conservation)	34	1.34
	Environmental Inspectorate (enforcement of all environmental offenses, exc. 39 in fisheries)	177	
	Environmental Agency (guidance, monitoring, restoration, mines and forestry and hunting regulation, waste, nature protection, pollution permitting) (303)	125 (environment, nature)	
Ireland	Department (Ministry) of Environment, Community and Local Government/ Environment Division (environment, waste, climate, radiation, waste policy, EU, International)	72	4.66
	Environmental Protection Agency (licensing, enforcement, monitoring and assessment)	290	
Latvia	Ministry of Environmental Protection and Regional Development / nature protection, environmental protection	35	2.04
	State Environmental Service (enforcement, wider mandate)	486 (2009)	
	Fund for Nature (financing, awareness- raising)	30	
	Nature Conservation Agency (protection and management)	140	
Lithuania	Ministry of Environment (waste, protected areas, pollution, climate, sustainable development)	??	3.00
	Environmental Protection Agency (information; accreditation; chemicals; supervision of control inst.)(enforcement)	199	
Luxembourg	Ministry of Sustainable Development and Infrastructure / Department of the Environment (policy, enforcement)	30 (2013)	0.52
	Administration for the Environment (monitoring and enforcement, pollution control)	62	
	Administration of Nature and Forestry (policy, enforcement) Total: 380 (2010)	118 (est.) (environment)	
Malta	Ministry for Sustainable Development, the Environment and Climate Change/ (Environmental and Climate Change Directory (in the process of being established).	8	0.42
	Environment and Planning Authority/ Environment (environmental permitting and industry, environmental assessments, ecosystems management, waste, air, radiation and noise) (450)	104 (environment)	
Slovakia	Ministry of Environment [441(2012)] (environmental assessment & management (56); nature (22), programs (180)	258	5.40
	Environmental Agency (impacts, information, planning, advice on environmental policies)	202 (2012)	
	State Nature Conservancy (expert body, NATURA 2000, biodiversity, protected areas (including forest protected areas)	473	
	Environmental Inspectorate (IPPC, waste management, water, air and nature and landscape protection, biosafety)	260(2012)	
Slovenia	Ministry of Agriculture and Environment/ Environment Directorate	n.a.	2.05
	Environmental Agency (inter alia, observation/ permitting-hydrology, seismology, meteorology, environment) Total: 451 (2006)	n.a. (environment)	
	Inspectorate for Agriculture, Forestry, Food and	73 (environment,	

Country	Ministries and Agencies	Staff (no.)	Population (million) (Jan. 2012)
	Environment (enforcement) 227(2012)	nature)	

**Sources:** European Network of the Heads of Environmental Protection Agencies (EPA Network) January 2013; websites, annual budgets, annual reports, establishment decisions and other relevant documents of the agencies involved; personal communications.

396. A generalized comment on the above Table is that, excluding Cyprus, the average number of staff posts of the executive agencies is 193. Almost all MS (perhaps with the exception of *Denmark*) have strong Ministries. In the 7 Ministries where disaggregated data were calculated, there are, on average, 100 people credited to environmental matters. Disaggregated information from some important Ministerial units (*Lithuania, Slovenia*) and agencies (*Danish Nature Agency, Slovenian Environment Agency*) are missing. They would have raised averages. Typically there are 3 units (Ministry, plus 2 agencies) per country, giving an average of about 500 staff posts in governmental/ supervised agencies with environmental functions similar to the ones in the 6 Cyprus agencies (112 posts). Much larger countries have much bigger agencies, e.g. the 3 Environment Agencies in the *UK* have a total of 14,000 employees, the *German* Federal Environment Agency 1,400, *Italy's* ISPRA 1,200, *Poland's* Inspectorate for Environmental Protection 2,500 etc. In all of them, substantial functions are also carried out by regional and district offices and other set ups and local authorities.

321. **The following table focuses on some of the smaller countries, a number of whose agencies have closer relative similarities with the Cyprus set- up and for which confidence in data is better:**

**Table 20: Indicative situation in the smaller EU Member States**

Country	Agencies	Total staff in environment-specific functions	Total pop. (million)	Population/ staff
<b>Cyprus</b>	<b>6</b>	<b>112</b>	<b>0,86</b>	<b>7,678</b>
Estonia	3	336	1,34	3,988
Latvia	4	691	2,04	2,952
Luxembourg	3	210	0,52	2,476
Malta	2	112	0,42	3,750
Croatia	3	343	4,40	12,830
Ireland	2	362	4,66	12,870
Slovakia	4	1013	5,40	5,330

397. **With the limitations pointed out in the previous paragraphs, the Cyprus situation** (either only the Department of Environment or even the total number of the dedicated personnel in the 6 services with environment- specific functions) is found deficient when deductions are made when compared with the, roughly analogous, smaller country administrations in the first part of the table, even in the case of the much smaller Malta. In larger countries, economies of scale and critical masses do, apparently, influence the picture.

398. The recommendations of the Athens Observatory Study<sup>lxxxvi</sup>, ten years ago, were to restructure the then Environment Service and bring its total to approximately 70, adding to the then 18 staff an additional 50 employees, half of them to form a new Inspection Division. The other half would ensure sufficient staff in the other Divisions for such tasks as permitting, record-keeping and registry, general support, inspections for nature and biodiversity. Obligations for horizontal issues and EIA do not appear to have been taken into account. New legislation has also been passed in the meantime (climate, new waste framework, etc.). On the other hand, the study seems to have overestimated the facilities to be permitted and the inspection requirements.



399. Short of carrying out a full, country- specific staffing assessment, it would not be unreasonable to conservatively estimate that the Department’s size with the proposed functions following decisions for consolidation, could be in the order of approximately 100 people, even though more would have been easily justified from Table 20.

400. **Staffing could come from:** 46 current permanent posts (32 DoE, 14 Labor Inspection); 13 casual staff in place; 13 seconded staff in place; 10 (full- time equivalent) inspectors under purchased services; and 18 additional posts. The latter number is small and manageable enough and it is reasonably expected that the needs could be covered, (temporarily taking into account current government policy) by secondments. This time, however, the selection process would need to be much more well- structured (including through circulating the opportunity and the qualifications required, interviews, exams etc.), primarily serving the needs and requirements of the Department. The permanent integration of the various posts categories within the Department and in its revised structure will become an unavoidable necessity in the not very distant future, in order to prevent current management dysfunctions become uncontrollable and counterproductive. When government policy and economic circumstances allow, it would be, therefore, advisable as well as necessary to replace the casual (13), seconded (13+ 18), and outsourced ones (10) with permanent posts under the DoE’s formal structure. With regards to the latter, although purchasing inspection services has its positive aspects (e.g. covering gaps in staff numbers, testing competences, lower costs), such an arrangement is not free of problems: the inspectors cover permanent needs in one of the core obligations of the Department; the need to productively utilize them leads to over- inspection; private individuals with no actual prior experience are paid to acquire valuable on- the- job knowledge to be lost when they find other, more permanent and stable employment, etc.

401. **Clerical personnel would be required for the administrative and accounting services.** Although the needs require special examination from the Public Administration and Personnel Department, it is not expected that they would be substantial (another 2?). Note that currently there are 8 supporting staff.

402. **The hierarchical structure of the posts would have to be decided based on current practices and procedures** and following relevant changes that could be adopted by Government following its policy for the interchange of staff, the study on cross- sectoral issues, etc. Staff concerns would have to be addressed.

### **Skills**

403. **No specific discipline can lay claim to “ownership” of environmental issues.** Appropriate competences extend beyond scientific- technical and engineering ones, to such disciplines or skills in: economics, law, quality assurance, risk assessment, negotiation and conflict resolution, laws & institutions, policy development, finance, strategic planning, change management, communication, human resources management, project cycle management, e-Government, impact assessment, etc. Therefore, it could be reasonably be pointed out that good environmental administration requires a broad range of basic mainstream disciplines enhanced by additional education and the development of professional skills.

404. **For example, the outcome of an exercise for an “Environmental Management Skill Set”<sup>lxxxvii</sup>** through a number of workshops attended by various professionals, was that an environmental engineer’s responsibilities require skill sets of an engineer/scientist 28- 45 % of the time and business manager skill sets 71- 55 % of the time.

405. **The Department’s schemes of service do require the staff to carry out duties relating to** planning, organizing, coordinating, supervising, research, development of standards, monitoring, preparation and implementation of programs, outreach, management, impacts assessment, information, awareness- raising, etc. The academic qualifications required do cover a considerable range of technical and scientific skills, such as almost all categories of engineering, environmental studies, economics,

environmental economics, or environmental law. Some of them, are not considered to be particularly required if compared with the Department's functions, such as those on natural resources management, town planning, architecture, agronomy, topography, biochemistry, meteorology, physics, chemistry or some engineering branches such as civil, electrical or mechanical engineering,

406. **There is, therefore, a need to reconsider the mix of qualifications required**, on the one hand removing those technical qualifications that have by now proven not to be necessary and on the other adding management and communications ones.

407. **As regards to training and capacity-building needs, no comprehensive evaluation of needs has been identified.** An in-depth study is suggested to be undertaken as regards the training requirements necessary to allow people to better respond to the demands of the environmental *acquis* and to develop systematic and targeted learning and development programs to build up skills and other human capacity and retrain seconded staff. Inter alia, the need for capacity building in funds administration has already been pointed out (paragraph 366). Other areas of concern appear to be the ones for strategic planning and sustainability/ regulatory impact assessment.

### Costs

408. **For the similar limitations presented with regards to structure and staff, one should also be cautious when addressing operation costs and attempting to make comparisons at the micro- level with other EU member state bodies.** Differences are many and wide. In addition, available data are scarce and very general, and it has proven to be impossible to identify, for singular agencies, costs breakdown between operation and implementation/ projects or between the purely environmental and the other sectors/ activities.

409. **Meaningful comparisons can, on the other hand, be made on a country level, through the environmental statistics of Eurostat<sup>lxxxviii</sup>** whose coverage is uniform, using common terminologies. The following two tables have been extracted from broader Eurostat tables covering current expenditure for environmental protection by the public sector:<sup>lxxxix</sup>

**Table 21: General Government total current environmental protection expenditure - % of GDP**

	2009	2010	2011
EU (27 countries)	0.46 <sup>(s)</sup>	0.46 <sup>(s)</sup>	0.43 <sup>(s)</sup>
Estonia	0.07	0.08	:
Latvia	0.5	0.47	:
Lithuania	0.38	0.39	:
Luxembourg	0.69	0.66	0.68
Malta	0.97	1.12	1.09
Slovenia	0.12	0.13	:
Croatia	0.02	0.02	0.06
Denmark	0.46 (2008)	:	:
Ireland	:	:	:
Slovakia	0.24	0.24	0.24

:=not available s=Eurostat estimate.

**Table 22: General Government total current environmental protection expenditure - EUR per capita**

	2009	2010	2011
EU (27 countries)	107.9s	112,9s	108,59s
Estonia	7.41	8.81	:
Latvia	40.54	37.84	:
Lithuania	30.23	32,03	:
Luxembourg	507.08	526.28	566.67

Malta	140.67	170.17	171.33
Slovenia	21.16	23.01	:
Croatia	1.81	2.16	6.19
Denmark	197.17 (2008)	:	:
Ireland	:	:	:
Slovakia	27.54	28.74	31.21

:=not available s= Eurostat estimate.

410. According to a relevant Cyprus survey for the environmental expenditure by the public sector in 2010<sup>xc</sup>, the total current environmental expenditure were EUR 62,3 million, representing 0.36% of the GDP or EUR 74 per capita. In both parameters, Cyprus compares generally well with newer MS, but is way behind Luxembourg (0.66% and €527 respectively), Malta (1.12%, EUR 170) and Denmark (0.46, EUR 197) and below the EU 27 estimated averages (0.46%, EUR 113).

411. It is noted that, in 2013, the DoE's current expenditure were EUR 2.24 million, mere fractions of the reported overall 2010<sup>48</sup> Cyprus current environmental expenditure (3.6%) and the GDP (0.013%), and less than EUR 3 per capita. Obviously, the data were heavily skewed by the inclusion of larger, more established Departments (Forests, Water Development, Ministry of Interior), doing their traditional forestry, water and municipal waste management roles.

412. To provide an indication of the potential additional expenditure which might incur should a present decision to adopt the staffing component of this Section (paras 379-387) is followed later on by the establishment of permanent posts, the following Table 23 has been prepared:

**Table 23: Rough estimate of the annual costs (EUR) of the new structure in case the adoption of the staff recommendations is later followed up with the establishment of permanent posts**

Staff posts	Cost (present rates)	Savings	Incremental cost
32 permanent posts, existing (DoE)	-----	-----	-----
14 permanent posts, existing (Labor Inspection)	-----	-----	-----
13 Officers, new, (A8)	EUR 310,000	Abolition of provision for 13 casual staff <sup>49</sup> (EUR 262.000)	EUR 50,000
6 Officers, new, (1 A13, 2 A11, 3 A8) 7 Technicians, new, (6 A7, 1 A2)	Permanent transfer/ equivalent posts	Abolition of posts of seconded staff	-----
14 Officers, new (A8) 14 Technicians, new, (A2, A2+)	EUR 500,000	Abolition of provision for purchased services of 10 (full- time equivalent) inspectors (EUR100,000)	EUR 400,000/ Nil if secondments
2(?) Clerical, new, (A2)	EUR 29,000	-----	EUR 29,000/ Nil if secondments
Incremental current	EUR 65,000 <sup>50</sup>	-----	EUR 65,000/ Nil if

<sup>48</sup> Latest official figures available

<sup>49</sup> 2 hourly paid posts excluded (auxiliary staff).

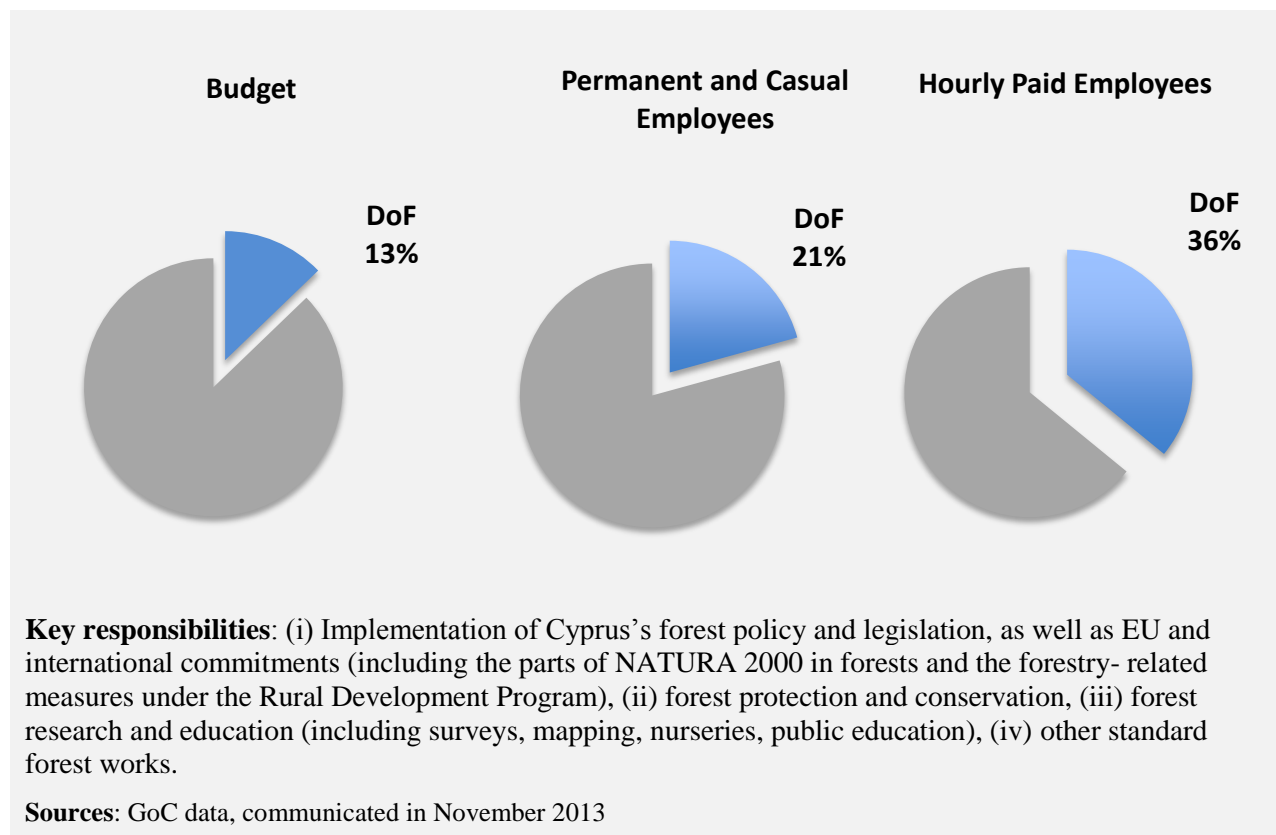
<sup>50</sup> Total current EUR 205,000 (2013 Budget) divided by 68 people physically in place (27 permanent, 13 casual, 7 outsourced, 13 seconded, 8 supporting) = EUR 3.015/ post. Excluding the 14 from Labor Inspection (equivalent savings in their present Department, and 7 of the inspectors offering services (facilities provided by the DoE), 21 new persons would bring an annual increase of approx. €65.000 in the current costs (operation/ maintenance, etc.) or no cost if the posts are covered by secondments (also equivalent savings).

expenditure (excluding salaries)	secondments
Posts Restructuring?	<p>Altogether, the proposal would result to a total of 30 Technicians (9 permanent, 7 seconded, 14 new), a number that merits a study to move from a flat to a hierarchical post structure.</p> <p>With regards to the Officers, it is not anticipated that new posts would be required at this stage, considering the salary scales of the Officers from Labor Inspection and of some of the seconded staff.</p>

413. **In a (present) scenario with full secondments, the total annual incremental costs are expected to be around EUR 50,000.** With (future) full replacement of all posts with permanent ones, it would rise to approximately EUR 550,000. In both cases, there may be a potential increase due to the need to secure a better structuring to the Technicians posts. In the first case, there would not be any actual change in the percentages regarding GDP and cost per capita. In the second, there would be slight rises in already low figures (from 0.013% GDP to 0.016) and from EUR 2.6 per capita to EUR 3.25.

414. **With regards to the measures/ initiatives for good governance and coordination/ integration, their cost in monetary terms is not expected to be significant.** The Department would not have to devote considerable resources to review the proposed measures and take appropriate action. The consideration of almost all of them would only require spending some in-house administrative time (staff time) to draw from the accumulated knowledge, know-how and good practices of other EU members. Such information is readily accessible, and many member states would be willing to make their experience available. A couple of issues for which more specialized knowledge might be required (Environment Code, market instruments) will not entail much input time since the source material is mostly in place. Assigning such studies to outside advisers would not require more than EUR 80,000, approximately. In the DoE's 2013 Budget, a sum of EUR 460,000 was approved for the purchase of consultants' services. Therefore, the incremental cost would not be disproportional to what is already commonly practiced. Against this, their positive contribution, once properly designed and utilized, is self-evident. The capacity-building assistance program to the local authorities and the training program for the staff would involve costs that cannot be calculated at this stage, before the identification of needs.

