



THE GOULANDRIS NATURAL HISTORY MUSEUM
GREEK BIOTOPE/WETLAND CENTRE

Training Needs Analysis on wetland inventory using information systems, in Albania

Hatziordanou, Lena and Eleni Fitoka
(editors)



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ALWET	Capacity Building on Conservation of Albanian Wetland Ecosystems
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TRAINING NEEDS ANALYSIS

on a) wetland inventory and b) electronic data management and GIS



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Foreword

The present Training Needs Analysis (TNA) was carried out in Albania in the context of the project “Capacity Building on Conservation of Albanian Wetland Ecosystems (ALWET)” in order to identify training needs in wetland inventory using remote sensing, databases and GIS. Part of the study involved the recording of information on the current status on wetland management and conservation in the country. The collection of information was focused on the identification of gaps that could be filled in through training. Given the scope of the study, it is highly likely that positive developments and achievements with regard to wetland conservation in Albania are under-presented.

Parties with an interest in wetland conservation and management in Albania, notably those who have provided an input to the TNA, are warmly encouraged to provide the authors with comments and recommendations for improvements.

Working Team

Development of Questionnaires

Apostolakis Antonis (EKBY)
Fitoka Eleni (EKBY)
Hatziordanou Lena (EKBY)
Partozis Thanasis (EKBY)

Circulation and translation of questionnaires

Bego Ferdinand (ECAT, member of Adaptation Working Group)
Bino Taulant ((ECAT, member of Adaptation Working Group)
Gace Arian (ECAT, member of Adaptation Working Group)
Mima Marieta (ECAT, ALWET project coordinator)
Simixhiu Valbona (ECAT)

Questionnaire analysis

Hatziordanou Lena (EKBY)

Training Design

Apostolakis Antonis (EKBY)
Fitoka Eleni (EKBY)
Hadjicharalambous Helena (EKBY)
Hatziordanou Lena (EKBY)
Partozis Thanasis (EKBY)

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CHAPTER 1: INTRODUCTION

1.1 Background information

The three years project “Capacity Building on Conservation of Albanian Wetland Ecosystems (ALWET)” started in January 2004. It is jointly executed by the Environmental Centre for Administration and Technology ECAT –Tirana (beneficiary) and the Goulandris Natural History Museum – Greek Biotope/Wetland Centre (EKBY). The project is co-financed by the European Commission and the Directorate General of Forestry and Pastures of Albania with the support of the Ministry of Environment of Albania.

The overall project objective is to build capacities, transfer know-how and establish the basis for the maintenance of national wetland archives, as a primary prerequisite for wetland conservation in Albania. In the context of the project the following are foreseen.

- i) Conduct a **Training Needs Analysis (TNA)** regarding wetland inventory issues and identify the current status on wetland management and conservation; It is conducted as an essential preparatory action on which the training design will be based.
- ii) Train Albanian scientists involved in wetland conservation and management in wetland inventory using remote sensing, databases and GIS; EKBY’s expertise and experience as well as the know-how of the Mediterranean Wetland Initiative (MedWet) on wetland inventories will be transferred to Albanian bodies involved in wetland conservation and management in order for them to undertake wetland inventory actions using information systems compatible with other countries in the Mediterranean. A series of **seminars** and a **training package** will be produced based on results of the Training Needs Analysis as well as on the recent relevant developments of the Convention on Wetlands (Ramsar) and of the MedWet Initiative.
- iii) Follow up training results by conducting a pilot inventory at three wetland sites applying the MedWet Inventory method. Trained Albanian scientists will perform the inventory and will produce wetland habitat maps and store data in the MedWet database.
- iv) Establish basic infrastructure in terms of hardware and software for the maintenance of national wetland inventory archives.

Moreover the project includes dissemination of project results and raising public awareness of wetland conservation and of the importance of maintaining up-to-date national wetland archives.

1.2 Steps in conducting the Training Needs Analysis (TNA)

Training Needs Analysis (TNA) is the process of identifying and evaluating needs in a community or other defined group of people. The identification of needs is the process during which “problems” of a target population are determined and possible solutions are suggested. A need has been described as a gap between a current situation and a desired result (Witkin et al., 1995). Reviere (1996) describes it as a gap between real and ideal that is both acknowledged by community values and potentially amenable to change.

A TNA focuses on the future, or what should be done, rather than on what was done as is the focus of most program evaluations. The necessary steps needed to be followed for a TNA are listed below:

- a) Determination of main **objectives** to be achieved,
- b) performance of a **Gap Analysis** to identify the current skills, knowledge and abilities of respondents and the organisational and personal needs,
- c) identification of priorities for training (**Training Needs**),
- d) identification of possible approaches to cover training needs (**Training Design**).

1.2.1 Objectives

The most important step in a TNA is to clarify the objectives to be achieved. These objectives have to be specified before initiating the collection of information.

The main objective of the present TNA is to identify the current and desired situation of Albanian scientists, working on wetland conservation and management, as regards their knowledge and skills in undertaking wetland inventories using modern technology tools such as remote sensing, databases and GIS so as enable the design of training activities.

The target groups included scientists working in organisations (public services, educational institutes, research institutes, non governmental organisations). With regard to organisations, part of the TNA involved the identification of the current and desired situation as regards the involvement of organisations in the conservation and management of wetlands in Albania; the aim was to relate training to the desired outcome, i.e. the conservation of Albanian wetlands,

and to consider the needs associated with improved management of Albanian wetlands in the process of the determination of training objectives and content.

1.2.2 Gap Analysis

The Gap Analysis aims to compare the actual performance of the organisations and people to the desired situation. It focuses on:

- a) *current situation*: the actual skills, knowledge and abilities of people, and
- b) *desired situation*: job tasks as well as the skills, knowledge, and abilities needed to accomplish the tasks successfully.

The analysis of the desired situation also involves the identification of factors that could contribute to improving the current situation. The difference (gap) between the current and the desired situations will help identify the training needs.

1.2.3 Identification of training needs

The third step of the TNA is to identify priorities with regard to specific needs that can be addressed through training and which are important in view of the organisational needs. The identification of the training needs will help suggest possible approaches and ways to cover them.

1.2.4 Identification of possible approaches

Following identification of training needs, it is important to develop the Training Design. In general this includes determination of general and specific training objectives and selection of the appropriate topics that correspond to the training needs of the target groups and of the training methods that will be used for their training (Hadjicharalambous and Gerakis, 2003).

In addition to training, other interventions for further improvement of the current situation such as the establishment of appropriate departments, the creation of certain job positions, etc may be appropriate.

CHAPTER 2: METHODS

The questionnaire survey combined with focus group meetings were applied for the TNA of the ALWET project.

The questionnaire survey was chosen as an efficient way to gather data from a potentially large number of respondents and to provide easy-to-analyse data.

A questionnaire survey is a multi-stage procedure beginning with the definition of the questions to be answered and ending with the interpretation of the results. The steps required for the survey were:

- Determination of the target groups (population).
- Development of questionnaires.
- Distribution of questionnaires.
- Collection of questionnaires.
- Analysis of questionnaires.

The main weakness of the questionnaire survey is that it takes considerable time to distribute, translate, process, analyze and report. Furthermore, the fidelity and variability of question interpretation among respondents is known to be one of the serious sources of error that threaten the reliability and validity of answers to questions (Fowler & Cannell, 1996; Groves, 1989; Lessler & Kalsbeck, 1993; Schober & Conrad, 1997). If the respondent misinterprets the question, the respondent will virtually never provide a valid answer to the question.

Therefore, to minimise interpretation problems and overcome the above weaknesses, a series of meetings with representatives of the target groups were organised (see also paragraphs 2.3 and 2.4 below). These meetings aimed to:

- a) introduce the objectives of both the project and the TNA, promote the importance of the questionnaire survey, inform the participants on the steps of the survey and on their expected contribution and encourage them and assist them on filling in the questionnaires, and
- b) explore issues regarding the training needs of the target groups through group discussion.

2.1 Target groups

During the Albanian wetlands inventory project (Mima et al. 2003), the need for Albanian scientists working in the field of nature conservation to increase their knowledge and skills in wetland inventories using information systems was broadly acknowledged. As a result the ALWET project, which followed the Albanian wetlands inventory project, included among its objectives, the response to this need. According to the ALWET project design the target group of the TNA is defined as scientists who work in organisations active on wetland conservation and management. This is divided into three major target groups, namely scientists working respectively in: (i) the Educational and Research Institutes, (ii) the Central and Regional Services and (iii) the Non Governmental Organisations (NGO).

A thorough list of organisations of the three groups mentioned above was developed by ECAT taking into consideration two criteria: a) involvement in wetland conservation and b) gathering and storage of data on wetlands.

For each included organisation, a list of scientists was developed also by ECAT. This list included Heads of the organisations as well as scientists working in the organisations. For the identification of these see paragraph 2.3 below.

The questionnaire survey addressed all the people listed.

2.2 Development of questionnaires

To address the objectives of the present Training Needs Analysis, two questionnaires were developed.

The first questionnaire is entitled “*Conservation and management status of wetlands*” (Appendix I). It focuses on the understanding of the status of wetland management in Albania.

The second questionnaire is entitled “*Training needs at national level regarding a) wetland inventory, and b) electronic data management and GIS*” (Appendix II). The questionnaire is divided into two parts. Part I is to be filled in only by Heads of organisations and Part II, by both Heads and scientists working in the organisations. Part II is divided to two sections: (A) wetland inventory and (B) data bases and GIS.

The questionnaires were developed in order to obtain information on three main issues, i.e.: a) the current status of conservation and management of Albanian wetlands, b) the current level

of knowledge of the Albanian scientists, and c) the training needs according to the Heads of the organizations and to their employees. These issues are analysed as follows.

A) The current status of conservation and management of Albanian wetlands. This is analysed into the following five concepts which are investigated through questions included in both questionnaires:

- *Which are the organizations that are involved in wetland conservation and management and what are their activities?* (questions 1, 2 and 3 of the “Conservation and management status of wetlands” questionnaire).
- *What is the organization’s opinion on the wetland conservation and management status in the country?* (questions 4, 5 and 6 of the “Conservation and management status of wetlands” questionnaire).
- *Which national scheme could be proposed for maintaining wetland inventory archives?* (question 7 of the “Conservation and management status of wetlands” questionnaire).
- *What is the organizations’ structure in terms of job positions, jurisdictions and responsibilities in respect of wetland conservation and management and more specifically of wetland inventories?* (questions 1, 3, 4 and 5 of the “Training needs at national level regarding a) wetland inventory, and b) electronic data management and GIS-Part I” questionnaire).
- *What is the involvement of the organisations in wetland inventory activities and keeping up of relevant archives* (question 3 of the “Conservation and management status of wetlands” questionnaire, in combination with question 2 of the “Training needs at national level regarding a) wetland inventory, and b) electronic data management and GIS-Part I” questionnaire)

B) The current level of knowledge of the Albanian scientists. This is analysed into the following two concepts which are investigated through questions included in Part II of the questionnaire “Training needs at national level regarding a) wetland inventory, and b) electronic data management and GIS”.

- *What is the scientists’ experience and knowledge on wetland inventories?* (questions 4 to 7 of section A of the questionnaire)
- *What is the scientists’ experience and knowledge on using data bases and GIS?* (questions 9 to 24 of section B of the questionnaire).

C) Training needs according to the Heads of the organisations and of their employees.

This regards the concept “*Which are the areas where lack of knowledge and expertise exists?*”, which is investigated through questions 6, 7, 8, and 9 of Part I and 8 and 25 of Part II of the “Training needs at national level regarding a) wetland inventory, and b) electronic data management and GIS” questionnaire.

The questionnaires were designed to gather both qualitative and quantitative data. All questions were carefully phrased, in order to avoid ambiguity. The questions were either open or closed format. Closed format questions required sufficient choices to fully cover the range of answers. To avoid the mis-interpretation between the given choices, a neutral opinion response was often included among the available choices.

2.3 Distribution of questionnaires

An “Adaptation Working Group (AWG)”, which consisted of the ALWET project Administrator, the Scientific Coordinator and three Albanian scientists, was responsible for the distribution of the questionnaires to the target group and for the coordination of their filling in. The three Albanian scientists members of the AWG organised a number of meetings and discussions to support and guide the filling in of questionnaires. Assistance and encouragement were provided throughout the process of filling in the questionnaire up to a reasonable level.

The distribution of questionnaires started at the commencement meeting of the ALWET project that took place at Tirana in 14th of April 2004 and was further promoted through meetings that the AWG had with heads and representatives of the selected organisations (see paragraph 2.4 below), as well as through the existing channels of communication of ECAT-Tirana. The heads and representatives then undertook to further distribute the questionnaires to other employees of the organisations which were holding relevant positions, according to their judgement.