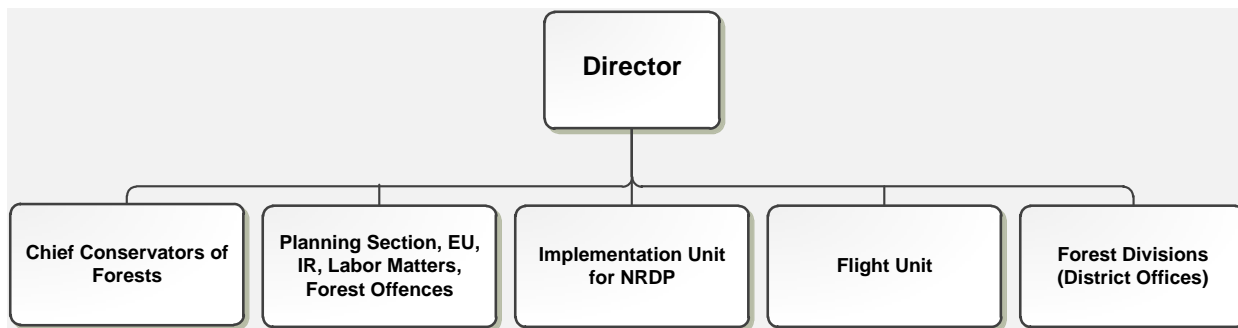
## 2.9 Forestry Department



### Status quo: Diagnostic

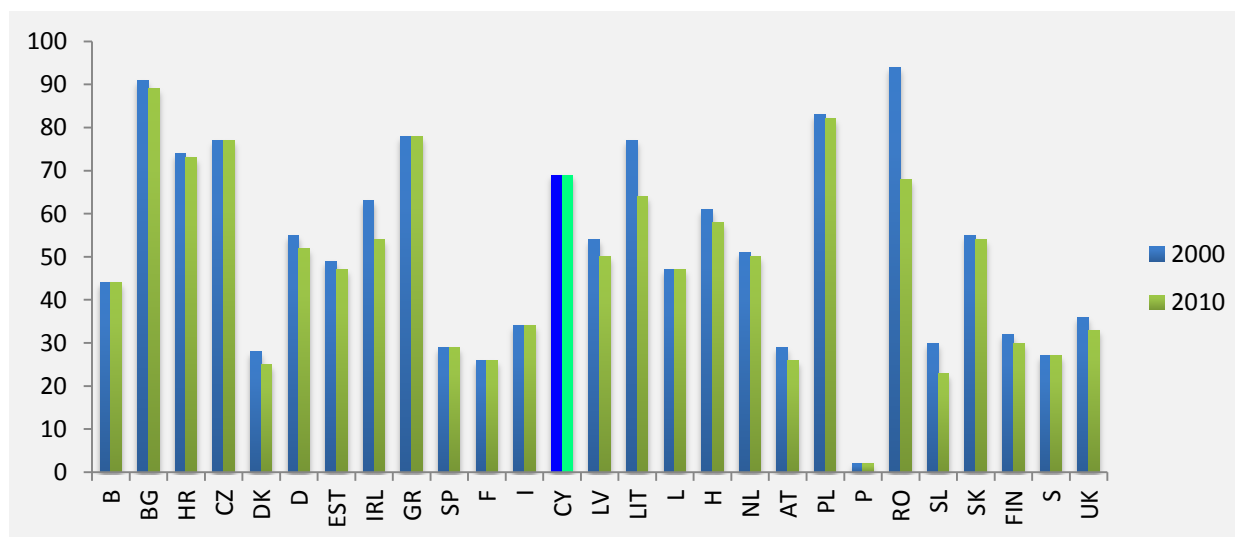
415. **The Forestry Department (DoF) is responsible for formulating and implementing the forest management policy and programs in Cyprus.** The DoF has historically also been responsible for forestry education provided for more than 6 decades by the Forestry College, at Troodos. However, the College may be in the process of being phased out: the Council of Ministers has decided to stop taking up new students, whereas the Cyprus University of Technology (CUT) considers the potentials for offering a bachelor’s program for forestry studies. The Government’s position on the issue has been that the future of the Forestry College remains to be decided by the Council of Ministers. The DoF follows a dual role: (i) while functioning as a state forest authority, it implements not only national legislation, but also international and EU commitments; and (ii) managing and protecting the state forests estate.

Figure 42: Organizational chart of the Forestry Department



416. **Under the umbrella of promoting sustainable forest practices, the competencies of the DoF cover the protection of both public and private forests.** The ratio between public- and private-owned forestland within the EU-28 is on average 40% to 60%, with the tendency to strengthen private-owned forests (Figure 42). In Cyprus, 69% of the forest area falls under public ownership and only 31% are privately managed. There are no changes over the last decade. The share of private forestry is not as relevant to the situation in Cyprus (like in the Mediterranean region), as forest provide more environmental and social, and less economic functions. While the enforcement of forest legislation and implementation of the state’s forest policy belong to the main responsibilities of the DoF, it is the competence of forest protection; above all against forest fires and preventing illegal felling that take a core role within the DoF. This is also expressed in monetary terms, as one third of the department’s total budget resources is allocated to fire protection.

Figure 43: Publicly owned forests within the EU



Source: Communication by the European Commission on the New EU Forest Strategy, 2013

417. **The political weight of the DoF does not correlate with the share of forest area used in Cyprus for wood supply.** The average forest and other wooded area in the EU-28 accounts for over 40% of the total area within the European Union, which falls in line with the share of 41.7% in Cyprus. 18.7% of the land cover of Cyprus is covered by forests and 23% is other wooded land, of which 15% are high shrubs (Maquis) and 8% are low shrubs (Phrygana). While the average share of forests available for wood supply in the EU-27 is 75%, Cyprus ranks the lowest within the EU with a share of just 11%. With a share of 16.1%, Cyprus also ranks last in the EU (average 49.1%) as regards to wood and wood waste used for the production of renewable energy. On the other hand, the DoF is – after the Water

Development Department - the second most important department within MANRE as regards to allocated budget and also ranks second as regards to permanent staff. After one third of the DoF budget is allocated to fighting of forest fires, the responsibility of roadside plantations and other greenery in public spaces are the fourth highest expenditure within the department (8%) after forest protection, forest recreation and infrastructure. While the total budget of DoF in 2013 is set at Euro 33.6 million, it has been cut by 12.6% in comparison to the previous year and by 22.3% compared to 2011.

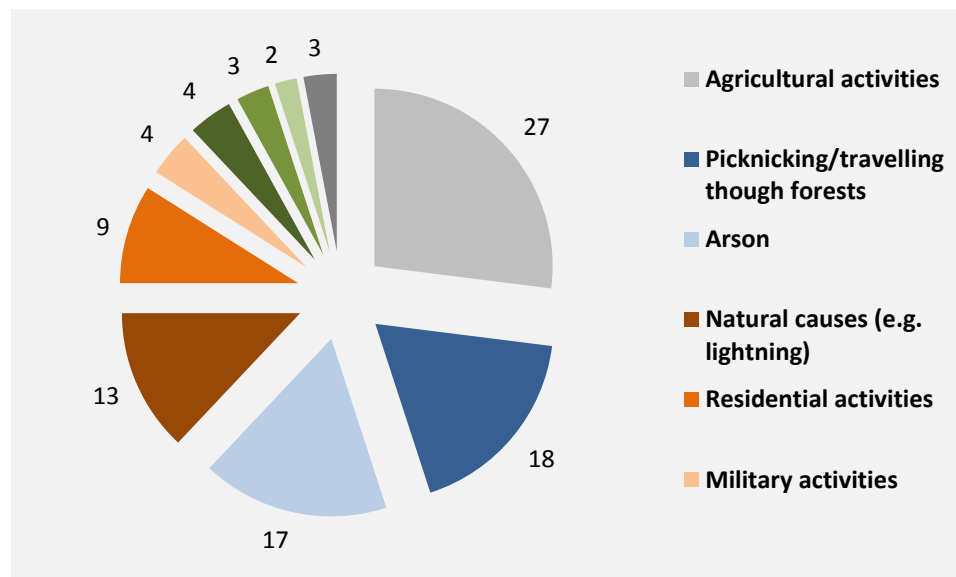
418. **The importance of forest fire fighting is not only expressed by the allocated budget, but also by the number of permanent and seasonal staff involved in firefighting within the DoF.** The Forestry Department has 309 forest officers, a fire squad of 466, of which 388 are seasonal staff, and 461 other laborers (381 seasonal) involved in firefighting. In addition, the DoF has 43 large fire engines, 39 small fire engines, 13 bulldozers, and 2 light single engine planes to be used for firefighting.

419. **Fighting fires involve many players within Cyprus going beyond the DoF and the competent authorities depend on the territory of the fire.** The DoF is not only responsible for fires within the state forests, but also a 2km buffer zone outside these forests. For all other rural areas and inhabited areas, the fire brigade, which belongs to the Police under the jurisdiction of the Ministry of Justice, is taking the lead in firefighting. The area being monitored (observation towers and patrols) by the DoF, which is also the area under which the DoF has the leading competence in firefighting, accumulates to 53% of Cyprus (area under government control). In addition to these competent authorities, the District Offices of the Ministry of Interior, the Police, the Game Fund of the Ministry of Interior, the National Guard, and the Civil Defense are also involved in firefighting. There are written procedures in place and a contingency plan that draw the line in responsibilities. When necessary, the support of the British Bases in Cyprus is also made use of.

420. **The staff of the Fire Service consists of 638 permanent employees and 120 seasonal workers; the latter recruited over a 6-month period from May until October.** In the cities, the fire brigade has 16 fire stations, which are staffed with the permanent employees. While the Fire Service also has 16 fire stations in rural Cyprus, these are mainly staffed with seasonal workers during the fire season. Every fire station is equipped with 2 fire pumps, 4 water tankers including a pump, one rescue vehicle. All fire stations also have 40 rapid intervention vehicles in use and 2 helicopters, which have three times the water capacity of the National Guard's helicopters. These helicopters are provided during the season by the Ministry of Interior, which rents them through tendering from a private company. The ratio between permanent and seasonal staff in the rural fire stations is 1 to 8. The seasonal staff only works from 8 am until 7 pm, which means that fire outbreaks during the night have to be managed by the permanent staff of the city fire stations. While the response time after fire outbreaks within the cities lies between 3-5 minutes, it requires more than 15 minutes in the rural areas. According to the DoF, in most cases, the fire squad of the DoF is at the scene before the fire brigade appears.

421. **Over the past years, the number of overall fire outbreaks has continuously increased in Cyprus.** Based on the statistics provided by the Fire Service, there have been on average 188 fires per year in Cyprus in the last decade, which mainly occur during the season of May until October. The main cause (77%) for fire outbreaks come from the agriculture, that is burning of straw which goes uncontrolled and tree cuttings. The second biggest source of fires derives from cigarettes (6%) followed by burning of trash at landfills. Considering the outbreak causes of "forest fires" (see Figure 42), agriculture still plays the most important role, while not as important as in rural Cyprus.

**Figure 44: Causes of forest fires in Cyprus** (% of total, annual average over 2000-12)



422. **Most fires in Cyprus occur near inhabited areas, while forest fires as a source for overall fires play a less important role.** Still, forest fires are more important, as they are potentially more destructive and their number is kept at this level because of effective application of a range of prevention measures by the DoF like law enforcement, public awareness, patrolling, and better infrastructure. Until 2011, the borderline outside forests falling under the jurisdiction of the DoF was just 1km. While only 12% of the fires are within forests and another 19% of the fires had been within the 1 km belt around the forests, the expansion of the competence of the DoF with the 2 km borderline in 2012 led to a reduction in burned area due to quick intervention of the fire-fighting force with an average response time of 12 minutes. The statistics of the fire season 2013 shows that the number of forest fires increased in comparison to the average 2000-12, but the average burnt area has decreased to approximately one tenth of the reference period. The DoF has been able to broaden their area without adding to the staff, but required more fuel and overtime. While additional overtime was required, the forest officers were compensated with time-off instead of pressuring the budget. The DoF provides support in firefighting within rural areas. The share of participations by the DoF in rural fires increased from 33% in 2000 to over 90% in 2012.

423. **Besides forest protection, an important function of the DoF is nature conservation and landscape protection.** The DoF is responsible for the management / monitoring of NATURA 2000 areas within state forests. 75% of the NATURA 2000 (SCI and SPA) area is situated within the forests of Cyprus. Falling under other measures of nature conservation, the DoF is also responsible for national forest parks and nature reserves. As discussed more in detail under in Section 2.8, the DoE is responsible for the broader policy aspects of NATURA 2000 and also is the liaison to the European Commission in this regard, the DoF and DoE have an agreement that the DoF manages and monitors the sites that fall under its jurisdiction.

424. **The Game Fund Service operating under the umbrella of the Ministry of Interior (MoI) is also involved in the management of NATURA 2000 areas.** In addition, the Game Fund provides support in monitoring and fighting of fires in both areas falling under the jurisdiction of the DoF and the Fire Service. Their expertise in patrolling and observing has proven to be an additional asset. There is coordination between the Game Fund and the Fire Service as regards to the areas being patrolled. The Council of Ministers had decided this year to increase the quota of seasonal workers (paid by government funds) from 120 to 142. The actual number of seasonal workers totals of 138 seasonal workers is budget neutral, as the salary scales have been reduced from E6 to the E4 level.



425. **The Game Fund practices constant patrolling functions, not only regarding fires but mainly because of poaching.** Poaching is a severe problem in Cyprus and daily the Game Fund catches 2-3 poachers. As the sanctions for poaching imposed by the courts are not prohibitively high, there have been no changes in the habits. The total staff of the Game Fund totals 229, of which 3% are located at the MoI and the rest (of which 138 seasonal workers) are operating from the 4 district offices in Paphos, Limassol, Nicosia and as a recently merged district of Larnaca and Famagusta.

426. **Next to the management of NATURA 2000 sites as well as other forest protected areas and parks, the DoF is involved in the policy design and implementation of all forestry-related measures within the NRDP.** As a common practice within most EU Member States, the know-how of the DoF is also used in MANRE to take the lead on designing the forestry-related measures with the National Rural Development Plan (e.g. afforestation, establishment of agri-forestry systems, reforestation after forest fires, and maintenance and improvement of the socio-economic role of forests) and therefore collaborates with the DoA. While the national paying agency CAPO is responsible for the execution and accounting of forest-related measure payments, the DoF provides its expertise in dealing with the authorization of payments. The technical controls (on-the-spot controls) of these specific forest-related measures take place in conjunction between the DoF and CAPO.

427. **The organizational structure of the DoF respects both policy establishment and enforcement of forest legislation on central level and implementation of forest policy on regional level.** There are 300 forest officials and 30 professional staff (e.g. graduates), of which some are vacant positions. The DoF considers changing the ratio in favor of university graduates. The Public Administration and Personnel Department of the Ministry of Finance established a staffing study in 2008, but strengthening the number of employees was not possible due to a hiring-freeze.

428. **The DoF has 3 forest divisions in Paphos, Troodos, and in Nicosia, Larnaca and Famagusta.** While the Nicosia Forest Division has 45 forest officials, 33 permanent laborers and 246 seasonal workers, while all divisions encompass 151 officials, 104 permanent laborers and 684 seasonal workers. The three forest divisions are responsible for the implementation and enforcement of the Forest Law, the forest protection against forest fires and against biotic agents, protection and enhancement of biodiversity, afforestation, reforestation, restoration of degraded lands, silvicultural tending of forest stands, recreational services and environmental and forestry education to the public, production and marketing of timber and other forest products as well as of forest reproductive material. In addition, the forest divisions deal with the implementation of the roadside plantations. Originally, the responsibility of roadside plantations fell under the Ministry of Communication and Works and was transferred to MANRE, as the DoF had know-how in trees being used. Today, the function is reduced to maintenance and still requires 8% of the DoF budget.

429. **The DoF provides services from which revenues are obtained, like leasing of state forestland (e.g. for hotel rentals).** These additional revenues could compensate the higher budget of DoF, but instead go back to the central budget. Furthermore, the DoF are considering introducing fees for a number of applications and services provided, after consulting the Ministry of Finance.

430. **Handling of forestland matters including surveys, mapping, GIS and remote sensing belong also to the activities of the DoF.** The satellite images are provided by CAPO and used for reporting in NATURA 2000 issues. For remote sensing activities, the DoF has an own unit in which only one permanent staff is posted, partly assisted by a second. While this remote sensing unit historically was set up to cover all of MANRE's GIS/remote sensing services, these services have been fragmented within the Ministry. Currently, the Water Development Department, CAPO, AIO, the Meteorology Department and the Geological Surveys Department also possess GIS/remote sensing capacities.

431. **According to the Forest Law, the uprooting or felling of any forest tree or shrub grown in any state of private property is permitted only upon the issue of a license by the Director in accordance with the provisions of the law.** The owner of such a tree or shrub has to submit an

application to the Director providing besides other information relevant to the reasons for the felling or uprooting. The Director after investigating each case, may grant or not the permission. According to these legal provisions, the transportation of the felled timber is also only permitted upon the issue of a license by the Director. The Forest Law should be enforced by the DoF, but in practice it shows that tree felling's on private properties lack adequate inspections and prosecution of the law takes place, when trees are transported.

## **Reform Options**

432. **Considering that the number of fires has increased over the last years, policy changes should be considered that focus more on fire prevention.** Before making recommendations on administrative efficiency-gains in firefighting, the prevention of fires should be addressed with highest priority. More than 3 out 4 rural fires derive from burning of straw, which in fact is regulated by national law. Also, the number one cause of forest fires (27%) comes from agricultural activities. The law demands that permission has to be requested and granted to be able to burn agricultural residues (e.g. straw, branch-cuttings in vineyards). In addition, the law foresees sanctions, when committing an infringement. While sanctions should be effective, proportionate and dissuasive, the negligence in the implementation respectively the prosecution of the law on straw burning in agriculture has had no recognizable impact. Comparable deficiencies in the execution of existing laws are limiting the efforts to reduce poaching in Cyprus. While only responsible for 4% of the fires in Cyprus, the fires deriving from landfills for easier access to metals, is another example of how by means of preventive measures (e.g. prosecuting the law on landfills) at the scene of the outbreak can reduce the number of incidences substantially.

433. **Making use of existing observatory structures on fire outbreaks needs to be weighed against changes in the territorial jurisdiction of the competent authorities.** Even though the expansion of the territorial jurisdiction from 1 to 2 km borderline outside forests has helped reduce both the number of forest fires and the average burnt area by making use of the existing observation towers and patrols, careful consideration is needed towards an option that would involve broadening the territorial jurisdiction of the DoF. This needs to be judged against strengthening the rural fire stations of the fire brigade, as during the fire season these stations should be staffed 24 hours a day, 7 days a week and not just during the daytime. If broadening of the territorial jurisdiction would receive more thought, one might consider including the area of the agricultural unproductive brush (maquis) vegetation which is adjacent to the area controlled by the DoF into the territorial boundaries/ control of the DoF. This should be negotiated with the Fire Service, especially in those regions, where the rural fire stations are located near the existing boarder of the territory managed by the DoF. Transferring the complete territory of the rural areas under the jurisdiction of the DoF will not lead to efficiency gains, as this would require additional resources, especially additions in staffing. In addition, the latter option would require extensive consultations and detailed analysis, so as not to introduce serious dysfunctions in a system in which the only dysfunction pointed out is the weakness of the Fire Service to react very fast in rural areas (a problem aimed to be addressed by strengthening its capacity with, e.g., new fire stations.)

434. **Simplifications in procedures should be given higher consideration than discussions on competencies and changes in the firefighting fleet.** While all players involved in firefighting hail the existing written procedures in firefighting, it seems that the response time from the individual authorities have prevailed in recent years. The fleet of firefighting vehicles and airplanes/helicopters by three independent authorities DoF, District Officers/ Game Fund and the Fire Service could use further review, as to find better strategic coordination in their application. At this time, no arguments justify changing the firefighting "flying" vehicles used as both the airplanes belonging to the DoF and the rented helicopters provided by the Ministry of Interior to the Fire Service of the Ministry of Justice have their both advantages. Regarding the latter, it might be considered to change the historical tradition of renting the helicopters by the MoI and transferring this competence to the MoJ. As regards to simplifications in

procedures and improving the efficiency regarding the fire-fighting “air fleet”, the establishment of a study should be considered.

435. **The jurisdiction and allocation of some functions in the NATURA 2000 competency should be further reviewed.** As the Game Fund shares comparable competencies (e.g. patrolling) in fire-fighting and nature protection within state forests, options should be considered, as to move the Game Fund closer under the umbrella of MANRE. As also discussed in Section 2.8, among reform options for the Department of Environment, there are various options for improving linkages/ coordination between the Game Fund and MANRE, ranging from streamlining and integrating (including possible transfers) its nature protection activities with/to DoE and/ or DoF to bringing the Game Fund fully under the umbrella of MANRE. This could also be done sequentially, i.e. moving first the Game Fund under the jurisdiction of MANRE, and considering better integration of the GF’s functions and resources with other departments of MANRE, including the DoF (see also Figure 20).

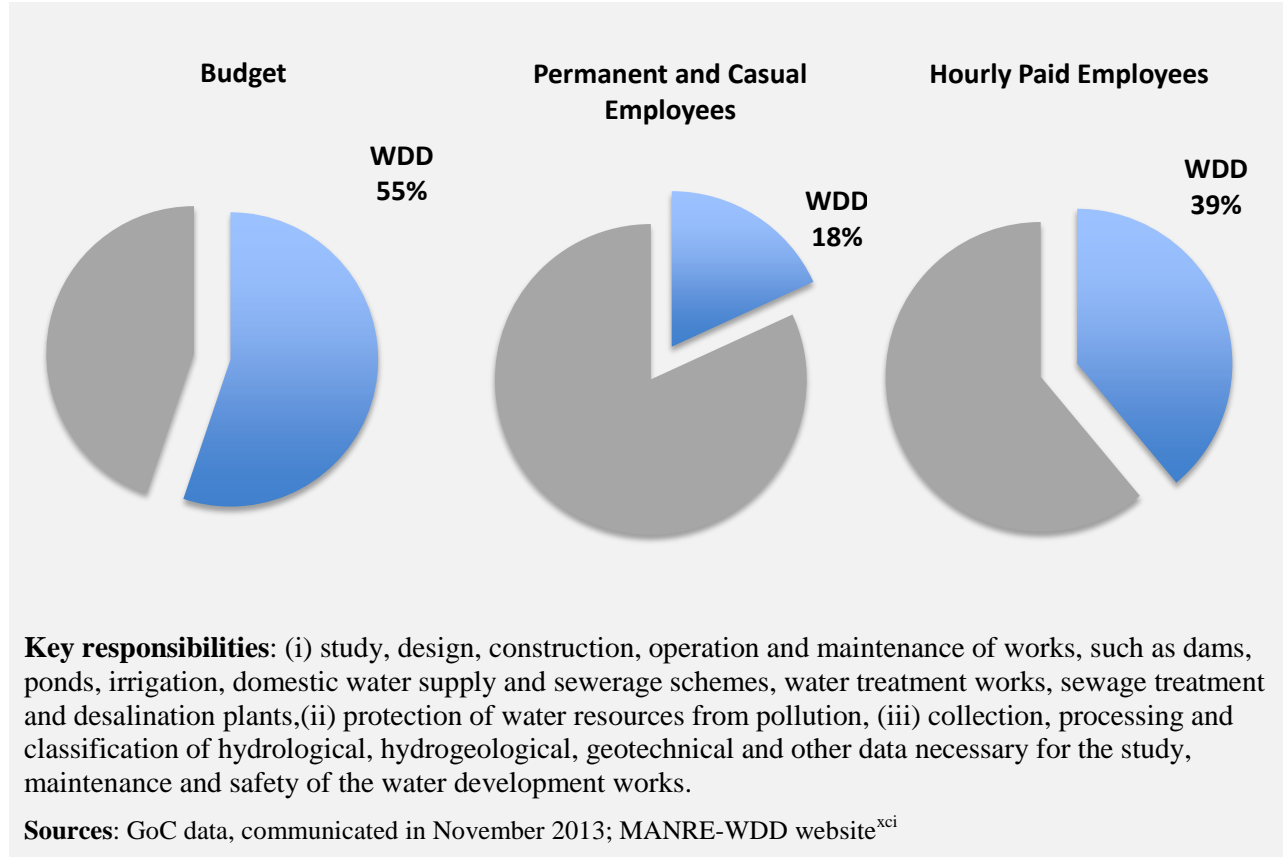
436. **Partial transfer of the competence of roadside plantations can provide efficiency gains.** While the DoF received the jurisdiction of roadside plantations from the Ministry of Communication and Works at a time when plantations were still prevailing, now it might be recommendable to move part of this competence, as the function is mainly reduced to maintenance. Especially considering that this function is both putting pressure on DoF’s budget (second highest budget line within the department) and also the staff involved, an option of transferring this responsibility to the local authorities should be considered as regards to the plantations within the municipalities (green areas) and just outside the municipalities (roads surrounding).