The procedure of distribution, filling in, collection and translation in English of the completed questionnaires started at mid-April and the majority of completed and translated questionnaires were sent to EKBY by the end of August 2004 for data entry and analysis. A small number of additional organisations were also approached in early 2005, due to the interest expressed by them in getting involved in the ALWET training. Overall, the questionnaires were circulated to 92 scientists in 47 organisations.

2.4 Focus groups meetings with Heads and employees from organisations

A series of focus groups meetings with the Heads and representatives of several organisations were held in order to a) facilitate the questionnaire survey and b) complement the results of the questionnaire survey. During these meetings the ALWET project and the aims of the TNA survey were presented, training needs regarding wetland inventory, databases and GIS were discussed and the specific topics to be included in future training sessions were proposed. These meetings were also used as an opportunity for the exchange of ideas on different aspects of wetland monitoring and management.

More specifically, 3 open meetings were organised in Tirana with representatives from Educational and Research Institutes. Thirty-two persons attended the 1st meeting, 23 the 2nd meeting and 19 the 3rd meeting (Appendix III). Additionally, 3 open meetings were organized also in Tirana with representatives from the Central and Regional Services (Regional Environmental Services-REAs and Ministry of Environment-MoE). Twenty-seven persons attended the first meeting, 25 the second meeting and 21 the third meeting (Appendix III).

Finally 3 meetings were held with representatives of several local NGOs. The first meeting took place in Lezha, the second in Shkodra and the third in Pogradec. In the first meeting one NGO representative and the head of the local REA (REA Lezha) were present. Four persons attended the second meeting and 4 the third meeting (Appendix III).

The results of these meetings were summarised in meeting minutes.

2.5 Responses to questionnaires

Eighty-two questionnaires, completed by 53 persons, were gathered spanning the 3 target groups from all major regions of Albania. These 53 persons completed either one or both questionnaires depending on their job position. More specifically, 34 responses came for the “Conservation and management status of wetlands” questionnaire and 48 for the “Training needs at national level regarding WI, databases and GIS” questionnaire. The response to both questionnaires demonstrates a general interest in the issue. Table 2.2.1 shows the breakdown of responses per target group and Table 2.2.2 shows the responses per region.

A list of the organisations that have participated in the questionnaire survey can be found in Appendix IV, whereas a list of all the respondents that filled in the questionnaires is included in Appendix V. Despite the efforts made by the AWG through meetings 16 organisations

have not responded. A list of persons to whom the questionnaires were distributed and the respective response rate can be found in Appendix VI.

Table 2.2.1: Breakdown of total responses from the main target groups.

Target groups	“Conservation and management status of wetlands”			“Training needs at national level regarding WI, databases and GIS”		
	Sent	Received	Response rate	Sent	Received	Response rate
Educational-Research Institutes	25	9	36 %	25	20	80 %
Central & Regional Services	49	14	29 %	49	14	29 %
Non Governmental Organisations (NGOs)	18	11	61 %	18	14	78 %
Total	92	34		92	48	
Total response rate	37 %			52,2 %		

Table 2.2.2: Breakdown of responses from the main target groups per region.

Regions	Educational-Research Institutes	Central & Regional Services	Non Governmental Organisations (NGOs)	Total per region
Berat	0	1	0	1
Diber	0	1	0	1
Durres	1	1	0	2
Fieri	0	2	0	2
Kukes	0	1	0	1
Lezha	0	2	0	2
Pogradec	0	1	1	2
Puke	0	1	0	1
Saranda	0	1	0	1
Shkoder	0	2	5	7
Tirana	20	2	9	31
Vlora	0	1	1	2
Total per category	21	16	16	53

2.6 Analysis of data

The processing and analysis of the questionnaires began by entering and organising all answers in the completed questionnaires in Excel spreadsheets. All answers given to each question of the two questionnaires were organised per respondent. In this way, a quick display of all the completed questionnaires could be provided and an effective analysis and interpretation could be carried out.

The analysis of quantitative data involved frequency counts and calculation of percentages. The closed format questions enabled the easier calculation of percentages over the whole group and over subgroups of respondents. This enabled quick analysis and production of graphical charts or pies.

The analysis of answers to open format questions was more complicated. It was approached through Content Analysis, both relational and conceptual.

The *relational content analysis* involved recognising relationships within the concepts described in paragraph 2.2 in order to produce summarised conclusions. For example, a combination of the answers to questions 1, 3, 4, 5 and 6 of the questionnaire “Training needs at national level regarding a) wetland inventory and b) electronic data management and GIS – Part 1” (see paragraph 3.2 below) was used to identify which are the main job positions of organizations dealing with wetland conservation and management and which skills for carrying such jobs are considered necessary by the Heads of the organizations, reflecting their request for the training of their employees.

Given that open format questions enabled the expression of the respondents’ opinion on several issues, they have proved appropriate for soliciting subjective data. An obvious advantage was also that the variety of responses was wide. In many questions this increased the number of unexpected and insightful suggestions, but also increased the amount of irrelevant responses. The data storage of the answers in spreadsheets enabled fast preview and search per respondent.

However, the analysis and interpretation of open format questions required more analysis time and carefully consideration of each respondent’s background. Some of the open format questions resulted to answers that included multiple opinions on a specific subject, part of which might have been also answered by other respondents but expressed in a different way.

These cases disabled any kind of frequency computation or calculation of percentages. The analysis process followed for them was the conceptual content analysis.

Firstly, for the selected concepts – outputs of the open format questions - the presence of certain key words or phrases within the answers was explored (Busch et al, 2005). A list of key words/phrases was used for classifying each answer. In many cases, answers were classified under more than one key words/phrases. The analysis was assisted by recognising that for each key word/phrase there were descriptions stronger than others. Those key words/phrases were high weighted and a hierarchic list of the most frequently mentioned was formulated. The second stage of the analysis used the facility of the spreadsheets to sort the weighted key words/phrases, in order to identify which were the opinions mentioned by most of the respondents.

The conceptual content analysis was applied for analyzing the answers given to questions 4, 5 and 6 of the “Conservation and management Status of Albanian wetlands” questionnaire, and to questions 1, 3, 4(i), 7, 8 and 25 of “Training needs at national level regarding a) wetland inventory and b) electronic data management and GIS” questionnaire.

All relevant spreadsheets archives are stored in pdf format in the CD-Rom attached to this report. The CD-Rom includes also this report in electronic format (pdf file) plus additional results of the TNA. For ensuring confidentiality, the answers of respondents are noted with numbers, the federal identification number of each respondent being recorded at the spreadsheet.

The analysis of questionnaires described above was supplemented by the input provided from the focus group meetings. This input came in the form of the minutes taken for each meeting. The part of the target groups meeting minutes that regarded the questions of the present TNA was compared to the results of the questionnaire survey for reasons of triangulation. This promoted the validity of the study and the quality of the results.

CHAPTER 3: RESULTS

3.1 “Conservation and management status of Albanian wetlands” questionnaire.

A total of 34 scientists answered this questionnaire. The respondents covered all target groups. Figure 3.1.1 indicates that 14 out of 34 responses (42%) were received by Central and Regional Services, 11 (32%) responses by NGOs and 9 responses (26%) by Educational and Research Institutes.

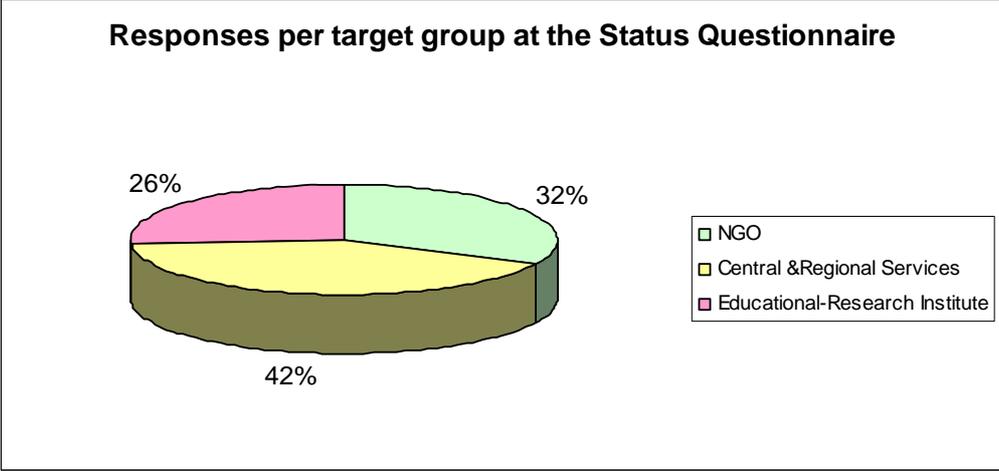


Figure 3.1.1 Responses (%) per target group.

The questionnaire contained seven questions, most of them with an open format. The responses helped identify the status of wetland management in Albania, the sufficiency of current regulation, the bodies involved in conservation and management of wetland resources, the main tasks that they elaborate and their existing data sources. Detailed results are presented below:

Question 1:

Is your organisation involved in wetland management?

The answers to this question reflected that a large amount (71%) of organisations is involved in wetland management. The majority of positive answers were given by scientists that work in Central and Regional Services (Table 3.1.1). This question enabled also to identify which are those Albanian organisations that are actually involved in wetland management. A list of them can be found in Appendix VII.

Table 3.1.1 Number of organisations per target group, involved in wetland management.

Target group	Total answers	Positive answers	Negative answers
Central & Regional Services	14	14	0
Educational-Research Institutes	9	6	3
NGO	11	4	7
TOTAL	34	24	10

Question 2:

If yes, list the main responsibilities of your organisation with regard to wetlands.

Most of the Albanian organisations' main responsibilities are related to control of current activities in wetlands, conservation issues, sustainable use of wetlands, raising public awareness on values and functions of wetlands and environmental analysis as part of the procedure of issuing licenses for activities in wetlands or nearby them.

Other activities mentioned are related to monitoring of lagoons and other wetlands situated in the Albanian seashore (threatened habitats, threatened species, trophic status of lagoons and other wetlands); inventory of wetland flora, vegetation and fauna in wetlands of Albania; collection of data and information on hunting, fishing, habitats; monitoring; creation and adaptation of legal frameworks for management of wetland and coastal ecosystems; preparation of environmental protection strategies and policies; management planning; training (regional and local) in wetland management.

Question 3:

List the data collections on wetlands (i.e. field data, maps, photos) that your organisation maintains.

The types of available field data vary and depend on the organisation. For example, the Hydro-meteorological Institute keeps perennial data on meteorological, hydrographical and water quality parameters, whereas other organisations keep data on plant communities, fauna, flora, physical and chemical parameters etc. ECAT-Tirana appears to maintain an integrated collection of wetland data that collected through the Inventory of Albanian Wetlands DAC

Project, such as a comprehensive list of the Albanian wetlands and MedWet data at catchment level (climate, geomorphology, geology, hydrology, population, land use) and at site level (physiography, Ramsar types, values, conservation and management status, flora, fauna, activities and impacts, meteorological data). ECAT-Tirana keeps also data collections on the Kune-Vain Lagoon (assessment of soil and water pollution from industrial and urban sources and related impacts at Kune-Vain area, MedWet Wetland habitat description of Kune-Vaini Lagoon system, data on the trophic level and plankton community, pedological, physical-geographical, hydrological, geological and social-economic data, as well as several maps such as an environmental map, an environmental risk and impact map and a prognoses environmental map).

Most of the other respondents answered that their organisation holds several maps and photos, without specifying in detail what types of maps they have. Moreover, some organisations maintain also scientific collections, field data, slides and booklets.

Question 4:

Do you think that wetland management in Albania is sustainable? What are the main weaknesses and what improvements would you propose?

Eighty five percent (85%) of the respondents claimed that wetland management in Albania is not sustainable (Figure 3.1.2). Six percent (6%) was satisfied with the current status, whereas three percent (3%) thought that there is some improvement, but still there is a lot to be done to improve the current situation. Special reference has been made to coastal wetlands with regard to hydrological isolation from the freshwater supply of the catchment resulting in serious stresses due to salinity and lack of flushing during winter time and ultimately eutrophication.

The main weaknesses to the current status appear to occur due to:

- Unclear legal status and legal framework regarding wetland management. Low efficiency of existing strategies and action plans due to lack of proper scientific information imbedded in such documents.
- Lack of coordination of activities between different institutions and specialists from different fields, in combination with an absence of a steering committee for wetland management.

- Lack of human capacities, equipments and financial means.
- Low environmental awareness and lack of information on anthropogenic impact on wetland systems.
- Unclear land ownership
- Lack of manuals on wetland management in Albanian language.