437. **As the function of remote sensing has suffered from fragmentation, further review is recommendable, as to prevent duplication and improve efficiency.** While the use of real life imaging in fire-fighting provides many arguments for consideration, it has to be questioned that numerous departments within MANRE as well as CAPO and AIO deal with or make use of GIS/remote sensing services. Further assessment should show if synergies exist and if merging these activities could lead to administrative savings. Ideally, it should be considered to establish a horizontal unit providing remote sensing / GIS services to all other departments within and outside of MANRE. Therefore, the idea of strengthening the existing project within the Lands and Surveys department of the Ministry of Interior provides many arguments for consideration. To get a better feel for the existing GIS technologies and the requirements of each individual department within and outside MANRE, a follow up study would be recommendable before considering merging the independent functions.

438. **Regarding the government’s plans for the Forestry College, this issue clearly relates to state policy and ongoing processes in place.** As of now, it appears that neither College abolishment nor establishing a forestry department/ course at the University have been decided conclusively. It may be that forestry education will eventually be incorporated into the curriculum of the CUT when the economic outlook becomes more favorable and that the College may no longer be needed for the purposes it was initially established. Producing foresters/ technicians at very high costs that are no longer required by the DoF is not effective. The DoF reports that it can now draw from a large pool of unemployed graduates and that it aims for a change in staff balance by, inter alia, reducing the technicians.

439. If there is time for the consideration of additional steps, then, without compromising policy processes in place relating to the future of academic forestry education in Cyprus, **it may also be useful to study ways to exploit the niche offered by the College (location, infrastructure, equipment, educational material, perhaps staff, long- standing relations with the local communities).** For example, the College may have a new role to play in the government sustainable development process, be it for environmental education (perhaps within the context of the Ministry of Education’s programs), NATURA 2000 management (awareness- raising and information), having a role in the broader process for the development of the Troodos region, etc.

## 2.10 Water Development Department



### Status quo: Diagnostics

#### Water management challenges

440. **Cyprus is a dry country, which is becoming hotter and drier due to climate change.** Management of water is, and has always been, crucial to economic development and human well-being in Cyprus. Therefore the Water Development Department (WDD) was established already in 1896 as a Section of the Public Works Department, with responsibility for domestic water supply and irrigation<sup>xcii</sup>.

441. **Cyprus faces key water management challenges.** These include:

- *Water supply is scarce.* According to academic literature, one considers a country to have water stress if its freshwater availability per capita is less than 1,700 m<sup>3</sup> per year and water scarce if it is less than 1,000 m<sup>3</sup> per year<sup>xciii</sup>. The value for Cyprus is 699 m<sup>3</sup> per year<sup>xciv</sup>
- *Increasing water demand.* There is a constant increase (2%) in the annual demand for water which causes severe water scarcity and compromises all productive sectors of the economy.<sup>xcv</sup> A water pricing policy exists, but as farmers generally pump water outside the regulated system, this does not have any incentive effect for approximately 65 percent of the agricultural water consumption
- *Ground water abstraction.* Today, some boreholes are not registered, among the registered boreholes many do not have a license and thus abstraction cannot be controlled. The Government has proposed a bill which would legalize boreholes and provide for permitting and control. This

bill has been approved but a grace period has been provided by the House of Representatives. This grace period has been extended at least once. It is now due to expire in December 2013. Even if the bill is allowed to enter into force, implementation and enforcement will be a challenge

- *Limited effect of water pricing on demand* A water pricing policy has been proposed by WDD entitled “Billing and cost recovery mechanisms of Water Services Regulations 2011” but not yet enacted. Furthermore, as mentioned above many farmers pump water outside the regulated system. As a result the effect of pricing policies will remain limited until both the provisions for registration and licensing of water abstraction are fully enforced and the water pricing regulation is approved and enforced.
- *Water quality.* In the coastal areas, saline intrusion threatens groundwater aquifers and in some areas the quality has severely deteriorated due to over-abstraction and intrusion of saline waters<sup>51</sup>. Furthermore, diffuse pollutions by nitrates, phosphorus and pesticides are significant and affect the country's water quality<sup>xcvi</sup>. Compliance with the urban wastewater treatment directive (UWWTD) has not yet been achieved and point sources contribute to pollution of surface and coastal waters. Finally, there is pollution from a large number of closed, but not yet rehabilitated waste dumps.
- *Climate Change will continue to exacerbate scarcity and quality issues.* According to the meteorological service significant decline in annual rainfall (-9percent) and a rise in average temperature (+0.5°C) have been observed during the period 1991-2009 compared to the period 1961-1990.<sup>xcvii</sup> The same source expects that by 2030 precipitation will decrease by 10 to 15 percent and temperature will increase by 1.0°C to 1.5°C compared to the period 1961-1990. This implies decreases in run-off which will be significantly larger than 10 to 15 percent. Already today it is observed that the annual “harvest” of water in the dams of the Southern Conveyor Project is significantly less than the design parameters<sup>52</sup>.
- *Water supply in small communities is being subsidized in non-transparent ways.* Many small communities are supplied with water from own boreholes using distribution networks constructed by WDD. The subsidy occurs in three ways: 1) Communities do not (yet) pay for the raw water. This contravenes both the Water Framework Directive and government policy on water resources; 2) Enforcement of tap water quality regulation is not stringent enabling many small communities to supply water with only basic treatment (chlorination) that is not in compliance with tap water quality norms; 3) The capital expenditure for infrastructure is paid by the State (WDD) and the infrastructure is provided for free. Regional development policies may suggest subsidies to remote areas, but the structure of water subsidies is not transparent and does neither include incentives to manage the resource in an efficient manner, nor does it ensure that healthy water is available.

### ***Legal and institutional framework***

442. **Water resources management and pollution control policies are guided by the requirements of the European Union *acquis* as transposed into national law.** The Water Framework Directive requires the protection of all waters and aims to achieve good status for all water bodies by 2015. Cyprus has been considered as one river basin in the meaning of article 3 of the WFD and a River Basin Management Plan with a program of measures has been developed, extensively consulted and published<sup>xcviii</sup>.

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<sup>51</sup> For example, a group of potato farmers visited in December 2013 in an area close to Paralimni noted that their groundwater wells even at 300 feet were contaminated with seawater.

<sup>52</sup> As informed by the Director of WDD

443. **The functioning of the Water Development Department is regulated, mainly, by the following laws:**

- The Integrated Water Management Law
- The Water Protection and Management Law
- The Assessment, Management and Addressing of Flood Risks Law
- The Water Pollution Control Law(s) (partly)

444. **The Integrated Water Management Law, which entered into force on 15 November 2010, is an important milestone for water management in Cyprus.** According to the Law, the integrated management of water is assigned to the WDD, opening up new horizons but at the same time, presenting new challenges for the Department. The Law introduces an integrated water code, addresses the problem of fragmented responsibilities, simplifies complex procedures to enable the promotion of effective water governance and introduces tools for the protection and development of the water resources of the island.

445. **The legislation based on the urban wastewater treatment directive 91/271/EEC as amended requires the construction of wastewater collection systems and wastewater treatment that must meet specific discharge requirements.** Construction of this wastewater infrastructure is costly and according to the accession Treaty, Cyprus was granted a transition period in meeting the requirements of this directive. The agreed final deadline was end of 2012<sup>xcix</sup>.

446. **Cyprus has enacted legislation which is more stringent than what is required by the European legislation.** Cyprus has decided as part of its water management policy and strategy to enact legislation which requires a high degree of wastewater re-use and establishes stringent quality parameters for wastewater to be re-used<sup>53</sup>. While this may be justified in the light of the scarcity of water in Cyprus and the recurring droughts, it increases operation and maintenance costs for wastewater treatment systems, and it makes proper discharge more difficult in certain areas. In a number of cases WDD finances the extra costs, but there are also examples of (small) municipalities for which feasible solutions have not been found.

447. **The WDD has the following strategic goals and key priorities<sup>54</sup>:**

- a. **Provision of a safe, adequate and reliable water supply for all users**
  - i. Construction of water development projects
  - ii. Operation and preventive maintenance of water infrastructure
- b. **Addressing the challenge of droughts and the impact of climate change**
  - i. Elimination of the dependence of domestic water supply in large urban and tourist centers from weather conditions
  - ii. Reinforcement of the water balance of Cyprus through the use of other non-conventional water resources (wastewater re-use)
  - iii. Management of water demand
- c. **Harmonization with the European acquis for the protection and rational management of water resources**
  - i. Implementation of the Water Framework Directive 2000/60/EC

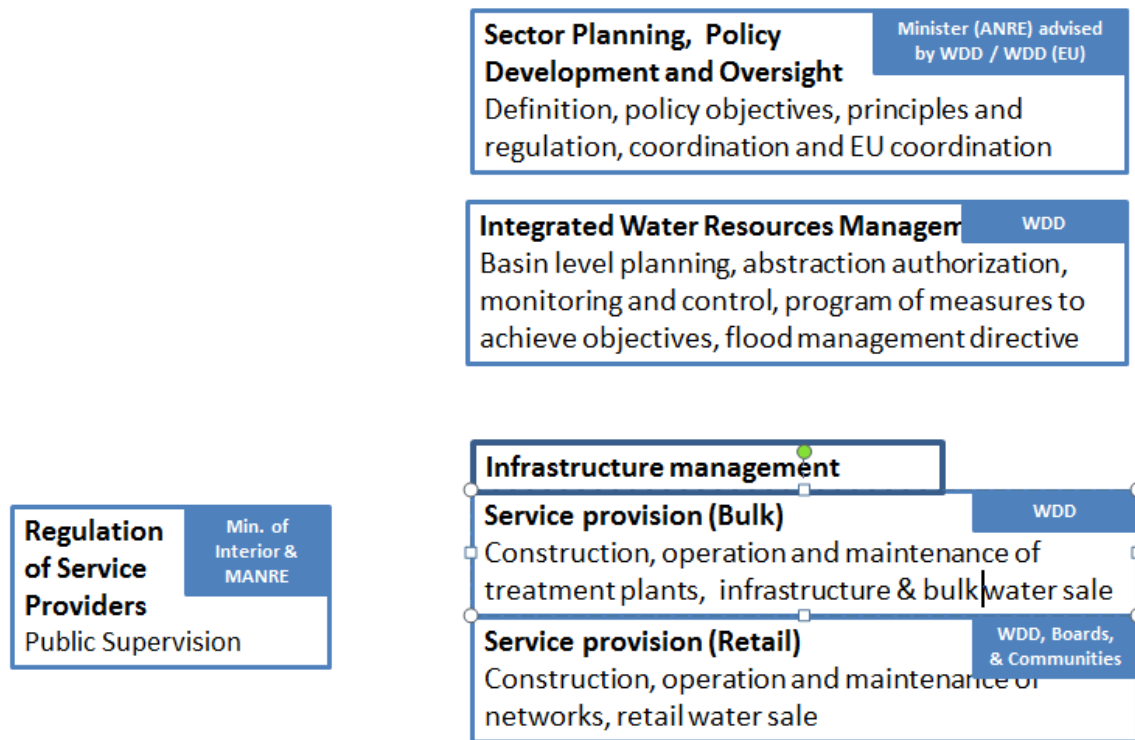
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<sup>53</sup> A European directive on wastewater re-use is under preparation, but presently there is no European legislation hereof.

<sup>54</sup> As per the slide presentation by WDD director to World Bank team on September 13, 2013

- ii. Implementation of the Floods Directive 2007/60/EC
  - iii. Implementation of the Urban Wastewater Treatment Directive 91/271/EEC as amended
  - d. **Use of information Technology, Data and Records Management**
    - i. Implementation of an integrated Geographic Information System (GIS)
  - e. **Promotion of Organizational Effectiveness**
    - i. Reinforcement of human capital with additional scientific personnel to manage new challenges
    - ii. Provision of continuous professional development and training programs to improve human capital's effectiveness and performance
448. **In other words it can be stated that WDD has the following key responsibilities:**
- a. **(i) sector planning, policy development advice, implementation oversight,** and, reporting hereon to the EU Commission;
  - b. **(ii) integrated water resources management** including protection of water resources from pollution and management of water abstraction and use; and
  - c. **(iii) infrastructure management,** including construction, operation and maintenance of water infrastructure, provision of bulk water for domestic and industrial use, as well as irrigation water to farmers
449. **Use of technology and data and promotion of organizational effectiveness may be considered to be instruments** that the WDD uses to fulfill its responsibilities in the most effective and efficient manner.

Figure 45: Schematic Illustration of key functions and responsible institutions within the sphere of water



450. **Cyprus has achieved extensive horizontal integration in the water sphere:** Advice on policy formulation, development of water resources, management of water resources through permitting licensing and operation of bulk water infrastructure, and sale of water in bulk and in some cases to end consumers are all responsibilities of WDD. This provides very strong tools to WDD to balance competing water use interests against each other and against water availability.

451. **However, the very extensive horizontal integration raises the question of whether conflict of interest is or could become an issue.** Today WDD is the institution which is central to policy formulation and establishment of the regulatory framework (for example the recent regulation on pricing) and also the institution which manages water resources and sells water (to prices that are determined by the pricing regulation).

452. **In other countries, Ministries are responsible for policy formulation, whereas water resources development, management, administration and control is often the responsibility of separate entity(ies) and retail water sales is almost always the responsibility of other (typical local level) institutions.** For example, in Spain the Ministry is responsible for policy, whereas their River Basin organizations are responsible for the elaboration of the river basin management plans, their follow-up and revision, the administration and control of the public water domain, and the design, construction and exploitation of the works. In France, the State (and the decentralized representatives of the state – the Prefects) are responsible for policy formulation and coordination, abstraction permits and control systems; River Basin committees are responsible for programming, whereas private owners of water infrastructure, including bulk water infrastructure, build and operate this infrastructure.

453. **In fulfilling its responsibilities WDD has interfaces with other key actors within the sphere of water, in particular:** (i) MANRE Secretariat for policy development; (ii) the European Union for



reporting and exchange of information; (iii) Geological Survey Department, Ministry of Interior and others for exchange of information and coordination; (iv) Water Boards which are responsible for domestic water supply in and around the big municipalities; (v) municipalities and communities that are not members of the Water Boards. These are responsible for domestic water supply; (vi) Sewerage Boards, which are responsible for wastewater collection and disposal in and around the big municipalities; (vii) municipalities and communities that are not members of the Sewerage Boards. These are responsible for wastewater collection and treatment where applicable; (viii) individual farmers that buy irrigation services including re-used wastewater; (ix) water users needing a permit for water abstraction.

454. **There seems to be no comprehensive and systematic legislative framework for WSS sector regulation.** Regulation of many aspects of water service providers with respect to service levels and tariffs is currently carried out by the Water Development Board and the District officers. Regulation has developed ad hoc over a long period of time based on a situation where the Central Government was the only provider of bulk water, the dominant source of finance for all infrastructure and a major service provider. Whereas other utility sectors had a clear separation between production, distribution and regulation introduced alongside EU membership this did not happen in the WSS sector. The recommendations in this report are in the direction of a similar separation and introduction of a comprehensive and systematic framework of regulation should be part hereof.

#### ***WDD Responsibilities and Functions***

455. As mentioned above the WDD has three main areas of responsibility: (i) sector planning, advice on policy development and policy implementation oversight (ii) integrated water resources management, and (iii) infrastructure management. The responsibilities and functions are discussed below.

#### **Sector planning, policy development and implementation oversight**

456. **Cyprus has fully transposed the extensive EU legislation into national law and has chosen to not add much additional legislation in the sphere of water.** Thus the policy function is largely one of participation in the relevant EU committees and law making process and of implementation of this legislation.

457. **WDD makes suggestions to the Minister (ANRE) regarding water policy.** The ultimate responsible body for water resources management policies is the Council of Ministers (CoM). The River Basin Management Plan (WDD April 2011) is the major policy document available. WDD prepares the RBMPs as the appropriate authority on behalf of the Minister. The plan and the related program of measures are approved by the CoM. Many of the measures included in the program of measures of the RBMPs fall within the responsibilities of the WDD, but there seems to be no document that links the measures of the RBMPs with a work plan for the WDD.

458. **Establishment of clear goals to achieve water policy objectives and a document which links these goals to required activities of the WDD could be helpful to prioritize functions and establish future staffing needs.** According to the EU Commission assessment of WFD implementation in Cyprus, it is unclear how the objectives for the different water bodies are set. There are shortcomings in the classification of ecological status and potential, in the designation of heavily modified water bodies, and in the assessment of groundwater status. Further identified problems relate to the lack of justification of exemptions and the uncertainty on specific measures to tackle the over-exploitation of groundwater bodies<sup>c</sup>.

459. **Cyprus did not meet its obligations under the Accession Treaty in relation to the Urban Waste Water Directive, which stipulated end of 2012 as the final compliance date.** However, as per the Revised National Implementation Plan (NIP 2008), 8 agglomerations are in compliance, 5 are in various stages of construction and designs have been completed for 28 of 57 agglomerations (of which 50 are rural agglomerations).

460. **The Government has reacted pro-actively to the de facto non-compliance.** The Government is in talks with the EU Commission about a partnership agreement for implementation of the UWWTD. The main components of such an agreement are likely to be:

- A transparent information system, providing up-dated information on progress every six months
- Additional finance, most likely EU Commission support to leverage debt finance
- A common understanding between the Government of Cyprus and the EU Commission that postpones infringement procedures as long as Cyprus follows the agreed implementation arrangements. A date for final compliance herein has yet to be agreed.

461. **The direction of policy**, here called policy development and implementation oversight, **is a ministerial function according to the Constitution**<sup>55</sup>. It is also a function which in other countries is exercised at ministerial level. As discussed above the team recommends that strategic planning is undertaken at the level of MANRE Secretariat.

### **Integrated water resources management**

462. **Cyprus constitutes one river basin district (RBD) and the WDD is the competent authority as per the WFD**<sup>56</sup> **article 3**. The RBD includes groundwater and coastal waters. Many other countries have established specific river basin authorities and designated these as competent authorities. However, the solution chosen by Cyprus is explicitly allowed by the Directive. WDD has been instrumental in the preparation of the River Basin Management Plan (WDD 2010). The Management Plan has several functions, but primarily it monitors the current status of water bodies within the RBD and determines, in general, what steps should be taken to achieve the environmental objectives. In doing so it: (i) constitutes a fundamental mechanism of records and documentation for information obtained under the WFD; (ii) coordinates the Program of Measures with other relative programs that are implemented in RBD; and (iii) serves as the central reference mechanism of the RBDs Competent Authority in the EU.

463. **Licensing and abstraction control is the responsibility of the WDD. A database of registered boreholes and abstraction exists.** A system for licensing and monitoring is in place and the Integrated Water Management Law requires all boreholes and abstractions to be licensed. However, a grace period has been given, and has been extended, by the House of Representatives. As a result over-exploitation of groundwater from non-licensed wells continues. The WDD recognizes this as a major issue. However, the uncertainty with respect to how and when to address the issue is political rather than a question of planning and policy implementation by the WDD.