Most of the respondents proposed that improvements should be made regarding the legal status for wetlands. They proposed to apply action plans and prepare a national wetland strategy and demonstration models of how wetlands could be managed in a sustainable manner. One respondent suggested that freshwater input to coastal wetlands should be re-established urgently and proposed specific methods to apply. Other improvements proposed by the heads of other institutes were: capacity building, law enforcement, quality control on spending of funds and logistic support.

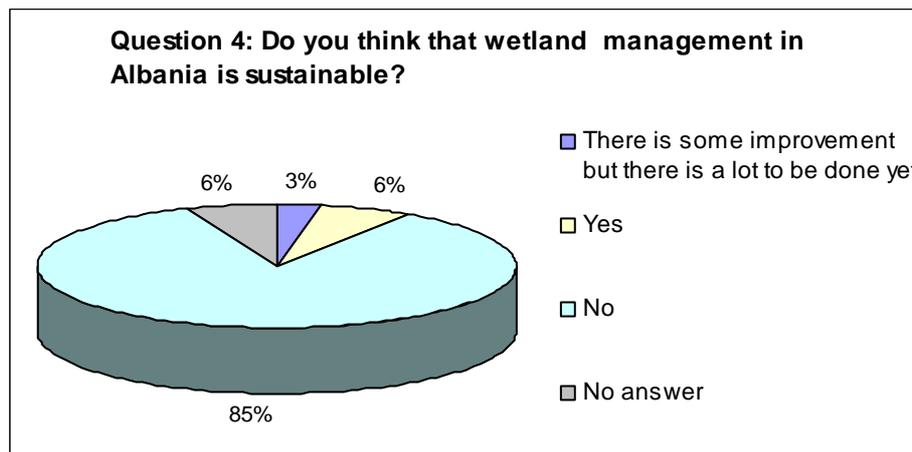


Figure 3.1.2 Scientists' opinion on the sufficiency of sustainable management of Albanian wetlands (%)

Question 5:

Do you consider the existing regulations and laws which refer to conservation and protection of wetlands sufficient? If not what additional laws and regulations are needed?

Fifty eight percent (58%) considered the existing regulations and laws insufficient (Figure 3.1.3). It appears that there is a strong need for improvement of existing regulations and

preparation of new ones, regarding the sustainable use of wetlands and their protection and management. The most common given answers are cited below:

- Regulations and guidelines on sustainable use, wetland protection and management should be prepared and approved.
- The problem of land ownership and rights of use of wetlands should be resolved.
- Special regulations for transboundary water bodies and integration of such concerns into the national strategies.
- Standards for the water quality (they are missing).
- Appropriate regulation on the urban development of wetland areas, on the criteria for their use as well as for the establishment of a central and local infrastructure.
- National program for mapping/cadastre of wetlands.
- New regulations for fishing, special habitat protection like reed beds.
- New regulations that state clearly without ambiguity the roles and responsibilities of different bodies involved in wetland management.
- New regulations and/or amendment of existing ones that allow or ask for independent reviews of decisions taken by Government by Scientific institutions or NGOs.
- A Decision of the Council of Ministers (DCM) on protection and management of wetlands should be issued; Regulations in support to DCM on wetlands should be prepared and implemented.

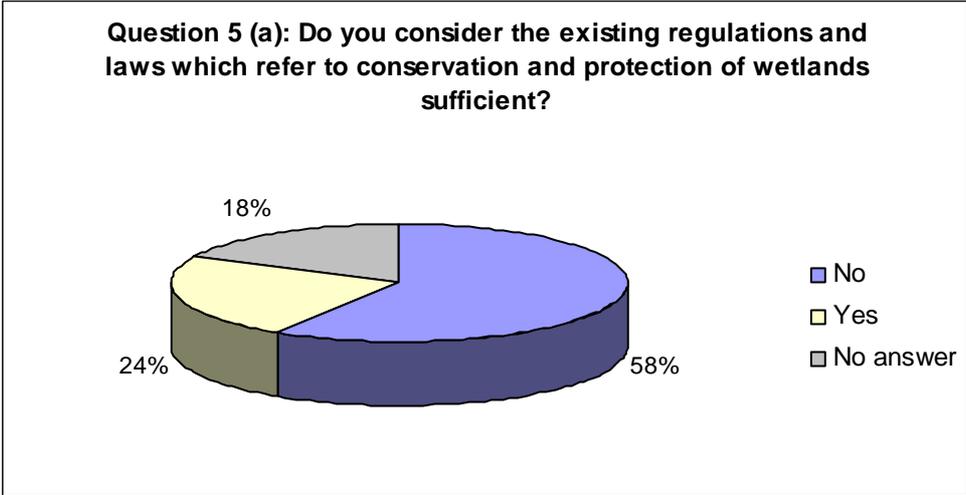


Figure 3.1.3 Opinions on adequacy of existing regulations and laws regarding wetland conservation and protection in Albania (%).

Question 6:

List the main factors constraining the implementation of regulations and laws with respect to conservation and protection of wetlands.

A 18% out of 34 respondents did not answer this question. Of the remaining it appears that the major factors that constrain the implementation of regulations are:

- lack of capacity (training, human and financial resources);
- insufficient professional education;
- low public environmental awareness regarding values and functions of wetlands;
- lack of understanding of existing laws;
- lack of law enforcement and of structures specialised on it;
- social and economical problems of the local communities living next to wetlands;
- absence of a wetland conservation strategy for the country;
- inefficient wetland management;
- lack of institutional co-ordination regarding protection and management of wetlands;
- unclear institutional responsibilities on wetland management and several overlapping;
- negative interference of politics into decision making;
- lack of political will;
- few investments on wetland protection and management.
- weak banking sector and general poverty.

Question 7:

If inventory was planned for Albanian wetlands what would be the ideal organisation or organisations:

(i) to seek funding

Most of the respondents proposed that a special fund should be approved. Many also thought that the ideal organisation to seek funding should be the Ministry of Environment, whereas some also saw as an option for funding several scientific institutes, regional services and local authorities, related to wetlands. The most common given answers are shown in Table 3.1.2.

Table 3.1.2 Proposed organisations that could be responsible to seek funding.

Ideal organisations to seek funding:
A special fund dedicated to wetland management.
Ministry of Environment.
Involvement of a large number of institutions aiming at summing up of funds for wetland inventory and management.
Academy of Sciences, Biological Research Institute, World Bank, Ministry of Food and Agriculture.
Local authorities/local Government, Regional Environmental Agencies, Scientific institutions, wetland scientist/specialists.
Private sector, International donors
Those organisations/structures that in the last years have been active in environmental protection, Local government (commune, municipality), Regional Environmental Agencies, State Institutions.

(ii) to undertake inventories

Most of the respondents proposed that a wetland inventory in Albania should be undertaken by the staff of Regional Environmental Agencies. Some also proposed that inventorying should be undertaken by those organisations that have extensive information on wetlands and also have proper equipment to carry out such inventories. Other proposals included the Ministry of Environment and many Educational and Research Institutes such as: the Faculty of Natural Sciences (Museum of Natural Sciences, Biology Department), the Academy of Sciences, the Biological Research Institute, the Forestry Institute, the Hydro-meteorological Institute, and the Fisheries Institute. Some of the respondents considered also that NGOs’ staff should be involved, in cooperation with working groups from research institutes as well as with local experts.

(iii) to function as national focal point for the wetland inventory data dissemination and reporting

Sixty two percent (62%) of the respondents agreed that a national focal point for the wetland inventory data dissemination and reporting should be established at the Ministry of Environment (Figure 3.1.4). Others also considered that a particular Wetland National Centre should be established, whereas some thought that Regional Environmental Agencies and private organisations could take this role.

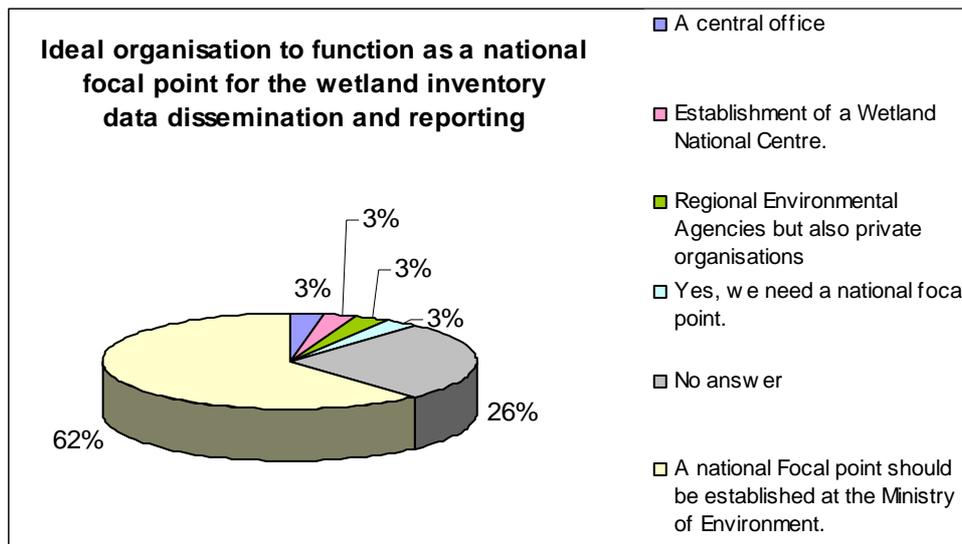


Figure 3.1.4 Proposed organisations to act as national focal points for wetland inventory data dissemination and reporting.

(iv) to provide services regarding electronic data management.

The ideal organisations to provide services regarding electronic data management appeared to be the Regional Environmental Agencies, since almost 30% (10 out of 34) of the respondents proposed them. Other proposed organisations were the Ministry of Environment, the Centre for Electronic Communication and the Institute of Informatics. An establishment of a central wetland database, which would enable the scientific institute to access information and data, was also proposed, together with technical and professional skills and equipment for ensuring the electronic access to the database and to websites that provide data.

3.2 “Training needs at national level regarding a) wetland inventory and b) electronic data management and GIS” questionnaire.

The questionnaire “*Training needs at national level regarding a) wetland inventory, and b) electronic data management and GIS*” consists of two parts. Part I, was filled in only by Heads of organisations and Part II was filled in by all.

The first part (Part I) aimed to identify the profile of the organisations involved in the fields of wetlands inventory, electronic data management and application of GIS. It also intended to

identify relevant job positions and tasks undertaken by their employees, as well as the knowledge and skills required for the successful performance of these job positions. Beyond this, it aimed to explore the Heads' opinions on the training of their employees.

The second part (Part II) aimed to identify the persons that undertake or could potentially undertake inventory planning and implementation, electronic data management and application of GIS. Moreover, it intended to record the level of their current knowledge and skills in these fields and to examine the employees' intention regarding the training.

A total number of 48 scientists answered this questionnaire. Most of the responses came from Educational Research Institutes (42%) whereas the remaining covered almost equally the rest of the target groups (Figure 3.2.1). In particular 20 out of 48 responses came from Educational Research Institutes, 14 responses were given by Central and Regional Services and 14 responses were given by Non Governmental Organisations.

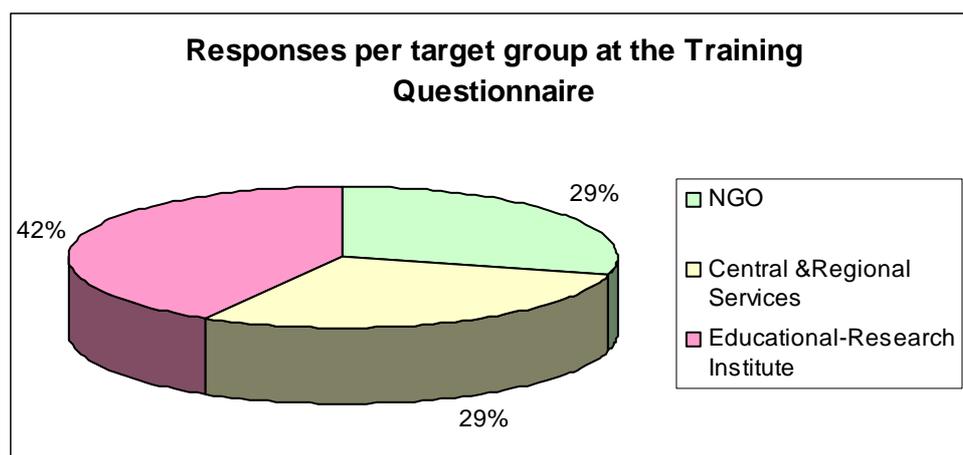


Figure 3.2.1 Responses (%) per target group at the “Training Needs” questionnaire.