464. **WDD plays a key role in relation to implementation of the Cost Recovery and Polluter Pays Principles.** According to WDD bulk water is priced according to the total costs of its production. At the moment environmental externalities (including scarcity) are not included in the cost, but WDD intends to add these externalities to its price. Water use in agriculture is charged when purchased from WDD, but much water is not charged, since it is abstracted from boreholes. The same is true for municipalities which have a spring-water source or a borehole. The price of water sold by Water Boards etc. is regulated by the Ministry of Interior. For Sewerage services maximum price limits are set by Parliament and the prices for the service is approved by the Council of Ministers based on proposals from sewerage boards. The mechanics of what is approved or not is not transparent at the moment. The Government has

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<sup>55</sup> Article 54: .....the Council of Ministers shall exercise executive power .... including the following:

(a) the general direction and control of the government of the Republic and the direction of general policy;

<sup>56</sup> WFD article 3 para 2: "Member States shall ensure the appropriate administrative arrangements, including the identification of the appropriate competent authority, for the application of the rules of this Directive within each river basin district lying within their territory."

introduced two regulations, which will provide detailed guidance on tariff setting, amongst others with the aim to achieve full compliance with the cost recovery and polluter pays principles. However, the larger issue of sector regulation, including but not limited to the potential conflict of interest within WDD, which both regulates water resources and supplies water to consumers; is not being systematically addressed.

### **Infrastructure management**

465. **Over many decades Cyprus has built an impressive water management infrastructure.** The WDD is a large, vertically integrated institution (providing services from policy and management via planning and design to construction and operation of water infrastructure) and has been instrumental in this success. This has left the department with a legacy of being a major construction company as well as an operator of bulk water infrastructure. In addition, and in response to a recent water crisis on Cyprus, the WDD has been in charge of the construction of 5 desalination plants. 4 of them have been constructed using BOOT contracts (similar but not identical to FIDIC Gold Book), one of them utilizes a special contract, which requires the fast construction, short term operation and then removal (Paphos plant). These plants have a combined capacity of 220,000 m<sup>3</sup>/day, which is sufficient to meet the drinking water needs of the large urban, suburban and tourist areas of Cyprus on any given day.

466. **Furthermore, the WDD has constructed, maintains and operates not only bulk water supply, but also a large irrigation network.** WDD is de facto responsible to supply irrigation water to individual farmers. There are no water users associations. As a result, and similar to the experience in other countries, farmer attitudes are not conducive to efficient maintenance of the irrigation systems, and the WDD is called upon to resolve many conflicts and technical issues that in other countries are resolved within the water user association.

467. **Finally, WDD has constructed and maintains sewer networks for a large number of settlements outside the sewerage boards.** Formally, the responsibility for operation and maintenance of these systems rests with the municipalities involved. However, according to the WDD, WDD has in practice retained this responsibility.

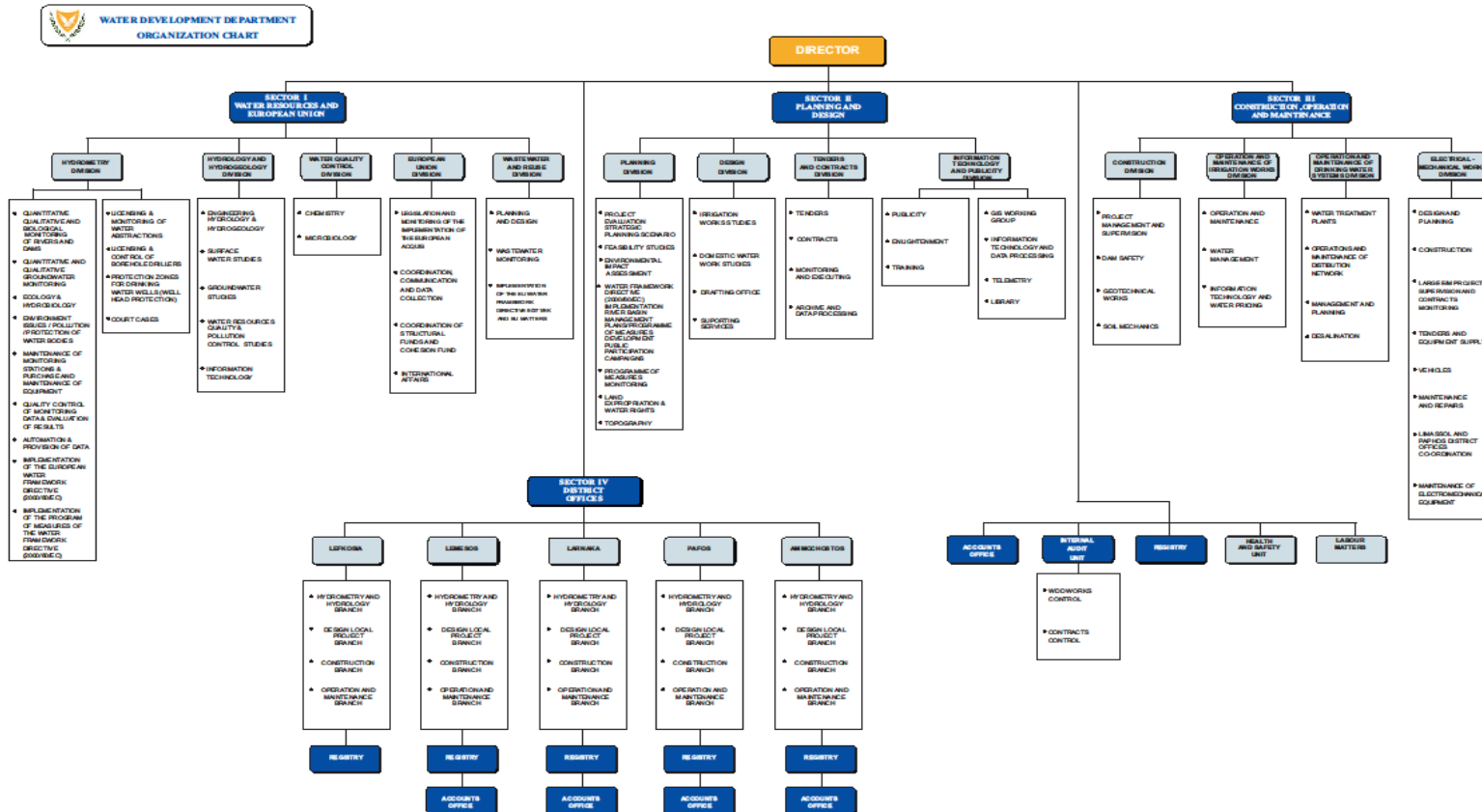
468. **The WDD is a beneficiary of EU funds under the Operational Program still engaged in construction as it is responsible for the construction of most of the wastewater treatment plants that are being built in order to meet the requirements of the Accession Treaty.** However, pre-financing of the required investments is a challenge in particular in relation to implementation of the Urban Waste Water Treatment Directive (UWWTD) and the related construction of a large number of wastewater collection systems and treatment plants. For the urban agglomerations, the urban sewerage boards are the competent authorities. Outside the urban areas, the WDD is in charge of the entire tendering process. For Waste Water Treatment Plants (WWTPs) a contract similar to the FIDIC Gold Book is used and WDD functions as the “the Employers Representative”. For networks, a FIDIC Red Book type contract is used and WDD functions as the “the Engineer”<sup>ci</sup>. Whatever, the contracting form access to financing has been a source of delays in particular since the financial crisis.

### **WDD structure**

469. **The organization chart of the WDD does not closely match its functions.** The organizational chart illustrates that WDD has three sectors and five district offices. Each of the five district offices has five sections: (i) hydrology, (ii) design, (iii) construction, (iv) operation and maintenance; and (v) administration/accounting. The WDD structure does not correspond very closely to the WDD functions as listed above. For example the Construction, Operation and Maintenance Division has the responsibility for a number of tasks related to Water Resources Management as well as Infrastructure Management. While there is a link between, say, maintaining dam infrastructure and monitoring the inflow and outflow of the reservoir (both of which are done by the Construction, Operation and Maintenance Division) it is also possible to imagine an organizational structure, where the monitoring of flows was part of a Division

responsible for Water Resources Management, while the maintenance of physical infrastructures was part of a division of Infrastructure Management. For each of the District Offices a similar situation occurs where the Hydrology Section(s) perform functions closely related to water resources management, whereas the design and construction sections perform functions related to infrastructure management.

Figure 46: Official organizational chart of the Water Development Department



Source: Water Development Department (2010)

470. **The “Water resources and EU” sector has 42 posts<sup>57</sup> and approximately 30 staff.** The divisions in this sector are responsible for: coordination (both EU and national authorities), data collection and processing, water and ground water monitoring (both quality and quantity), reporting to the EU and national authorities (including other units in WDD), water licensing and abstraction control, hydrological studies (including for drought management, flood management, dam break simulations etc.), maintenance of CYMOS database. With minor exceptions, policy, coordination, control and monitoring functions seem to be concentrated in this sector.

471. **The wastewater and re-use division is one such exception.** Its functions cover the project cycle from planning to delivery of ready to tender projects as well as the monitoring of operation and management of wastewater treatment plants. These functions are similar to those carried out for water supply and irrigation by the other sectors.

472. **WDD acknowledges that there are gaps with respect to the monitoring required under the water framework.** Most importantly, as mentioned before there are a number of wells that are not registered and a number of registered wells that are not monitored.

473. **The planning and design sector has 50 posts and approximately 25 staff.** The divisions in this sector are responsible for the project cycle up to and including contracting for major water works, irrigation networks and re-use schemes. In addition hereto it is responsible for the River Basin Management plan, the GIS activities and IT and communications activities.

474. **The construction, operation and maintenance sector has 56 posts and approximately 45 staff.** The divisions in the sector are responsible for construction supervision (and all auxiliary activities) for all projects (major waterworks, desalination plants, irrigation networks and wastewater treatment and re-use.) The sector also operates the major waterworks, notably the dams and the Southern Conveyor as well as the drinking water systems. In doing so, the sector takes day to day water allocation decisions. The team has been informed that WDD is short on dam safety expertise. If this is the case, this is a major omission considering the size, age and number of dams, the fluctuations in precipitation and the seismic risks in Cyprus.

475. **Finally, the district offices that are mainly involved in construction supervision, operation and maintenance have 138 posts with approximately 90 staff.**

476. **In response to the challenges posed in particular by the Integrated Water Management Law and the Water Protection and Management Law (the Water Framework Directive transposed), a reorganization plan for WDD was approved in 2009 based on an organization and staffing study by the PAPD.** The main goal of the study was to enhance the administrative capacity of the WDD and strengthen its organizational structure. It did so by approving additional posts and proposed a number of measures. These were introduced for the purpose of a) allowing WDD to respond to its revised role and focus mainly on planning, designing and controlling rather than executing and b) meeting requirements that resulted out of the need to effectively implement a number of EU Directives and new legislation, mainly, emerging from the implementation of the *acquis communautaire*. A simplified version of the resulting (and current) organizational chart is provided below.

#### ***WDD interfaces with other stakeholders***

477. **While the WDD is responsible for bulk water supply, the responsibility for operation and maintenance of water supply and sewerage networks and provision of WSS services to end-users is decentralized.** There are separate water boards in the major urban conurbations as well as separate sewerage boards. Local communities are responsible in the smaller communities and in rural areas. Traditionally, these local communities have had simple water supply systems and no wastewater treatment. In a future system, which includes a number of wastewater treatment plants that have to be

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<sup>57</sup> All posts and staff numbers are based on MANRE data - to be updated in phase 2 of the FR if necessary

operated and maintained, local communities are likely to find it difficult to find the financial and human resources to manage the operation of such systems. There are indications that such problems are already present.

478. **The responsibility of WDD for water supply and wastewater treatment and re-use is more extensive than in most other countries.** In some cases the WDD even provides major maintenance and replacement of networks in smaller communities, even if this is the responsibility of the community.

479. **Ensuring that water bills are paid continues to be an issue.** First, there is a legacy issue pertaining to a past situation where the House of Representatives restricted the price that Water Boards could charge their customers, while not similarly restricting WDD prices. Responding to the consequent squeeze, Water Boards build up large debts to WDD. For Limassol this debt has been written off, but a similar process has not been completed with Larnaca and Nicosia Water Boards. It is likely that the resulting impact on the Government budget is one consideration for delaying the debt write-off. Unfortunately, it appears that Limassol has renewed debt to WDD. WDD management has argued that the situation is under control. However, it is difficult to understand why a professionally operated water utility, which can charge cost recovery prices to its customers, does not manage its finances in a manner which includes timely payment for bulk water.

480. **Unsustainable debts continue to be incurred by a large number of municipalities outside the Water Boards.** In some cases this reflects that small municipalities find it difficult to enforce payments by their end-users (and neighbors). The process of securing payment of outstanding debts from municipalities is lengthy and even Court decisions seem to be difficult to enforce. Recent legislation proposed by WDD and currently awaiting House of Representatives decision would give seniority to payments to WDD and make accountants and Mayors personally responsible for non-payments.

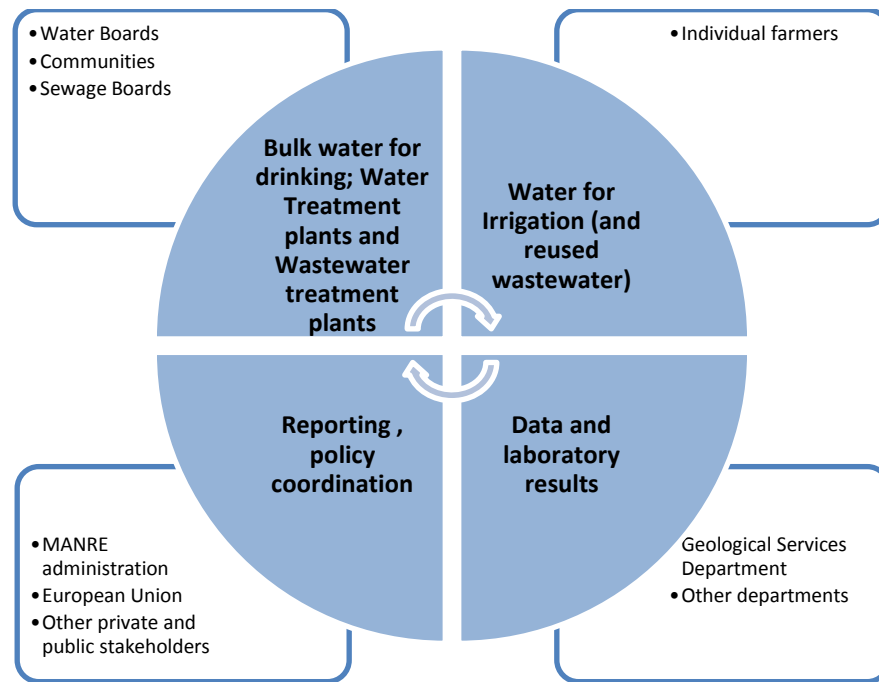
481. **The issues related to non-payment for water and sewerage services by Water Boards, municipalities and (to a lesser extent) individual farmers will have to be resolved as part of the restructuring options discussed below.**

482. **WDD maintains and operates irrigation networks to farm-level.** It sells irrigation water directly to farmers. This direct interface with end-users is carried out from the district offices. It demands significant resources. Revenues from the sales of irrigation water do not cover the full costs. While this may be acceptable in relation to Article 9 of the Water Framework Directive, it implies that by being responsible for the network all the way to the farm level, the WDD provides a subsidy which is larger than it would be if it provided water on a bulk basis to farmer water users associations for the same price. It is highly unusual for a Government Department in the European Union to sell (irrigation) water to farmers (end-users).

483. **Floods management is the responsibility of WDD, while the regulatory function for sewerage and drainage is currently with the Ministry of Interior.** Considering that a preliminary flood risks assessment has found that flash floods and urban floods constitute the main floods risk in Cyprus, this division of responsibilities requires, at least, careful coordination between MOI, WDD and the authorities responsible for construction and maintenance of sewerage and drainage infrastructure.

484. **The WDD and the Geological Survey Department (GSD) both have GIS units.** There are other interfaces between the GSD and the WDD, notably, but not only the hydrogeology section. Based on the functions described by the Departments, it would seem that there could be efficiency gains in a joint GIS unit and in a joint hydrogeology unit.

**Figure 47: Main WDD interfaces with other stakeholders**



### **WDD Staffing**

485. **The Water Development Department is the largest department of MANRE in terms of the budget expenditure and staff cost.** WDD is responsible for over half the budget and a third of the staff costs of MANRE. Consequently, decisions on future organization, human resources etc. may have major budgetary consequences. WDD is vertically integrated to a high degree. In the words of a senior Government official: “WDD was traditionally a construction company and it still is”. WDD has a large number of hourly paid employees, most of which are unskilled. This supports the thesis that WDD largely is a “construction company”. However, the large construction activities are coming to an end and there is a need to refocus the WDD.

486. **WDD has a large number of hourly paid employees, most of which are unskilled.** The majority of these employees are employed in the so-called “construction teams and most of the rest work with operation and maintenance of drinking water and irrigation works. However, the large construction activities are coming to an end. Furthermore, this report proposes to gradually transfer responsibilities for operation and maintenance of water supply, wastewater and irrigation system to Water and Sewerage Boards and to Farmer/User Associations respectively. Both of these changes have (major) implications for the needed skills and the future organizational structure of the WDD.

487. **While project planning, design and construction will play a smaller role in the future, water resources management and maintenance of existing infrastructure will play a larger role in the future.** The consequences for the needed skills and the future organizational structure of the WDD will depend, among other things, on decisions taken with respect to who shall be responsible for the operation and maintenance of the physical works in the future, and, if WDD retains this responsibility, the degree of outsourcing of physical works will play a role.

488. **WDD is aware of the need to rebalance its staff.** According to the Department’s own assessment, this implies additional professional staff such as hydrologists and chemists and additional qualifications among technical staff such as replacing technicians with technical engineers. In 2008 PAPD conducted an organization and staffing study which increased the number of permanent posts by 44 from



318 to 362. Among the 44 additional posts, 19 related to the professional structure and 25 to the technical structure in the department<sup>cii</sup>.

**Table 24: WDD Employees**

Permanent Posts	Vacant	Permanent Employees	Hourly Paid Posts	Vacant HPE posts	Hourly Paid Employees	Total No. of Posts/ Employees
312 (279)	106(73)	206	670	35	635	949/841

Source: MANRE data, communicated November 11, 2013 and January 2014. 312 permanent posts were allocated according to the 2009 PAPD recommendations and reorganization. This number is currently reduced to 279 of which 73 are vacant. For the HPE staff the data relate to December 2013.

489. **The table illustrates that among the permanent employees (scientific and technical staff) there are 106 (73) vacant posts from a total of 312 (or 279) permanent posts.** This is equivalent to a reduction of 34 (26 percent), while among the hourly paid employees (unskilled or skilled laborers) there are 35 vacant posts from a total of 670 or 5 percent.

490. **The PAPD study led to major increases in the posts of hydrologists (+100 percent) and technical engineers to replace technicians.** Unfortunately, these are the positions with the highest shares of unfilled posts mid-2013. According to information provided by WDD the vacancy ratios in each sector are as follows:

**Table 25: WDD vacancy ratios by sector relative to 2009 allocation of posts**

	Permanent Employees total	Of which Sector 1: Water resources and EU	Sector 2: Planning and Design	Sector 3: Construction, Operation and Maint.	Sector 4: District Office	Hourly Paid Employees
<b>Total</b>	34%	26%	48%	21%	33%	5%

Source: WDD data, communicated November 11, 2013.

491. **Considering that both MANRE and WDD management has indicated that Water Resources Management will need more emphasis in the future, and considering that this was also the rationale of the 2009 reorganization and additional staff, the profile of vacancies is surprising.** Or, put differently, the profile of vacancies does not indicate that WDD management has been able or willing to re-balance its staff towards policy, regulation and water resources management as is the stated intent.

## Reform Options

### *Principles*

492. **It is timely to consider a new structure for WDD.** Most water management infrastructure has been, or is in the process of being, completed. Similarly, the main wastewater infrastructure is currently completed or planned to be completed within five to six years. The relative weight of the functions in the sphere of water will continue to change. Policy, regulatory and water management functions have become more important since the adoption of the integrated water management law, while project planning design and construction will become less important in the future. Maintenance and operation of bulk water infrastructure will continue to be key functions that need to be carried out.

493. **The following three principles (or objectives) have guided the consideration of reform options:**

- a. Separation of the policy, coordination, control and monitoring functions from the implementation functions such as construction planning, design, and operation and maintenance;

- b. The institutional and organizational structure shall be effective in supporting the overall policy objective of “sustainable development, protection and management of the water resources in Cyprus, in the framework of an integrated environmental policy”<sup>ciii</sup>;
- c. Efficiency in carrying out the functions within the sphere of water management.

494. **Reform options cannot consider only the functions, organizational structure, human resources etc. of WDD, but must consider the broader water sector.** This reflects the nature of the three guiding principles. Therefore consideration has also been given to the possible future role of quasi-public entities, local government and the private sector within the sphere of water. However, the capacities, including but not limited to human resources, of such entities has not been analyzed in-depth.

495. **Three options are presented below.** For each of the options pros and cons are discussed. Furthermore, an indication of the timing is provided. However, the timing will need further elaboration and discussion. After such elaboration and discussion a more detailed pathway can be produced for the preferred option.

- a. The so-called “*major change*” option implies the greatest changes compared to the current situation and will, if successful in implementation, best achieve three objectives;
- b. The so-called “*intermediary*” option retains the basic organizational structure of the water sector in Cyprus today, while at the same time contributing to the three objectives, with an emphasis on the efficiency objective. In this option a revised organizational chart for WDD is considered;
- c. Finally, the so-called “*minimal change*” option represents steps towards better achievement of the three objectives. It represents no distinct improvement on the current situation, in particular in relation to efficiency and has mainly been selected as an option since it is deemed to be the path of least resistance.