Profile findings:

The demographic characteristics of the sample showed that:

- only 23% of the sample had very good English knowledge level, a large amount (65%) of the respondents had good English knowledge level whereas the rest of the sample either had no knowledge at all (6%) or did not answer this question (6%) (Figure 3.2.2).
- a 31% of the respondents were between 30-40 years old; about 23% were over 50 years old; 23% of them were 40-50 years old and 19% were young (20-30 years old) (Figure 3.2.3).

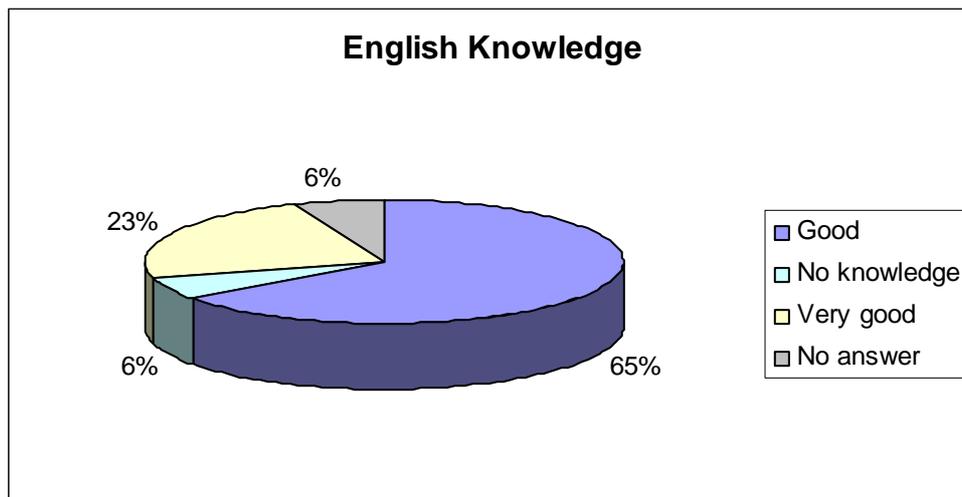


Figure 3.2.2 English knowledge of the respondents (%).

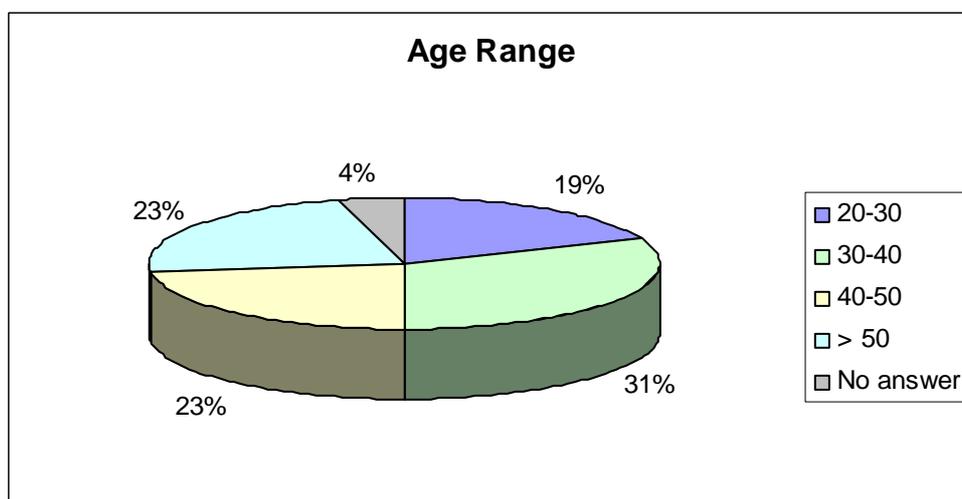


Figure 3.2.3 Age range of the respondents (%).

The following is a summary of the results collected in accordance to the series of questions asked in Parts I and II of the training questionnaire.

3.2.1 Organisational profile derived from answers in Part I of the Questionnaire

Twenty two persons (22) answered Part I of the Training questionnaire. It was filled by the Heads of the organisations of all target groups. Heads of NGOs responded more to this survey (36%). An equal amount of responses was received from Central and Regional Services and from Educational and Research Institutes (32% per each) (Figure 3.2.4).

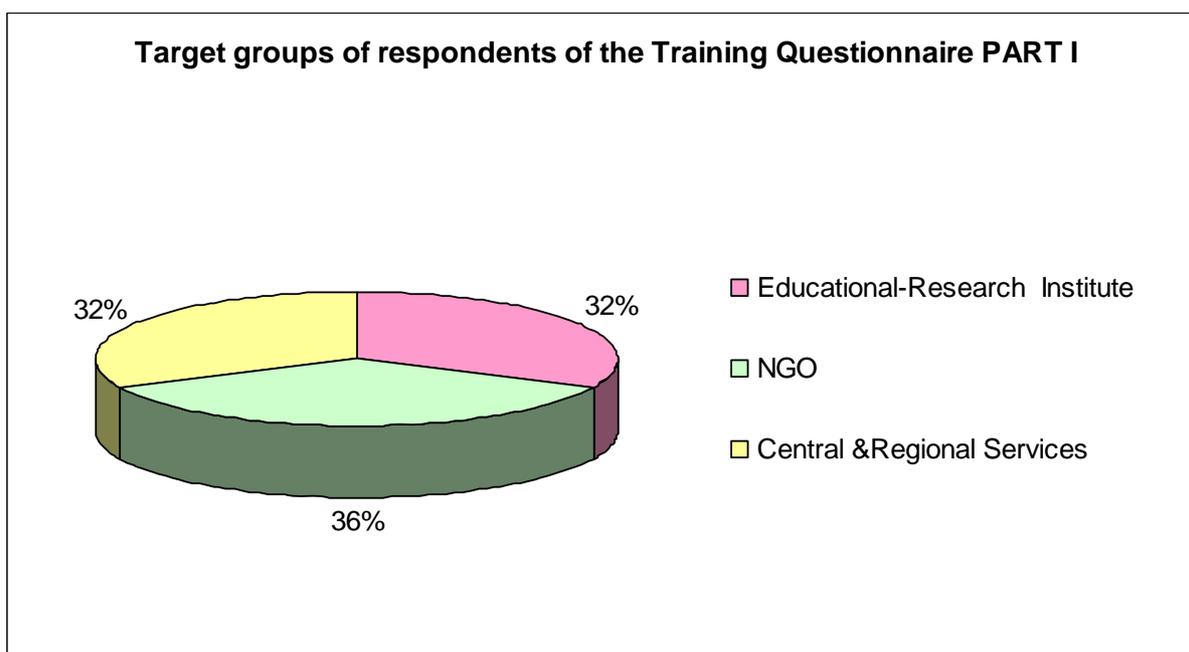


Figure 3.2.4 Responses per target groups at Part I of the Training Questionnaire (%).