496. **For all three options, the re-organization process must be carefully planned and managed to avoid disruption to the ongoing regulation, control, construction, operations etc.** The Government of Cyprus has expressed that it prefers the so-called “Intermediary Option”. Therefore, the change management process and action plan has been presented for this option only.

### *The Major Change Option*

497. **In this option the WDD is split. Sector planning and Policy Development as well as Integrated Water Resources Management (basically most of the functions in Sector 1) are retained in a Water Management Department in MANRE, whereas the infrastructure management (including construction and operation and maintenance) is moved into a quasi-state institution (similar to electricity production)<sup>58</sup>.** This institution would operate and maintain the water systems infrastructure. As such it would be responsible for day to day operational decisions related to operation of dams etc., while overall water allocation rules, monitoring and control would be retained with WDD. The production institution could continue to provide water both bulk and retail and continue current responsibilities for wastewater and re-use, or it could in addition implement the changes discussed under the “Intermediary option”. It would also be responsible for construction of further bulk water infrastructure should the Government of Cyprus decide so.

498. **The advantages of this option would be to separate policy, regulation and control from day to day management and operation of infrastructure.** To the extent that there are different interests between water management policy and sale of water in bulk and retail these would now become more transparent. As mentioned above, such a split would be in line with the organization of the water sector in

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<sup>58</sup> It should be noted that the delineation of the so-called Strategic Planning tasks has to be done in light of which tasks are decided to be kept at a central Strategic Planning Unit.

other EU member states. Needless to say, such a solution would contribute to a much leaner Ministry. In addition such a separation would enhance the ability to move towards cost-recovery. In the current system water tariffs are set directly by the Ministry. For bulk water this does not constitute a political problem, but for retail sales to farmers it may give rise to political pressure. Having an arm's length approach with a separate quasi state institution or SOE would reduce the risk of direct political influence.

499. **The main disadvantage of such an option, in addition to the strong opposition from staff and unions that it would encounter, is that there is currently a political desire to reduce the number of SOEs.** This desire is strongly supported by the Troika.

500. **While the question about the constitutionality of this option has been raised, it is our opinion that the proposal is not likely to be deemed unconstitutional.** In response to the “major change” option presented in the draft report, the question about the constitutional legality of the proposal has been raised. The World Bank team has therefore held a meeting with staff from the Attorney General's office to understand whether this option would likely be considered unconstitutional in particular in view of the Attorney General's opinion dated June 24, 2008 as well as the Opinion of the Supreme Court dated March 1, 2001 on related issues. It is the understanding of the World Bank team that the option to separate into an SOE the construction, operation, maintenance and / or supervision of the existing infrastructure in the water, such as dams, water supply systems and / or agricultural drainage networks, while maintaining policy and programming in the Ministry, would not be likely to be considered unconstitutional<sup>59</sup>.

### *The Intermediary Option*

501. **In this option the functions and responsibilities of the WDD are largely unchanged, but a strong effort is made to retract from responsibilities for distribution networks and water supply / wastewater in small communities (which de facto compensates the lack of capacity in these communities) as well as from retail sales of water to farmers. Eventually WDD will be responsible only for operation and maintenance of the backbone bulk water supply infrastructure.** This issue brings the questions of 1) Who will take over the de facto responsibility for water supply and sewer networks in municipalities that today are outside the Water Boards and / or outside the Sewerage Boards; and 2) Organization of farmers' water users associations. This option also moves towards a separation of policy, regulation and control from day to day management and operation of retail water sales, but stops short of proposing an independent regulator. This could be considered at a later stage.

502. **It is recommended to promote the development of district wide water boards.** As mentioned in paragraph 441, central government currently subsidizes water supply in small local communities in a non-transparent manner. Transfer of responsibility for water supply to water boards will improve this situation as 1) It will be political possible to charge Water Boards for raw water exploitation and use; 2) It will be politically easier to enforce water quality regulations; and 3) Capital costs will be borne initially by the Water Boards, who will pass these on to water consumers (typically all consumers of the Board in question). Thus there are allocation and efficiency benefits to the economy of Cyprus. In addition there is likely to be economies of scale of operating larger systems, although these may be offset by the introduction of accounting systems etc. that are more administratively heavy than what is currently the case in local communities. The recommendation is in line with the proposals in the “Interim Report on Local Government Reform”.

503. **There are three Water Boards in the biggest cities. They provide service also to parts of the surrounding districts. These three Water Boards are professionally managed.** All three water boards have a customer base of at least 70,000 people which implies that they are able to take advantage of

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<sup>59</sup> Please refer to Email from the Office of the Attorney General to Ministry of Agriculture, Natural Resources and Environment.

economies of scale<sup>60</sup>. Benchmarking data on service quality illustrate that these water boards overall deliver a service which in terms of efficiency and service level is better than many of their Mediterranean peers. While there are issues in relation to debts these are largely, but not exclusively, legacy issues. Based on a brief review of the three water boards it seems that they are capable of taking on additional responsibilities both in terms of geographical coverage.

504. **In line with practice in many other countries consideration should also be given to let (district) Water Boards be responsible for water treatment plants.** The subsidiarity principle as espoused by the Local Government reform proposal would argue for such a transfer. However, there are capability and technical issues to be considered. In order to be able to operate water treatment plants the Water Boards must be able to hire competent engineer and other personnel. Currently, public sector hiring freeze presents a constraint. This could be addressed and does not constitute a major barrier. However, while Limassol urban areas are largely supplied by one water treatment plant, for Nicosia, Larnaca and Famagusta districts the issue is more complicated as a couple of treatment plants serve the customers of more than one water board. Furthermore, the system of water sources (dams, desalination plants and Government boreholes) and the system of potable water are both highly interlinked and linked with each other in various locations. The day to day operation of treatment plants is modified depending on the composition of raw water (boreholes versus dams) and the quality hereof. In other words joint optimization of the system of abstraction, purchases of water from desalination plants and operation of water treatment plants takes place. If the operation of the water treatment plants is separated from operation of the dams and boreholes, this will require a set of institutions. As a minimum it would require agreements between the WDD and the Water Boards on allocations of water (quantity and quality) including rules for how to deal with scarcity situation, and it would require an agreement between the Water Boards (and other communities served) on the allocation of water and costs from these treatment plants. In short, while consideration should be given to the transfer of treatment plants to Water Boards this would require other institutions to be in place and is not likely to happen in the near future. .

505. **Finally, the question has been raised whether to transfer the responsibility of the desalination water treatment plants also to the Water Boards.** These plants are currently owned and operated by private sector companies under a concession type contract with WDD, where under the companies are paid a price for the production capacity and another (and higher) price for operation and water supplies. The plants have been constructed as a strategic reserve to ensure that there is sufficient water for the inhabitants (and tourists) of Cyprus even following prolonged drought. Considering the desalination plants as a strategic reserve and considering the complexity of the concession contracts, it seems appropriate to maintain the current arrangement.

506. It must be noted that any major extension, such as becoming responsible for water treatment plants, will require that the Water Boards are allowed to hire staff. Currently, there are not due to the freeze on hiring of public employees until 2016.

507. **If Government removed the implicit subsidies to community water supply this would provide a strong incentive for communities to join district wide water boards.** Some representatives of local communities have expressed concerns that if they join Water Boards: 1) their price of water will go up; and 2) the service they will receive may decrease since Water Boards may prioritize urban areas. It is indeed likely that the price to consumers will go up in many local communities if they join Water Boards. In fact, this is needed in order to improve allocative efficiency and the communities can be compensated by the Government through block grants or otherwise, should the Government want to do so. Whether service will improve will depend both on current service, on the Water Board and will be a matter of perception to a certain degree. Objectively, the quality of water supplied is likely to improve

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<sup>60</sup> Estimates of economies of scale vary in international literature. The consensus view seems to be that a water utility has economies of scale at least up to 100,000 people and possibly as high as 1 million people served. The exact figure naturally depends on a number of technical and financial factors.

since sub-standard water will no longer be tolerated. However, some violations of water quality standards (for example exceedance of nitrate limits) are not readily perceived by consumers, so this may not be obvious.

508. **The key question is how to expand coverage quickly.** Based on the experience from other countries as well as the emotive nature of the issue, it is suggested that mandatory participation by municipalities and communities is politically and technically difficult. Few countries have chosen to make mandatory such transitions from community or municipality level responsibility to regional responsibility for water and wastewater. There are many financial and technical details that need to be sorted out in a transfer and a mandatory transfer against the wishes at the community or municipality level is likely to make the transfer difficult.

509. **Unfortunately, a voluntary transfer also poses major difficulties.** Currently, water supply and wastewater networks in many communities are de facto maintained by WDD. If this was to be de facto the responsibility of the local community/municipality and if at the same time enforcement of the tap water quality regulations and the discharge regulations were rigorously enforced most communities and rural municipalities would find it more advantageous to join the regional water and sewerage boards. However, as long as support by WDD continues to be the de facto fallback position for any small community with an acute water or wastewater problem it is difficult to see how such a change in incentives should be brought about in practice. Therefore, this report recommends that it shall be mandatory within a given time period, say three years, for municipalities and communities to join Water Boards and Sewerage Boards respectively.

510. **Mechanisms must be found to make it acceptable for those municipalities and communities that are not already members to join.** Such mechanisms must include safeguards for the interests of small communities; adequate representation in the boards to ease fears of marginalization; fair compensation for assets that new members contribute (noting that the Boards take responsibility for maintenance and renewal of these systems); ensuring that small municipalities outside the Boards do not continue to get free or cheap support from the WDD (thus reducing their interest to participate); and ensuring that water supply health standards and wastewater discharge standards are uniformly enforced (again avoiding more lenient treatment of smaller municipalities).

511. Since there are many financial and technical details to be settled and since the two parties (local community and Board) may have different interests (for example in the valuation of existing assets to be transferred, the Government, led by the WDD or the Ministry of Interior should establish an ad hoc working committee to support the process. This committee should include representatives representing municipalities and communities.

512. **It is also recommended to establish district wide sewerage boards.** Currently, and until 2020, major wastewater collection and treatment infrastructure is being built for the sewerage boards. To let 5 district wide sewerage boards be responsible for the infrastructure within their district as it becomes operational would seem to be a good option to ensure that the infrastructure is being operated efficiently and effectively. Currently, there are major issues with the operation of at least three treatment plants that are being operated by municipalities/smaller communities. Despite court cases it has been difficult to effectively resolve those issues. Similar to the case for water quality, it is likely to be simpler and more effective to enforce discharge permits and other legislation vis a vis professionally run Sewerage Boards. And similar to the situation for Water Boards, a mandatory requirement to join the Sewerage Boards is likely to be the only way to achieve the required professionalization of WSS services in smaller communities within an acceptable period of time.

513. Furthermore, and in support of professionalization of the services the Ministry may consider whether operators (the person) of wastewater treatment plants need some sort of certification. This is done in many places in the US and may be important to ensure that smaller places hire persons with adequate qualifications.

514. **Finally, it could be considered to join the Water Boards and the Sewerage Boards.** For example, the Nicosia Water Board and the Nicosia Sewerage Board have expressed willingness to merge. This could be a pilot. While it could be considered to join the Water Boards and the Sewerage Boards at the same time, this could create a number of additional practical difficulties (for example in case where their memberships are not identical; loans and commitments substantially differ (in some cases there may be clauses in loans that require them to be renegotiated if the borrower is changed); and Sewerage Boards are in the middle of completing large and complex contracts. For these reason, this report does not propose such a merger at this time, while noting that the option to do so on a voluntary basis, for example in Nicosia should be open.

515. **Alternative distribution of responsibilities between WDD and the water and sewerage boards is being considered as part of the Action Plan below.** The action plan includes a recommendation to strengthen the water and sewerage boards and to enhance their reach by creating District wide (initially separate) water and sewerage boards. The action plan also takes into account the need to regulate these entities, which would be the sole providers of WSS services in their service area.

516. **The establishment of farmers' water users associations will have to be carefully considered.** There are examples in Europe, but particular attention will have to be paid to the upland (mountain) farming communities where a user association will consist of a small number of old- aged farmers with typically small plots (and a high propensity of not licensed wells). Therefore, the Action Plan includes such establishment but in the medium to long term.

517. **While the option could be implemented with the existing organizational structure of the WDD, it is suggested to revise the organizational structure of the WDD to more closely match its three core functions, viz.: policy and planning, water resources management and infrastructure management.** This is being discussed in more details under Action Plan below.

518. **The main advantages of this solution would be a leaner ministry and to enable management to focus on core WDD issues.** It is likely that the problems in relation to direct sales to farmers and in relation to serving small communities take up relatively much management time due to the political importance of these groups. This option would still require a detailed pathway to be described for both the future functions (in particular the future de facto functions) of WDD and the future functions of Water and Sewerage Boards as well as a pathway for enhanced memberships of the later.

519. **The main disadvantages are that the process of transfer of responsibilities may take time.** There may also be a disconnect between the desire to sustain a voluntary process and the desire to retract WDD from retail responsibilities. Furthermore, this option is likely to significantly diminish the staff needs of WDD, in particular in the district offices and in particular to diminish the need for hourly paid employees (laborers).

#### ***The Minimal Change Option***

520. **WDD management has outlined a reform option, which we consider to be the “minimal changes” option.** In this option WDD retains its structure and responsibilities largely as they are now. However, recognizing that there is less need for laborers, WDD reduces its number of hourly paid employees by approximately 120 and adds 30 to 40 scientific personnel to its water resources management and regulation functions.

521. **The main advantage of this option is that it is unlikely to bring much opposition and the main disadvantage is that it is unlikely to bring many new benefits in terms of the three objectives: separation, effectiveness in supporting integrated water resources management and efficiency.**

522. **The PAPD has noted that it has severe difficulties to acknowledge the need to add 30 to 40 scientific personnel to WDD and has requested that any staff enhancement in addition to what was proposed in the 2009 study should be documented.** The World Bank team shares this concern. As

noted above a number of positions are unfilled and the ratio of unfilled positions to posts is much higher among scientific staff than among hourly paid employees. It is also noted that in particular in the areas where new posts were granted as results of the 2009 study there seems to be a high vacancy rate. This should be addressed prior to any consideration of additional posts. Furthermore, as noted in the table below, this option maintains an imbalance between staff resources and responsibilities. The minimal change option provides some improvement in efficiency as it reduces the number of hourly paid employees.

523. **In conclusion, all the options presented above have advantages and disadvantages.** Table 26 below summarizes these again.

**Table 26: Exploratory reform options for WDD: advantages and disadvantages**

Change Options	Pro	Con
<p><b>The major:</b> WDD focuses on water resources management policy and regulation. All construction and operation moved into state owned company / authority under MANRE.</p>	<p>+Separates policy and regulation from operations +A leaner ministry +More similar to other EU countries</p>	<p>-Risk of disruption to both ongoing construction and to operation of bulk infrastructure -Strong opposition from staff and unions</p>
<p><b>The intermediary:</b> WDD strengthens water resources management and regulation; completes ongoing construction; reduces operations to bulk water supply only for both irrigation and domestic water supply.</p>	<p>+A leaner ministry +Additional management focus on core WDD functions +New staff composition likely to be better suited to core WDD functions</p>	<p>-Requires transfer of responsibilities to Water Boards (communities) which may take time -Same for farmer water user associations -Union opposition</p>
<p><b>The minimal:</b> WDD maintains construction and operations largely as now, but reduces its number of hourly paid employees and adds scientific personnel to its water resources management and regulation functions.</p>	<p>+The path of least resistance</p>	<p>-Maintains large budget and pressure to postpone necessary change in skill mix through hiring -Maintains imbalance between staff and functions</p>

**Other issues**

524. **In addition to the main reform options outlined above, MANRE could consider addressing a number of other, punctual issues which can result in removal of duplications and increased efficiency.** These are summarized in Table 27 below and further addressed in the Action Plan.

**Table 27: Additional issues to consider for the WDD**

Additional issues	Comment
Implement the 2009 recommendations	PAPD study not implemented as many of the “new” posts are vacant. WDD need to have access to specialists with “new” disciplines to fulfil its roles in particular within water resources management and pollution control.
Dam safety	Strengthening of dam safety expertise is central to reduce risk of catastrophic failure. It is possible to employ the necessary key expertise (one or two dam engineers specialized in safety) within existing number of posts, but redefinition may have to occur.
GIS team	Current duplication. Consider integration with other GIS teams – for

Additional issues	Comment
	example in Geological Survey. Coordinate databases with others: CAPO, Forestry etc. Work is underway led by the Lands and Surveys and the Environment Department as part of an effort by the Government of Cyprus to implement the INSPIRE directive.
Hydrogeology Section in GSD and the Hydrology and Hydrogeology Division in WDD	The main customer for the hydrogeology section in GSD in WDD. This raises the questions: Should this section be merged with WDD? Alternatively, how to ensure the best coordination?
Water supply to communities	The WDD support structure has provided good service – but de facto removed the responsibility and prevented capacity building at municipal level. In line with the transfer of responsibilities to regional and local level Water Boards will become responsible for larger geographical areas and for water treatment plants. The capacity of Water Boards may need to be strengthened.
Wastewater collection and treatment in municipalities and communities	Similar to the case for water supply, the WDD support structure has provided good service – but de facto removed the responsibility and prevented capacity building at municipal level. In line with the transfer of responsibilities to regional and local level, Sewerage Boards will become responsible for larger geographical areas and for new wastewater treatment plants. Their capacity may need strengthening.
Wastewater treatment and re-use	Large new capacity will come on stream – for example in Nicosia, but the big users are on the coastal plain. The consequences need to be studied and specific proposal for pricing and use need to be made.
Farmer /Irrigation User Associations	Water user associations are key to relieve WDD of direct responsibility. Experience exists in other countries. Cyprus can draw on this, but must develop its own system in close collaboration with farmers.
Licensing of boreholes	Continued grace period increases the risks of irreversible salinity intrusion and difficulties to manage a period of dry years
Regulation of WSS service levels and prices	Currently this is the responsibility of WDD and Ministry of Interior. There are unresolved issues in relation to control of potential monopoly behavior by Water and Sewerage Boards and in relation to potential Conflict of Interest within WDD, which both regulates water resources and supplies water to consumers.

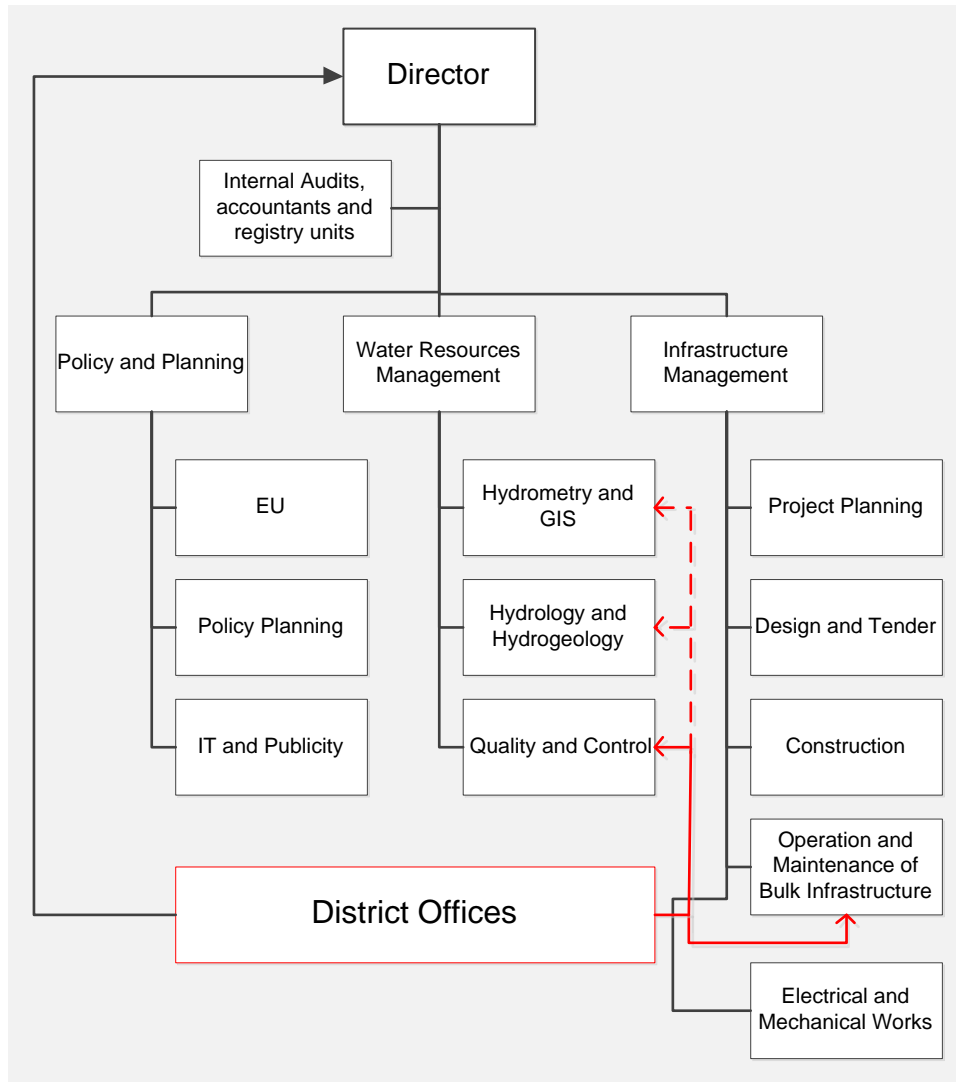
## Action Plan for implementation of Intermediary Reform Option

### *WDD structure*

525. **In the future the organizational structure of WDD could be changed to more closely reflect the functions of WDD.** In Figure 48 a possible future organizational chart which closely reflects the functions of the WDD and which clearly links the District offices to the relevant units is shown. Basically, all the current responsibilities are reflected in the new organization with the exception of two (major) responsibilities, namely (i) maintenance of WSS drinking water treatment plants and distribution networks and (ii) maintenance of irrigation distribution systems. As discussed it is proposed to transfer these responsibilities to Water and Sewerage Boards and to Unions of Farmer/User in the short/medium and in the medium/longer term respectively.



**Figure 48: A possible future WDD organizational Chart under the Intermediary Option**



***Transfer of responsibilities for retail distribution of irrigation to user associations***

526. **Transfer of responsibilities for irrigation to farmer/user associations is a process that can be started but will take time.** Current water allocation is volumetric and typically metered. Farmers pay according to a farm-gate meter. Water allocations are determined by WDD. Currently, there is no organizational structure to which the responsibilities for maintenance of irrigation networks, allocation “below” the bulk meter, and revenue collection at the farm level etc. could be transferred. There are farmers’ associations and these could form the basis for creation of an organizational structure. Experience from many other countries, including Mediterranean countries indicate that the process will have to be done carefully and with extensive involvement of farmers to create trust as well as involvement by outside professionals to ensure that the organizations created will have the capacity, the by-laws and the transparency to minimize the risk of abuse and maintain trust among users. At this stage it is proposed to establish a working group committee with representatives from Government, farmers, irrigation water professionals and well as accountants and other advisors on the possible accounting and legal frameworks.

### *Staffing Levels*

527. **As is the case for the other departments any benchmarking with other countries (or even between other countries) is almost impossible or (at best) not advisable, as it would have to be accompanied by so many caveats and reservations so as not to be meaningful.** Data available are not comparable since they vary depending on what each agency considers as “staff”, institutional competences, staff deployment, regulatory load, the structure of industry, the economy, but in particular what level of Government is responsible for (which) water related issues and whether there many of these functions are centralized in a “water department”, like in Cyprus, Romania and Slovenia or decentralized, like in the federal states (such as Germany) or possibly even decentralized to municipal level as in Denmark.

528. **In order to illustrate broad reference points and orders of magnitude, the following table has been compiled,** including those EU-countries with institutions that include many of the same functions as WDD. Such a centralized set-up is not very common, as most countries have split into the key responsibilities: (i) sector planning and policy; (ii) water management coordination, planning and permitting, and (iii) operation and maintenance of infrastructure; into separate institutions. Infrastructure operation and maintenance is carried out by a public institution in some countries and by the private sector in others.

529. **The countries with structure similar to Cyprus include Luxembourg (Administration de la Gestion de l’Eau), Romania (Apele Romane) and Croatia (Hrvatska Voda).** In addition, the Turkish State Hydraulic Works (SHW) has been included as this is organization whose functions and responsibilities most closely resemble that of WDD. We note that in these countries the institutions are separate corporate (but publicly owned and controlled) bodies and while they refer to Ministries, they are not part of a Ministry.

530. **Economies of Scale.** All the caveats expressed in above with respect to transfer of staff ratios between institutions apply. In addition, there is a question of economies of scale. A priori one would expect that there are economies of scale, obviously for policy functions and for water management coordination and planning, but possibly also for operation and maintenance of infrastructure. In this light it is surprising, and sobering, to note that the staff per population and staff per area ratio for Hrvatske Vode (Croatia), Apele Romane (Romania) and State Hydraulic Works (Turkey) are similar and approximately 20-40% of the ratios for WDD (Cyprus). Actually, the two smallest countries have the most efficient ratio. Croatia and Luxembourg are also the richer of the comparators and likely to have the more efficient public sector. This illustrates that there is considerable room for improvement in the staff efficiency of WDD.

531. **An example of staffing requirements for the traditional water management, coordination, planning and permitting tasks has been included.** However, the Bulgarian River Basin Directorates do not have any responsibility for operation and maintenance of infrastructure which is the more demanding function in terms of staff numbers. Thus this line purely goes to illustrate the fact that integrated water management functions in themselves are likely to require much less staff than what is currently employed by WDD.

**Table 28: Staffing levels in agencies working mainly with water resources management**

Agency	Key Responsibilities	Staff	Date of staff data	Population (million)	Area	Employee/ '000 pop	Employee / '000 km
<b>Cyprus (WDD)</b>	(i) study, design, construction, operation and maintenance of water management works,(ii) protection of water resources from pollution, (iii) collection, processing and classification of hydrological, and other relevant data	841 <sup>61</sup>	Sept 2013	0.86	9,240	1.0	91
<b>Bulgaria – Four River Basin Directorates<sup>62</sup></b>	(i) Development of the river basin management plan, flood management plans; (ii) management of state property; (iii) licensing (iv) pollution control and (v) public information	236	Jan 2014	7.282	113,534	0.03	2
<b>Croatia Hrvatske Voda</b>	(i)The implementation of water management at the river basin district (ii) technical and financial planning of investments (iii) participation in the preparation of draft regulations, the Croatian waters.(iv) Communication and cooperation with regional bodies and other stakeholders	816 <sup>63</sup>	2014	4.284	56,594	0.19	14
<b>Luxembourg Administration de la Gestion de l'eau<sup>cv</sup></b>	Integrated Water Management (i) collection, processing and classification of hydrological, and other relevant data (ii) protection of surface and ground water resources from pollution (iii) provision of hydro-meteorological services	115 <sup>63vi</sup>	Jan 2014	0.531	2.586	0.22	44
<b>Romania (Apele Romane<sup>cvii</sup>)</b>	Apele Romane operates and maintains water management works, (ii) plans and manages river basins including the protection of water resources from pollution, (iii) collection, processing and classification of hydrological and other data, (iv) fulfills international agreements in the field of water	8,966 <sup>63</sup>	2002	20.122	238,392	0.45	38
<b>Turkey – State Hydraulic Works<sup>cviii</sup></b>	A highly centralized set-up where the responsibilities of DSI resemble those of WDD.	28,960	2005	76.6	783,562	0.38	37

<sup>61</sup> 841 refers to the number of staff employed. The number of posts is higher.

<sup>62</sup> Data from four river basin directorate web-sites in Bulgarian only.

<sup>63</sup> OECD Romania Economic Survey 2002. Data pertain to 2001. In "Romania since 1989" edited by Henry F. Carey and Norman Manea it is stated (page 448) that in the mid 1990s Apele Romana had 15,000 staff.

532. **Current staffing for WDD is 888 of which 206 are permanent, non-vacant posts.** PAPD recently undertook a staffing review of the permanent posts and recommended 279 posts. This 2009 staffing review refers to functions and responsibilities that are still relevant. Some reductions can be made in conjunction with the transfer of responsibilities to District Water Boards and District Sewage Boards and eventually a change of provision of irrigation water supply to become bulk water supply to farmers/users associations, but these may not exceed the current number of vacancies (while, naturally the composition of staff required may change).

533. **In order to assess whether the current vacant posts should be filled or abolished it is proposed for WDD management to provide detailed explanations** of how functions are being carried out at the moment in spite of the missing staff / which functions are not being carried out at the moment. This could form the basis for a review and update of the PAPD staffing review.

534. **The large potential for staff reductions is among the hourly paid personnel.** The large potential for staff reductions is among the hourly paid personnel. Some of this reduction is immediately possible as proposed by WDD management. However, the big reduction potential is linked to (i) the transfer of responsibilities for operation of WSS schemes to Water and Sewerage Boards (according to WDD management as of December 2013 101 persons are employed to operate and maintain domestic water supply); (ii) the change of provision of irrigation water supply to become bulk water supply would relieve WDD of the functions related to operation and maintenance of the distribution networks, pumps etc. (according to WDD management as of December 2013 189 persons are employed to operate and maintain irrigation schemes), and (iii) the various auxiliary services (currently estimated by WDD management to employ 68 persons) as well as further reduction and outsourcing of work related to “construction of various water works”. This begs the question: if the responsibility for most of the tasks that are currently carried out by 290 people are transferred out of the Central Government, then what shall happen with the personnel. This is a Government decision linked to Government policy on not firing any government employees.

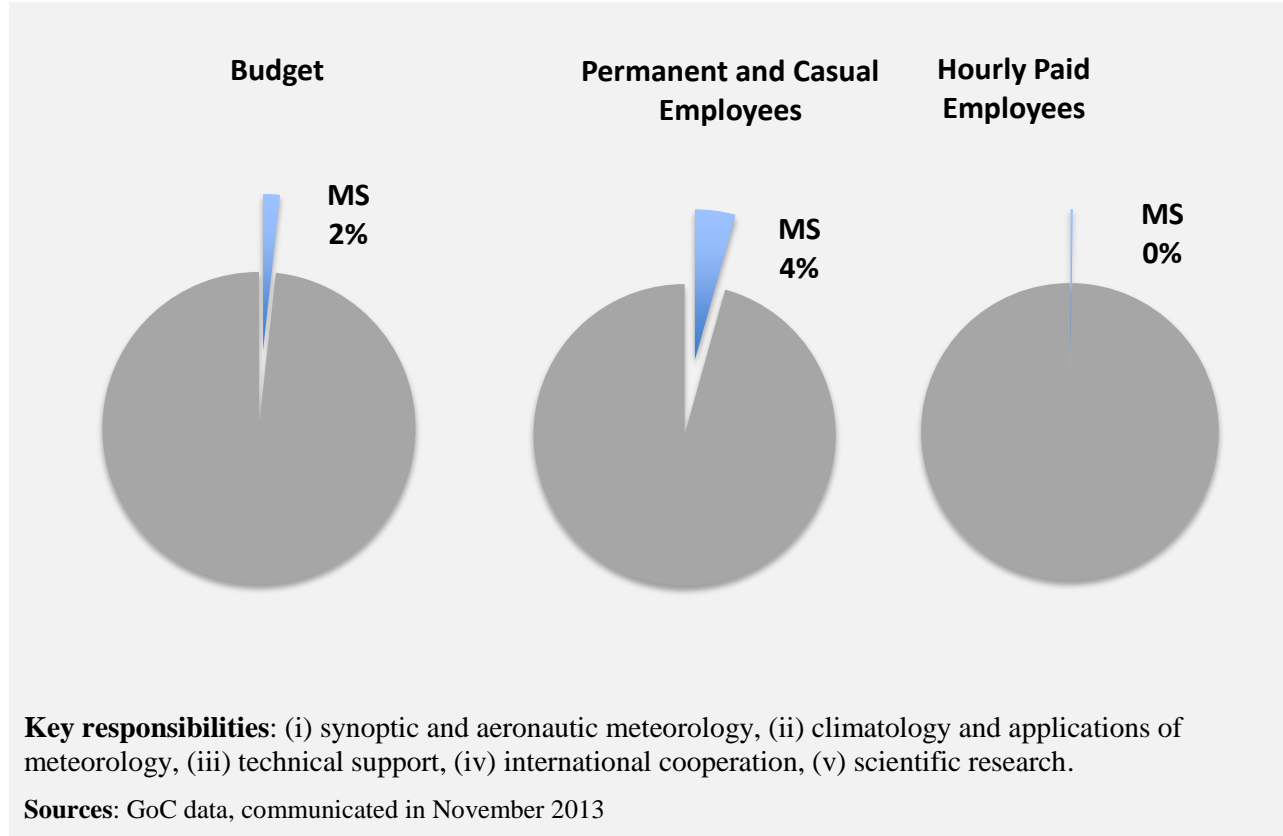
535. **The key question of timing is crucially related to implementation of the policies mentioned** above, viz.: (i) transfer of responsibilities to District Water Boards and (ii) District Sewage Boards, (iii) a change of provision of irrigation water supply to become bulk water supply; and (iv) outsourcing of work related to construction of various water works. (i) and (ii) could happen within a year, as could (iv). The change in the structure of provision of irrigation water supply will have to be done over the medium term to ensure that associations that take over this responsibility have the capacity to do so.

### **Timing**

1. MANRE management and WDD Management to review and reconsider the organizational chart of WDD with the aim to decide whether an organization that more closely follows responsibilities would be appropriate. *Timing: As soon as possible*
2. WDD and GSD to establish a working group that reviews the activities of their respective Hydrogeological Section/Division and recommends steps to promote synergies and to enhance efficiency in the use of equipment (such as drilling rigs)
3. Study to present proposal(s) for comprehensive and systematic regulation of service levels and tariffs in the WSS sector. *Timing: The proposal(s) shall be presented by the end of 2014 and shall be implementable within a 3 year period.*
4. Establish an ad hoc working committee to support municipalities and communities that want to join Water and Sewerage boards to resolve the practical issues (related to transfer of assets and liabilities as well as other issues). *Timing: As soon as possible*

5. Transfer the responsibilities of WDD within the area of operation and maintenance of drinking water systems to the relevant Water Boards. *Timing: As soon as it is possible to also transfer relevant staff for WTP operation and / or for Boards to hire such staff.*
6. Transfer the water networks systems and service responsibilities from communities and municipalities to district Water Boards. *Timing: Aim for a three year process. First step will be to set up a committee with representatives for stakeholders (by October 2014). This committee shall have three main tasks: 1) Prepare a detailed action plan for the transfer (by December 2014) 2) Function as mediator where a specific community and a specific Water Board cannot agree on specific issues (such as the value of assets to be transfer and the payment for these). As far as possible regress to courts should be avoided as this will be costly and time consuming. 3) Extensive stakeholder consultations, monitoring and reporting on Progress in transfer of systems and responsibilities (continuously)*
7. Provide incentives to support transfer of water network systems and service responsibilities from communities and municipalities to district Water Boards. *Timing: as elaborated below.*
  - a. Remove implicit subsidies to community water supply. The first step would be to prepare a detailed plan of which regulations and practices would have to be changed. The second step (and in parallel) would be to announce that WDD will no longer invest in community networks. *Timing: These two steps to be undertaken in 2014. Changes in regulations and practice to be completed before June 2016*
  - b. Strengthen enforcement of tap water quality requirements. *Timing: Rigorous enforcement for all water supply zones.* Enforcement of in smaller water supply zones should not be lenient as this creates a perverse incentive to not address water quality issues and not join a Water Board.
8. Transfer the wastewater systems and service responsibilities from communities and municipalities to district Sewerage Boards. *Timing: Aim for a three year process. First step will be to set up a committee with representatives for stakeholders (by October 2014). The committee will have three main tasks similar to those for the water committee.*
9. Provide incentives to support transfer of wastewater systems and service responsibilities from communities and municipalities to district Sewerage Boards. *Timing: as elaborated below.*
  - a. Transfer the de facto responsibilities of WDD within the area of operation and maintenance of waste water collection systems to the relevant municipalities and communities. *Timing: As soon as possible*
  - b. Strengthen enforcement of wastewater discharge. *Timing: Enforcement of discharge requirements to follow completion of wastewater collection and treatment infrastructure* Enforcement vis a vis smaller municipalities should not be lenient as this creates a perverse incentive to not join a Sewerage Board
  - c. Resolve situations where municipalities do not repay wastewater loans. *Timing: Find an implement a resolution for specific cases within 2014.*
10. Establish a working committee with the terms of reference to present a proposal (or alternative options) for how to transfer responsibilities for distribution network, allocation of water “below” bulk meter and revenue collection from WDD to farmer/user associations. *Timing: The proposal(s) shall be presented by the end of 2014 and shall be implementable within a 3 year period.*

## 2.11 Meteorological Service



### Status quo: Diagnostics

536. **In Europe there are many alternative institutional arrangements for housing meteorological (MET) services and varying degrees of “commercialization”.** Some are linked to Ministries of Defense, some are linked to or part of Ministries of Science and Education and others are located in Ministries of Environment. Broadly speaking there is a trend towards more independence of the MET services and towards a more commercially oriented approach where customers pay for many of the services provided. Civil aviation authorities (EUROCONTROL) already pay substantial amounts for these services. Similarly, other private and public institutions may pay for services provided (in addition to classical public service functions such as warnings (storm, dust etc.))

537. **The MET Service in MANRE has a number of core responsibilities including:** weather and climate data collection, analysis, and processing; aviation weather service, marine weather service and public weather service. The Meteorological Service does not seem to have ancillary tasks, such as major research responsibilities. It operates and maintains a number of stations. The Forestry Department and the Troodos community network have established stations as part of a specific program. These have now been integrated into the Met network of stations and are being operated and maintained by MET.

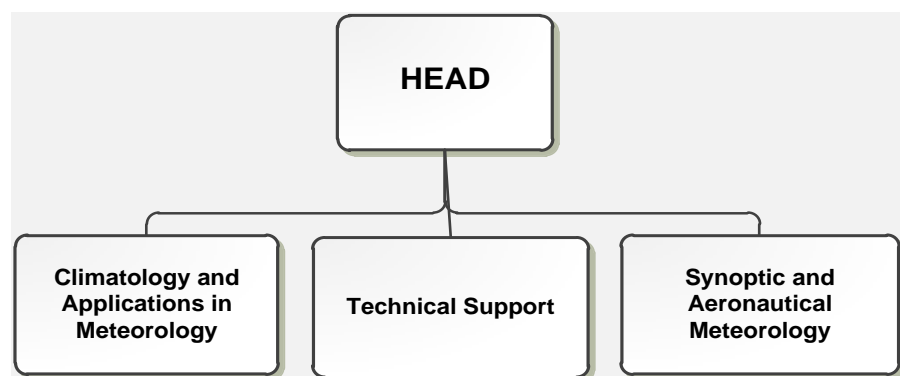
538. **The main source of revenue for the Met service is the Civil Aviation Authorities (indirectly EUROCONTROL) who receive and pay for meteorological services.** These payments cover more than 60 percent of the budget of the Met. Other customers also receive services (such as fishermen, who can access detailed forecast), the general public (through news channels and phone access) and companies who request meteorological data, for example for environmental assessments. The Met charge for these services, but in a limited way, such as charging for prints requested. The current revenue from these

services is approximately 30,000 EUR annually and individual bills can be as low as 2 EUR. The consequences of this pricing policies seem to be that users tend to ask more data than they would ask if charged at the full cost of providing the data thus creating additional effort but limited revenues.

539. **It appears that there is limited strategic planning in the Meteorological Service.** The services have recently been accredited in line with recommendations of the World Meteorological Organization WMO (2005). The Met meets its international obligations. To the extent that this reflects an attitude that the service should continue to focus on its core responsibilities, continue to utilize models and programs developed elsewhere and focus on implementing its core responsibilities in an effective and efficient manner, there is limited or no need for grand visions and strategic planning.

540. **The Met Service has 60 permanent staff (69 positions) mainly located in two offices, Larnaca and Nicosia.** In addition there are small teams at Paphos Airport and at Athalassa Radiosonde station. The 2005 WMO report quoted above recommended moving all staff to one location. This staff works overwhelmingly with weather services and administration directly related hereto, for example technical issues in relation to procurement of equipment etc. General administration, IT etc. are in the Nicosia headquarters.

**Figure 49: Organizational chart of the Meteorological Services**



541. **Staffing levels do not seem unreasonable in international perspective.** Such comparisons are difficult to make, since different institutions provide different scopes of services. For comparison, the hydromet services in FYROM have more than 200 staff (but includes hydrological services)<sup>64</sup>, and the Danish Meteorological Office employs approximately 100 people directly engaged with weather services<sup>64</sup>. However, this covers not only Denmark but also Greenland and the marine areas of Greenland and Denmark.

### Reform Options

542. **There seem to be no major arguments to change the institutional linkage of the Cyprus Meteorological Service.** The Service has inherited stations from the Forestry Department and provides services to a wide range of public institutions and private persons. The biggest clients are the Civil Aviation Authority and Water Department. Forestry and Agriculture Departments also require data on a regular basis. In principle the Met office could be institutionally linked to another Ministry, but as stated, we have found no compelling arguments for such a change.

<sup>64</sup><http://www.dmi.dk/om-dmi/uddannelse-og-arbejde/moed-vores-medarbejdere/>. Total staff is 360 with the rest being employed in Research, IT, Administration (including financial administration). Approximately 40% of total revenues for the Danish Meteorological Service are external revenues, such as research grants. Of course, there are economies of scale in met services and Denmark is known for a highly efficient central administration so it is not surprising that there are relatively fewer people employed directly with Danish met services.

543. **The Met is a small department (and likely to be one of the smallest, if not the smallest in the future).** We have therefore considered whether a division under another department would be a more appropriate structure. Given the independent nature of the work, the multitude of clients to the services rendered and the quite complex scientific issues that must be mastered, we believe that maintaining the Met as a department with a director is appropriate.

544. **A different organizational model is possible.** For example, the Maltese meteorological service is housed as part of the airport company and provides aviation weather services, public weather services and marine weather services on a commercial basis. This could be an option also for Cyprus, but would require thorough consideration of the pros and cons of such a privatization of the Met services. One of the key issues to consider would be how to ensure that international and national public obligations would be met satisfactorily in such a set-up and that the public good aspects of weather information (e.g. for disaster risk management) are not being lost.

545. **A higher degree of commercialization is both feasible and would contribute to efficiency.** This is also true if the Met is retained as a department within MANRE. While EU directives (Public Sector Information Directive) require that citizens are not charged for information services that are being financed from the Government budget, this still leaves ample room to charge for additional services provided based on the data collected. At the moment the Meteorological Service charges for “value added” in a very narrow sense of the word, namely by charging the marginal cost for consumables (such as paper, print, etc.) required to provide services on request. It seems that there is no (or very limited) charge for time spent and certainly no “value-pricing”. A move to initially full-cost pricing and consideration of “value – pricing” could prepare the MET service for a future, where commercial pressures on meteorological services in Europe are likely to become greater.

546. **The WMO recommendation to concentrate staff in one office** still seems to be valid. Implementing the recommendation could reduce costs for overtime, etc. In addition, while Met currently does not pay rent in Larnaca, this situation may change with the future status of the airport. However, it must be noted that the World Bank team has not analyzed in detail the functions and work schedules of the individuals involved in a potential concentration of staff in Nicosia (or Athalassa).

547. **The options above can also be summarized into major, intermediate and minimum change scenarios.** Table 29 below lists them again and summarizes the pros and cons.

**Table 29: Exploratory reform options for the MET service: advantages and disadvantages**

Option	Pro	Con
<p><b>The major:</b> Met Services are privatized. The private entity signs contracts with civil aviation authorities and others. These contracts specify the outputs to be delivered / procedures to be observed / certifications to be maintained etc.</p>	<p>+A leaner ministry; +Privatization revenue</p>	<p>-An unusual solution in the EU (exists in Malta) -Strong opposition from staff and unions - Need to maintain public good character of weather information</p>
<p><b>The intermediary:</b> The Met Service commercializes its services to a greater extent. As a first step: Full cost pricing is introduced. The Met Service combines its scientific and technical staff in one location (likely to be Athalassa).</p>	<p>+Likely to be more cost-effective<sup>65</sup> +Creates revenues similar to other EU country public services</p>	<p>-Commercialization requires a change in management -Union opposition to combining staff</p>

<sup>65</sup> in particular if Larnaca airport starts to charge rent



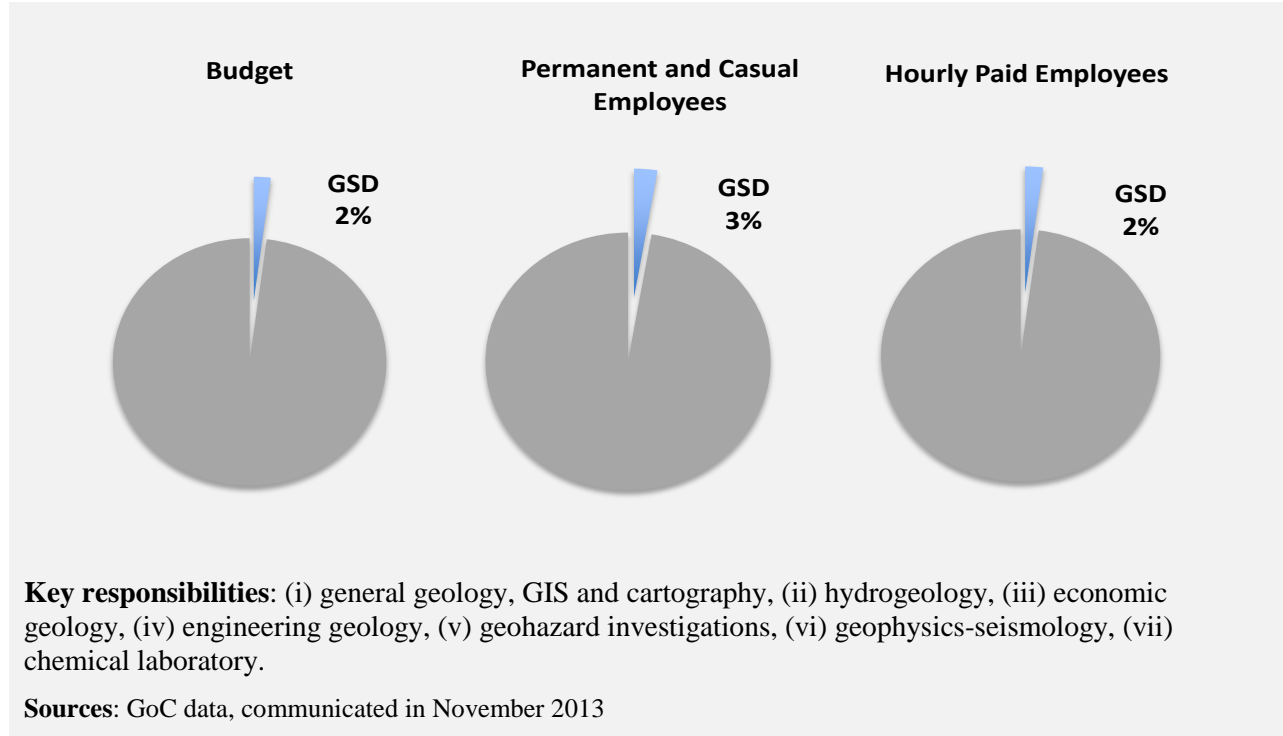
Option	Pro	Con
<p style="text-align: center;"><b>The minimal:</b></p> <p>The Met Service re-examines the pros and cons of combining its scientific and technical staff in one location.</p>	<p>+The path of least resistance</p>	<p>-Misses what seems to be obvious efficiency gains and revenue potential</p>

### Action Plan for Implementation of Intermediary Reform Option

548. **The intermediary reform option is recommended as it is both doable in the short term and will both reduce expenditure and enhance revenues for MET.** Below an action plan is presented for implementation of this option.

1. Transfer of scientific and technical staff to Athalassa. *Timing: It is understood that this has been initiated.* The transfer of staff can be completed within 2014.
2. Full cost pricing. *Timing: An internal review and proposal for full cost pricing can be initiated immediately.*
3. Commercialization of services. *Timing: Evaluation of the possibilities to be prepared by end 2014.* That evaluation will then determine next steps, if any.

## 2.12 Geological Survey Department



### Status quo: Diagnostics

549. **The Geological Survey Department (GSD) is responsible for hydrogeological and geological research, planning and for surveying.**<sup>66</sup> It is largely a research organization and service provider to other departments such as the WDD and the Department of Mines as well as the Civil Defense responsible for disaster preparedness (Earthquakes)<sup>67</sup>. The Geological Survey Department has been

<sup>66</sup> GSD has noted: "The statement "The GSD is responsible for hydrogeological and geological planning and for surveying" does not fully represent the status of the GSD. The GSD is responsible, inter alia, for mapping, interpreting and archiving the geological environment of Cyprus, exploring and protecting groundwater resources, promoting their sustainable use and meeting water supply needs, identifying mineral resources and promoting their sustainable use, safeguarding society against geo-hazards and providing services / information on any geological matter."

<sup>67</sup> GSD has noted: "The statement "It is largely a service provider to other departments such as the WDD and the Department of Mines as well as the Civil Defense responsible for disaster preparedness (Earthquakes)" does not fully represent the status of GSD." GSD has provided the following elaboration:

"The GSD has a clear mandate deriving from the Geological Surveys Law No. 140(I)2013. According to article 3 of the Law "the responsibilities of the GSD include the survey of mineral and water resources and the geohazards in the context of the current government policy and in particular, without prejudice, to the generality of this paragraph -:

- carrying out activities related to the mineral resources of the Republic, which include research, exploration, monitoring and protection,
- the research and exploration of the water resources of the Republic, as well as carrying out activities on their monitoring and protection,
- carrying out activities related to the research, study and monitoring of geohazards in the Republic,
- carrying out activities related to research, study and protection of fossils and geological heritage sites, found in the Republic,
- conducting activities related to the geological mapping, general geological survey, petrological survey, mineralogical survey, economic geology survey, hydrogeological survey,

responsible for publication of strategic documents, such as the Mines and Quarries strategy for Cyprus. However, according to the director, the Department mainly perceives itself to be a service department for other departments.

**550. With 50 permanent posts of which 14 are vacant the Geological Survey Department is a fairly small department.** Staff costs seem to be high relative to current expenditures for a department which is responsible for surveying. This may partly reflect that a lot of the drilling work etc. is carried out by the Department's own staff (hourly paid employees).

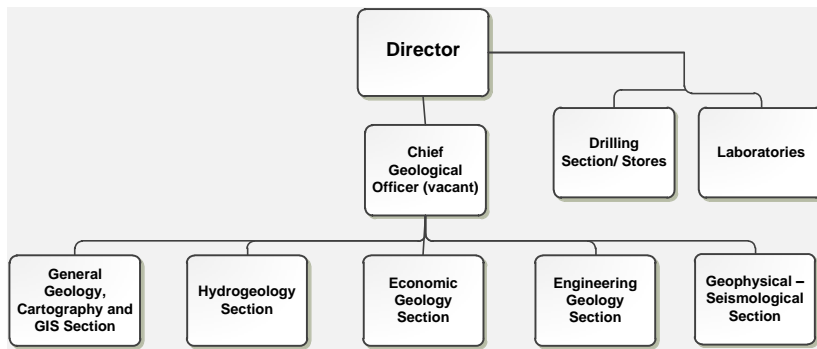
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engineering geology survey, the seismological survey, geophysical survey, paleontological survey, geochemical survey, geothermal survey, geomorphological survey and environmental geology survey within the Republic."

In addition, the responsibilities of the GSD derive from the Integrated Water Management Law, the Mines and Quarry Law, the Hydrocarbon (Prospection, Exploration and Exploitation) Law and from Ministerial Orders, issued according to the Water and Soil Pollution Control Law. Within the above competences the GSD has the following main responsibilities: 1. Mineral resources: (a) Maintain medium and long term availability of mineral resources by identifying, evaluating and verifying new deposits. (b) Conduct market surveillance for the quality control of aggregates and construction materials (the mandate has been given by the Competent Authority, namely the Ministry of Interior). 2. Groundwater resources (a) Explore and develop groundwater resources for meeting water supply needs. (b) Monitor and evaluate groundwater resources with respect to the Nitrate Directive - 91/676/EEC, the Water Frame Directive - 2000/60/EC and the Groundwater Directive - 2006/118/EC (the mandate has been given by the Competent Authority, namely the Minister of MANRE). The monitoring network consists of 220 sampling points for groundwater and 10 points for surface waters. (c) Survey groundwater resources and execute hydrogeological studies for the delineation of protection zones for all domestic water supply boreholes. 3. Geological environment (a) Carry out detailed geological mapping in previously unmapped areas. (b) Identify significant geological heritage sites and ensure their protection in accordance to the provisions of the Law 140(I)2013. (c) Restore disused and abandoned mines and protect mining heritage, in accordance to the provisions of the Law 140(I)2013. (d) Promote the membership of the Troodos Geopark in the European Network of Geoparks. 4. Geo-hazards and build environment (a) Identify, monitor and understand geo-hazards (earthquakes, landslides etc), and create hazard maps for providing the basis for a safe build environment (b) Monitor and evaluate the seismicity of the broader area of Cyprus; (c) Carry out geotechnical investigations for major development projects 5. Horizontal responsibilities (a) Issue and manage permits for geological surveys, in accordance to the provisions of the Law 140(I)2013. (b) Issue and manage permits for the use of governmental boreholes, in accordance to the provisions of the Law 140(I)2013. (c) cooperate with the EuroGeoSurveys and national European Geological Surveys and participate in European projects.

In addition, the GSD provides services and expertise to other departments, authorities and entities, such as Ministry of Agriculture, Natural Resources and Environment (on policy issues related to mineral and water resources, geohazards and any issues of geological interest), the Ministry of Energy, Commerce, Industry and Tourism (on hydrocarbon exploration and licensing), the Ministry of Interior (on market surveillance for the quality control of aggregates), the Public Work Department (for the design and construction of public works), the Town Planning and Housing Department (for the general planning, mainly in relation to the suitability of the ground for development, the geo-hazards vulnerability and the occurrence of mineral and water resources), to the Water Development Department (geotechnical investigations for the construction of water works, such as dams, ponds, conveyors etc, implementation of the Water Frame Directive, drilling boreholes for water supply schemes etc), the Environment Department (advising on environmental impact assessments, pollution control, climate action etc), the Mines Service (advising on permits for prospecting, for mining / quarrying), the Civil Defense (information about earthquakes) and any Ministry / Department / Authority on any subject related to geology, mineral and water resources and geohazards"

**Figure 50: Organizational chart of the Geological Survey Department**



## Reform Options

551. **Noting the wide variety of responsibilities; further noting the small size of the department; being cognizant of the fact that the departments main functions are performed as services to other departments; lead to the conclusion that options for consolidation of functions (partially or fully) with other departments should be explored.** One option would be to combine the GSD with the Mines Service (see next section). A more radical option would be to join GSD with the WDD. The drawback of such a radical option, however, would be that, while there is some overlap between the two departments, some functions of the GSD may become more difficult to manage as part of WDD. Thus, a more moderate – and feasible – option would be to:

- (i) merge the GIS units of WDD and GSD, in the context of a broader overhaul of MANRE’s dispersed GIS/ remote sensing activities (see also recommendations in Sections 2.9 and 2.10 on consolidation of remote sensing/ GIS functions); and
- (ii) Securing better synergies between the hydrology/ hydrogeology sections of the two Departments.

552. **GIS services if WDD and GSD can be merged, but this is no guarantee of effectiveness.** It is likely that there will be some opportunities for cost savings if the GIS units were merged. However, it is our assessment that coordination is the key issue, rather than whether to have separate units. The units use similar tools for different purposes and the key issue is data and platform sharing. While this may be easier if the units are combined, such a combination is not guarantee and the link to the users of the information may become weaker.

553. **A broader overhaul of GIS services covering all of MANRE’s GIS remote sensing activities seem to make more sense.** The team has been informed that this is ongoing in the context of implementation of the INSPIRE directive. Within MANRE, the Environment Department is the lead department to evaluate possible solutions that both improve efficiency and ensure effective implementation of INSPIRE as quickly as possible. It is likely that the overall responsibilities across Government departments will be vested with the Lands and Surveys department and that each department in relevant ministries will be(come) responsible for maintaining their own data and layers pertaining to the common system.

554. **Concerns have been raised about potential overlap in the functions of the hydrogeological section of the GSD and the hydrology and hydrogeology division of the WDD.** WDD is the main “customer” for the outputs of the hydrogeology section of GSD. Therefore it may be considered whether this section should be merged with the hydrology and hydrogeology division of WDD. This is clearly possible and would enhance the coordination of studies and output data. However, as long as the data collection stays in GSD, which has the laboratory, equipment etc., the coordination challenge will remain.

In this light, and as mentioned under WDD, it is proposed to address this concern through establishment of working group that reviews the activities of their respective Hydrogeological Section/Division and recommends steps to eliminate duplication and to enhance efficiency in the use of equipment (such as drilling rigs).

555. **In a larger economy, outsourcing of drilling services would be a natural choice.** However, given the size of the Cyprus economy, its geographical isolation, and the concerns about risks of illegal drilling, careful consideration would have to be given to both a future market situation and the impact on the ability to enforce legislation prior to any such recommendation.

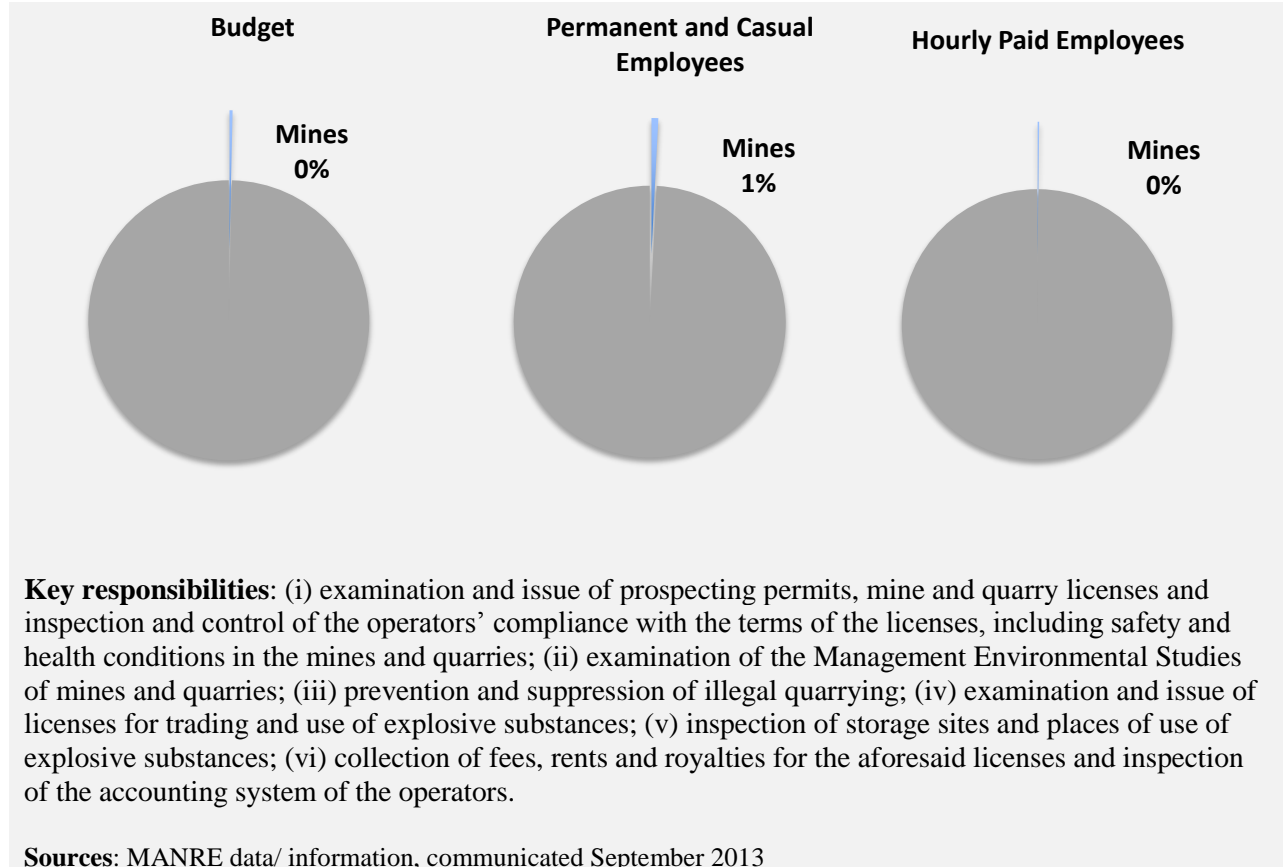
#### **Action Plan for Implementation of Moderate Reform Option**

556. **It is recommended to review and revise the structure of the Geological Surveys Department as follows:**

- a. Merge the Mines Department with GSD as follows:
  - a. Responsibilities for fireworks and military explosive ordnance is transferred to Police / Customs that already have part of this responsibility
  - b. Responsibility for evaluation and development of mines is transferred to GSD, which already has the responsibility for exploration.
  - c. The Director of GSD acquires the responsibilities of the Head of Mines as per the Mining Law. Any necessary changes in legal text are implemented.

557. Establish a WDD and GSD working group that reviews the activities of their respective Hydrogeological Section/Division and recommends steps to promote synergies and to enhance efficiency in the use of equipment (such as drilling rigs).

## 2.13 Mines Service



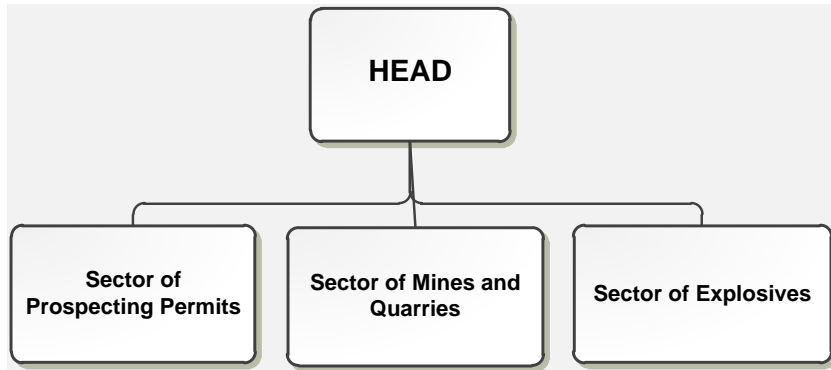
### Status quo: Diagnostics

558. **According to the Mining Legislation it is the Council of Ministers who delegates to the Inspector of Mines. Thus the Mines Service becomes the competent authority for the implementation of the Mines and Quarries Legislation** It advises the State on technical matters which are related with the mineral wealth of Cyprus and acts as a contact between the government, the mining companies and the prospectors. In addition, the Head of the Service is appointed by the Legislation as the Inspector of Mines and the Inspector of Explosive Substances.

559. **The Head of Mines is defined by Law (Explosive Substances Legislation) to be the Inspector of Explosives.** Thus it is possible to divide the responsibilities for mines and explosives to become the responsibilities of different departments should the Council of Ministers so wish. It is also possible to let the Head of Mines (A14) refer to a Department Director (A15/16).

560. **The Mines Service is the smallest MANRE department, with less than 1% of its budget and personnel.** The Service is a nine-person unit (11 posts) with three sectors plus accounting plus a secretariat. The Republic of Cyprus currently receives revenues of 4 million EUR annually from licenses and royalties from one copper mine and approximately 120 quarries.

**Figure 51: Organizational chart of the Mines Service**



561. **Several authorities are responsible to inspect storage and use of explosive substance.** The Mines Service is responsible for implementation of the explosive substances legislation. This includes blasting, fireworks, gun-powder and ammunition. Inspections are carried out by the Mines Service, the Police and Customs. There seems to be no compelling reason to have three different departments from different authorities in charge of fireworks and explosives, as compared to ensuring that the Police have staff which has knowledge about the storage and use of explosives in mines and quarries in addition to their current responsibilities for storage and trade in fireworks and explosives.

562. **There are a number of interfaces between the Mines services and other institutions,** in particular:

- a. **Based on a permit from the Minister of Interior (Department of Town Planning) the Mines Service provides licenses for prospecting, for mining / quarrying and for construction of installations in relation to the mines.** These licenses include all the obligations from the environmental opinions as well as other conditions reflected in the permits. Mining projects need both a prior town planning permit, which is temporary, with typical initial duration of 6 years, and renewal every 3 or 2 years afterwards, depending on zoning, and they need EIAs (project-related and, in some cases, implications for NATURA 2000 areas) and permit(s) for mining wastes and discharges both from the Environment Department. The fact that town planning permits expire regularly is a problem for the industry.
- b. **The Mines Service provide data to and collaborate with the Geological Survey Department in the sphere of mines that is not covered by private sector activities.** While there is little or no overlap in responsibilities, it is not clear why the sectors of mines and quarries (5 posts) and the sector of prospecting permits (3 posts) could not be joined with the Economic Geology and Engineering Geology sections of the Geological Survey Department. In this respect it may be noted that the latest strategic document, called “Strategy for Sustainable Quarrying and Mining Development 2001 – 2025” was drafted for and published by the Geological Survey Department.

563. **To have such a small Department would seem to require a strong justification in terms of function.** The team has not found such a strong justification as described below.

### **Reform options**

564. **Joining the Mines Service with the Department of Geological Survey would free up a few resources.** A separate director would not be needed. The Head of Mines is A14 and thus not a director. Whether the Director of GSD could simultaneously have the title “Head of Mines” and the responsibilities related hereto will have to be determined. In addition the accounting and secretariat

functions would be taken care of by a joint accounting and secretariat within the Department of Geological Survey. The Head of Mines has informed that currently the Mines Department provides accounting services to GSD. Thus it should be considered to let those resources needed be added to the joint Secretariat. Possibly the record keeping for licenses would require a clerk's post to be added to the current GSD Secretariat. Again this clerk post may be transferred from the posts currently provided for the Department of Mines. In addition, one should consider moving responsibilities for fireworks, gunpowder and ammo to Police, and retaining responsibility for blasting explosives.

565. **Other options could include transferring the Mines Service or just its permitting responsibilities to either (i) the Department of Town Planning and Housing at the MoI, or (ii) MANRE's DoE.** The permits of the Mines Service currently focus on the technical and economic feasibility of mining, while Town Planning and Environment also issue permits in their respective area. There are some overlaps in the terms imposed. For example, the bank guarantee for conforming to terms and the rehabilitation of the site provided by an operator to the Mines Service also covers the requirements under the permit given by Department of Environment with respect to mining waste. In the case of merging Mines into DoE, the terms and conditions of the quarrying permit could be integrated into the environmental permits. As noted above, the differences in expiration dates between town planning permits, environmental permits and mines licenses give rise to practical problems for the companies involve. It should be possible to address this issue regardless of the choice of organizational linages of the responsibilities of the Mines Service, but in practice it may be easier solved if the licensing and permitting responsibilities are within one department. One issue to consider, is how to deal with royalties, fees etc. according to the Mines Law.

566. **However, the options presented in the previous paragraph raise legitimate reservations as they would introduce a development-oriented activity into agencies predominately aiming to regulate development (Town Planning) and mitigate its impacts (Environment).** This could create tensions within the newly formed/ merged departments stemming from different administrative and sectoral cultures and create potential conflicts of interest stemming from having a planning or an environment agency assume responsibility to also ensure the optimal exploitation of Cyprus' mineral wealth and sufficient quantity and quality of products in the market. They also raise issues with regards to the capacity of either Department to undertake responsible inspection of quarrying and related sites. Therefore, the first option (joining Mines and GSD) might be the most practicable one.

567. **Regardless of the option chosen, the multiple permitting arrangements require re-examination and streamlining, as they entail considerable costs and overlaps. Additionally, responsibility for explosives (other than blasting) could be moved to the Police in either scenario.**

#### **Action Plan for Merging Mines Department with GSD**

568. **See the section on GSD for an action plan** that includes merging the Mines Department with GSD.



## Endnotes

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- <sup>ii</sup> <http://data.worldbank.org/indicator/NY.GNP.PCAP.CD/countries/CY--XR-EU-XD?display=graph>
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- <sup>viii</sup> European Commission. Forest Fires in Europe, Middle East and North Africa, 2012.  
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- <sup>ix</sup> EC (2012): Position of the Commission Services on the development of Partnership Agreement and Programs in CYPRUS for the period 2014-2020, page 8
- <sup>x</sup> <http://www.fao.org/docrep/006/ad456e/ad456e0b.htm#topofpage>
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- <sup>xiii</sup> Data from [http://ec.europa.eu/budget/figures/interactive/index\\_en.cfm](http://ec.europa.eu/budget/figures/interactive/index_en.cfm)
- <sup>xiv</sup> 30<sup>th</sup> Annual report on the application of EU law, COM(2013) 726 final
- <sup>xv</sup> <http://www.iweps.be/sites/default/files/FP2.pdf>
- <sup>xvi</sup> [http://chancellerie.belgium.be/fr/binaries/Summary%20-%20evolution%20administrative%20burdens%202011%20\(Belgian%20federal%20government\)\\_tcm170-206230.pdf](http://chancellerie.belgium.be/fr/binaries/Summary%20-%20evolution%20administrative%20burdens%202011%20(Belgian%20federal%20government)_tcm170-206230.pdf)
- <sup>xvii</sup> <https://www.gov.mt/en/Government/Publications/Publications%20and%20Policies/Documents/Annual%20Report%20of%20Government%20Departments%20-%202011.pdf>
- <sup>xviii</sup> Verstrynge, JF (2004, September). The Institutional Organization of the Environmental Policy in Cyprus in the light of the accession of the Republic of Cyprus to the European Union
- <sup>xix</sup> Internal Audit Service of the Republic, “Achieving the required goals/ commitments towards the EU by the Republic of Cyprus on Environment Issues”, January 2011.
- <sup>xx</sup> *ibid*
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- <sup>xxiv</sup> See EU SCAR (2012), *Agricultural knowledge and innovation systems in transition – a reflection paper*. Brussels
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- <sup>xxvi</sup> All data from the Statistical Service of the Republic of Cyprus – Agricultural Statistics 2009-2010, accessed at: [http://www.cystat.gov.cy/mof/cystat/statistics.nsf/All/3B6EE558F6B3BBEBC225754400342EDE/\\$file/AGRI\\_STAT-2009\\_2010-171212.pdf?OpenElement](http://www.cystat.gov.cy/mof/cystat/statistics.nsf/All/3B6EE558F6B3BBEBC225754400342EDE/$file/AGRI_STAT-2009_2010-171212.pdf?OpenElement)
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- <sup>xxix</sup> *ibid*
- <sup>xxx</sup> DG-SANCO (2010). Country Profile. Current status of progress made by Cyprus in the implementation of FVO recommendations.
- <sup>xxxi</sup> Hadjigeorgiou, et al (2013) Establishment of a National Food Safety Authority for Cyprus: A comparative proposal based on the European paradigm. *Food Control*, 30, p. 727. . According to the authors the number is 22 out of 27 countries. Only Italy, Poland, Slovakia, Slovenia and Cyprus do not have such an agency.
- <sup>xxxii</sup> [http://www.who.int/foodsafety/publications/capacity/en/Englsh\\_Guidelines\\_Food\\_control.pdf](http://www.who.int/foodsafety/publications/capacity/en/Englsh_Guidelines_Food_control.pdf)

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<sup>xxxiii</sup> *ibid*

<sup>xxxiv</sup> Hadjigeorgiou, et al 2013

<sup>xxxv</sup> DG-SANCO (2011) Country Profile. The Organization of Food Safety, Animal Health, Animal Welfare and Plant Health Control Systems. Slovenia.

<sup>xxxvi</sup> DG-SANCO (2012). Country Profile. The Organization of Food Safety, Animal Health, Animal Welfare and Plant Health Control Systems. Slovak Republic.

<sup>xxxvii</sup> Communication with the European Commission.

<sup>xxxviii</sup> *Mcloughlin*- framework law/ institutions (1993); *World Bank*- environmental review/ institutions (1993); *ENACT*- level of protection (1998); *ECOTEC*- administrative capacity (2001); *University of the Aegean*- observatory (2002); *Peer reviews*- inspectorates (2002 and 2003); *Athens Observatory*- inspectorate (2003); *Verstrynge*- institutional framework (2004). Also a number of pre- accession evaluations by (or on behalf of) the *European Commission* between 1998- 2004.

<sup>xxxix</sup> See xix.

<sup>xi</sup> When it comes to the situation in the EU Member States and the specific examples given throughout this Section, the bulk of the information has been obtained from the websites of Ministries, Departments and agencies involved. Very useful information has also been drawn from the most recent edition of the handbook for the implementation of EU environmental law (Regional Environmental Center, Umweltbundesamt GmbH (REC, UG) (ed.)(2008): Handbook on the Implementation of EC Environmental Legislation, <http://ec.europa.eu/environment/enlarg/handbook/handbook.pdf>); the European Environmental Bureaus (EEB), S. Scheuer (ed.)(2005): EU Environmental Policy Handbook; the OECD Environment Homepage <http://www.oecd.org/environment/>; the OECD Environmental Country Reviews (<http://www.oecd.org/environment/country-reviews/>); the DG Environment homepage ([http://ec.europa.eu/dgs/environment/index\\_en.htm](http://ec.europa.eu/dgs/environment/index_en.htm)); etc. Specific referencing is basically made when information was drawn from secondary sources.

<sup>xli</sup> OECD, ENV/WKP (2009)3: Assessing Environmental Management Capacity: Towards a Common Reference Framework

<sup>xlii</sup> World Bank (2007): Journey to a Cleaner Future, Investing in People and Institutions that make environmental laws work.

<sup>xliii</sup> OECD (2004): Assuring Environmental Compliance: A toolkit for building better environmental inspectorates in Eastern Europe, Caucasus, and Central Asia.

<sup>xliv</sup> Department of Environment (2010): Revised National Strategy for Sustainable Development.

<sup>xlv</sup> Weaknesses in local government have been amply identified in a previous study (Greek National Centre for Public Administration and Local Government “Study for the Restructuring of the Local Government in the Republic of Cyprus- Executive Summary (English), 2009.

<sup>xlvi</sup> *Ibid*.

<sup>xlvii</sup> Office of the Commissioner for the Reform of the Civil Service (2013): Action Plan for the Reform of the Civil Service.

<sup>xlviii</sup> J-F.Verstrynge (2004): The Institutional Organization of the Environmental Policy of Cyprus.Final Report.

<sup>xlix</sup> <http://ec.europa.eu/environment/legal/law/index.htm>

<sup>i</sup> Websites of EU Environment Ministries; also, European Commission (2012): Monitoring Member States’ policy developments on resource-efficiency/environment in Europe 2020.

<sup>ii</sup> European Commission (2012): 30<sup>th</sup> Annual Report on monitoring the application of EU Law.

<sup>iii</sup> <http://ec.europa.eu/environment/legal/law/statistics.htm>

<sup>iiii</sup> EPI (2012): Environmental Performance Index (EPI), Yale Center for Environmental Law and Policy, Yale University ([www.epi.yale.edu](http://www.epi.yale.edu).)

<sup>iv</sup> See for example, European Commission (2012): Excellence in Public Administration for Competitiveness in EU Member States; OECD (2008): An OECD Framework for Effective and Efficient Environmental Policies.

<sup>lv</sup> [http://ec.europa.eu/smart-regulation/index\\_en.htm](http://ec.europa.eu/smart-regulation/index_en.htm)

<sup>lvi</sup> See xix.

<sup>lvii</sup> Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control).

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- <sup>lviii</sup> [http://ec.europa.eu/smart-regulation/impact/commission\\_guidelines/commission\\_guidelines\\_en.htm](http://ec.europa.eu/smart-regulation/impact/commission_guidelines/commission_guidelines_en.htm).
- <sup>lix</sup> European Commission (2012): Monitoring Member States' policy developments on resource-efficiency/environment in Europe 2020; the OECD has also a dedicated database on instruments used for environmental policy and natural resources management (<http://www2.oecd.org/ecoinst/queries/index.htm>.)
- <sup>lx</sup> Environmental Resources Limited, Cyprus Ministry of Finance (1993): The Potential for Economic Instruments for Environmental Management in Cyprus.
- <sup>lxi</sup> Also see OECD (2004): Assuring Environmental Compliance.
- <sup>lxii</sup> <http://impel.eu/>
- <sup>lxiii</sup> [www.netregs.gov.uk](http://www.netregs.gov.uk)
- <sup>lxiv</sup> Philip Hampton, H.M. Treasury (2005): Reducing administrative burdens: effective inspection and enforcement.
- <sup>lxv</sup> Professor Richard B. Macrory, Better Regulation Executive, UK (2006): Regulatory Justice: Making Sanctions Effective.
- <sup>lxvi</sup> Department for Business, Enterprise and Regulatory Reform (BERR), UK (2007): Statutory Code of Practice for Regulators.
- <sup>lxvii</sup> IED Inspections. A European Perspective. Final Report of the 2012 IMPEL Project.
- <sup>lxviii</sup> Department of Environment (2013): Summary Report in Inspections in 2012 (in Greek).
- <sup>lxix</sup> <http://www.environment-agency.gov.uk/>
- <sup>lxx</sup> <http://www.iema.net/about-iema>; REC,UG (ed.)(2008).
- <sup>lxxi</sup> <http://www.government.se/sb/d/2023/a/22847>
- <sup>lxxii</sup> Code de l'environnement, Version consolidée au 17 novembre 2013
- <sup>lxxiii</sup> On integration, also see EEA(5/2005): Environmental Policy Integration in Europe.
- <sup>lxxiv</sup> See, for example, ESDN Quarterly Report 9/10 N.Gioksi, M.Sedlacko. G.Berger: National Sustainable Development Strategies in Europe: Status quo and recent developments; G.Berger, R.Steurer,; Horizontal Policy Integration and Sustainable Development: Conceptual remarks and governance examples ESDN Quarterly Reports (6/2009); OECD Sustainable Development Studies Good Practices in the National Sustainable Development Strategies of OECD Countries; European Parliament (2012): Institutional Framework for Sustainable Development in the Context of the Forthcoming Rio+20 Summit; unep/map (2009): Review and Assessment of National Strategies for Sustainable Development (NSSDs) in the Mediterranean Region.
- <sup>lxxv</sup> Ibid Berger & Steurer (2009).
- <sup>lxxvi</sup> OECD (2009): A background report for the joint Environment and Development Task Team on Governance and Capacity Development for Natural Resource and Environmental Management.
- <sup>lxxvii</sup> Regional Environmental Center/ Umweltbundesamt GmbH (ed.)(2008): Handbook on the Implementation of EC Environmental Legislation.
- <sup>lxxviii</sup> For a review of contemporary concerns on institutional fragmentation with emphasis on global environmental governance see *Fariborz Zelli and Harro van Asselt (2013): The Institutional Fragmentation of Global Environmental Governance: Causes, Consequences, and Responses in the Special issue of Global Environmental Politics on fragmentation (August 2013)..*
- <sup>lxxix</sup> Ibid.
- <sup>lxxx</sup> Integrated pollution prevention and control (No. 2010/75/EU).
- <sup>lxxxi</sup> [http://www.moi.gov.cy/moi/Wildlife/wildlife\\_new.nsf/web06\\_gr/web06\\_gr?OpenDocument](http://www.moi.gov.cy/moi/Wildlife/wildlife_new.nsf/web06_gr/web06_gr?OpenDocument).
- <sup>lxxxii</sup> Directive 2003/87 (Law 110(I)/2011).
- <sup>lxxxiii</sup> <http://epanet.ew.eea.europa.eu/>
- <sup>lxxxiv</sup> University of the Aegean (2002): Design of an Environmental Observation System in Cyprus (in Greek).
- <sup>lxxxv</sup> Also see, OECD (2009): A background report for the joint Environment and Development Task Team on Governance and Capacity Development for Natural Resource and Environmental Management.
- <sup>lxxxvi</sup> National Observatory of Athens (2003): Cyprus Inspectorate: Inspecting & Enforcing Agency for Environmental Compliance.
- <sup>lxxxvii</sup> Scott Wolcott, PE. (2008): The Environmental Management Skills Set: A balance between engineering/science and management. Summary of the results of relevant Workshops.
- <sup>lxxxviii</sup> <file:///C:/Users/hp/Desktop/WORLD%20BANK/MASTER/Environmental%20protection%20expenditure%20-%20Statistics%20Explained.htm>

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<sup>lxxxix</sup> Current expenditure for environmental protection includes payments to keep environmental departments running, staff costs and other costs for daily activities within the domain of environment, covering all sectors, from waste management to soil and water protection to protected area management, by the public sector (general government, including all ministries, agencies, and quasi- governmental organizations).

<sup>xc</sup> [http://www.cystat.gov.cy/mof/cystat/statistics.nsf/energy\\_environment\\_82main\\_gr/energy\\_environment\\_82main\\_gr?OpenForm&sub=2&sel=1](http://www.cystat.gov.cy/mof/cystat/statistics.nsf/energy_environment_82main_gr/energy_environment_82main_gr?OpenForm&sub=2&sel=1)

<sup>xc<sup>i</sup></sup> [http://www.moa.gov.cy/moa/wdd/wdd.nsf/mission\\_en/mission\\_en?OpenDocument](http://www.moa.gov.cy/moa/wdd/wdd.nsf/mission_en/mission_en?OpenDocument)

<sup>xc<sup>ii</sup></sup> [http://www.moa.gov.cy/moa/WDD/WDD.nsf/history\\_en/history\\_en?OpenDocument](http://www.moa.gov.cy/moa/WDD/WDD.nsf/history_en/history_en?OpenDocument) access October 25, 2013

<sup>xc<sup>iii</sup></sup> See for example [http://www.wrsc.org/attach\\_image/global-freshwater-availability-capita-2007](http://www.wrsc.org/attach_image/global-freshwater-availability-capita-2007) (accessed November 13, 2013)

<sup>xc<sup>iv</sup></sup> <http://data.worldbank.org/indicator/ER.H2O.INTR.PC> (accessed November 13, 2013)

<sup>xc<sup>v</sup></sup> EC (2012): Position of the Commission Services on the development of Partnership Agreement and programs in CYPRUS for the period 2014-2020, p. 8

<sup>xc<sup>vi</sup></sup> EC (2012): Position of the Commission Services on the development of Partnership Agreement and programs in CYPRUS for the period 2014-2020, p. 8

<sup>xc<sup>vii</sup></sup> [http://www.moa.gov.cy/moa/MS/MS.nsf/DMLcyclimate\\_en/DMLcyclimate\\_en?OpenDocument](http://www.moa.gov.cy/moa/MS/MS.nsf/DMLcyclimate_en/DMLcyclimate_en?OpenDocument)

<sup>xc<sup>viii</sup></sup> Republic of Cyprus, MANRE, WDD: Cyprus River Basin Management Plan (April 2011)

<sup>xc<sup>ix</sup></sup> <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:236:0819:0823:EN:PDF> section 9C. (accessed November 13, 2013)

<sup>c</sup> European Commission (2012) p. 2: Country Specific Assessment of Cyprus River Basin Management Plan. SWD 2012/379 final. Brussels 14 November 2012.

<sup>ci</sup> Communication with WDD Wastewater Dept. on September 13, 2013

<sup>ci<sup>i</sup></sup> WDD organization and staffing study

<sup>ci<sup>ii</sup></sup> This formulation has been taken from the presentation by the WDD Director to the World Bank team (WDD 2013), slide number 4 entitled "Mission of WDD"

<sup>ci<sup>v</sup></sup> <http://www.voda.hr/001-487>

<sup>cv</sup> <http://www.eau.public.lu/administration/organisation/index.html>

<sup>cv<sup>i</sup></sup> <http://www.cgfp.lu/archive-details.html?ref=364>

<sup>cv<sup>ii</sup></sup> <http://www.rowater.ro/sites/en/Site%20Content/Home/Orgazitional%20Structure.aspx>

<sup>cv<sup>iii</sup></sup> <http://www2.dsi.gov.tr/english/about/idarie.htm> <http://www2.dsi.gov.tr/english/about/idarie.htm>

<sup>ci<sup>x</sup></sup> [http://siteresources.worldbank.org/CMUDLP/Resources/Macedonia\\_presentatin.pdf](http://siteresources.worldbank.org/CMUDLP/Resources/Macedonia_presentatin.pdf) (data from 2005)