The results of the analysis and interpretation of all the answers at Part I are given below.

Question 1

Describe the body's jurisdictions and responsibilities on wetland areas.

Almost one third out of 22 respondents (7) did not answer this question. Of the remaining 15 respondents, 5 answered that their organisation has no legal responsibilities; these were the NGO Association for the Protection and Preservation of Natural Environment Albania (PPNEA), the NGO Tourism and Environment of Pogradec, the Centre of Geographical Studies of Tirana, the Fishery Research Institute-Fishery Stock Department and the GEF Small Grants Program.

From the rest of the responses, it turned out that the main jurisdictions and responsibilities on wetland areas are focused on the protection, management and monitoring of natural resources (including wetlands, water, habitats etc.), on the preparation of management plans in order to decree protected zones and National Parks and on the Environmental Impact Assessment of various activities. Only the head of REA-Lezha answered that its agency jurisdiction is to raise public awareness on values and functions of wetlands.

The results indicate that although there is a lot of effort done from all the environmental organisations on environmental planning and monitoring, public awareness activities in Albania are lagging behind by those organisations. The main responsibilities are those listed below:

- Protection and monitoring of wetlands.
- Monitoring and evaluation of water quality and quantity in Albanian wetlands.
- Collection of data and information on hunting, fishing, habitats.
- Conservation and sustainable use of wetlands.
- Control of current activities in wetlands.
- Environmental Impact Assessment as part of the process of issuing licenses for activities in wetlands or nearby them.
- Implementation of the regulatory framework related to conservation, management and monitoring of wetlands.
- Biodiversity, wildlife management, protected areas, natural resources management, wetland inventory and monitoring.
- Environmental planning.
- Project identification and development.
- Administration and management of protected area and related activities.
- Management plans in order to decree protected zones and National Parks.
- Public awareness on values and functions of wetlands.

The exact answers per organisation are included in Appendix VIII.

Question 2

Has your organisation ever been involved in wetland inventory at: (i) National and / or regional levels? (ii) Site level? (Yes or No)

The responses to this question indicated that organisation's involvement in wetland inventory at national level is quite low (Figure 3.2.5). At the same time there is a greater amount of organisations involved in wetland inventory at site level (Figure 3.2.6).

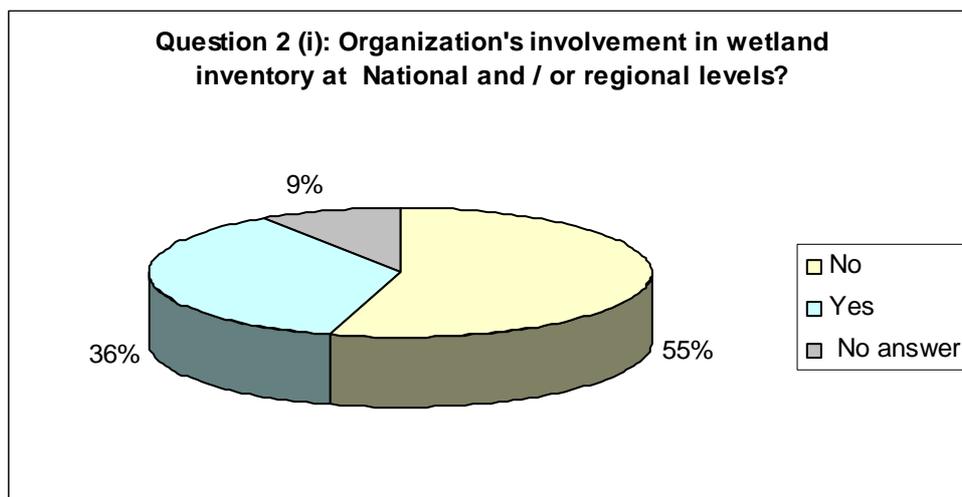


Figure 3.2.5 Organisation's involvement in wetland inventory at national/regional level (%).

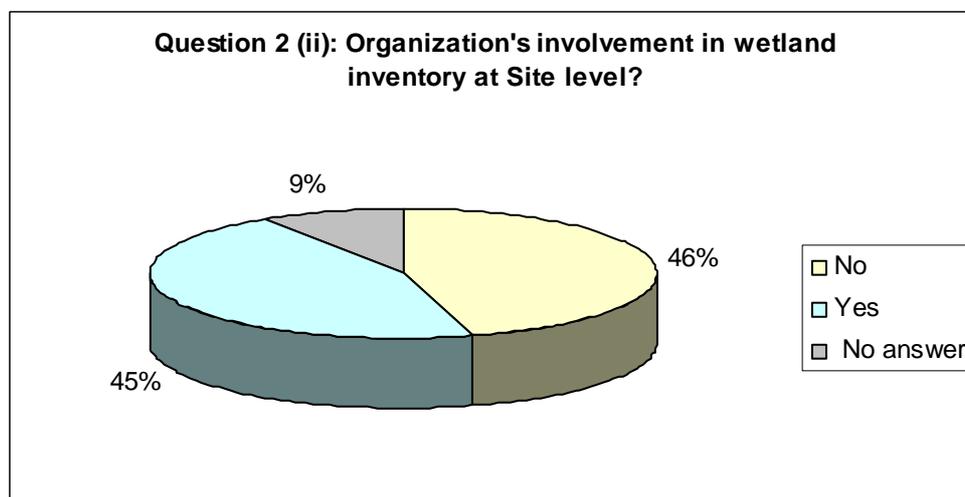


Figure 3.2.6 Organisation's involvement in wetland inventory at site level (%).

Question 3

List job positions of your organisation related to nature conservation and management:

From the total of 22 respondents, 4 did not answer this question. Moreover, 6 respondents answered that their organisation has no specific tasks. Most of them (5) are NGOs, the remaining is the Centre of Geographical Studies of Tirana (Educational Research Institute). It seems that NGOs do not support specific job positions, although their scientific staff is involved in several environmental projects.

From the rest of the responses, it turned out that the main job positions related to nature conservation and management are those listed below:

- Protection, conservation, management and monitoring of wetlands;

- Environmental Impact Assessment of activities linked to wetlands.
- Improvement of legal and regulatory framework on protection and management of wetlands; Implementation of environmental policies and legislation.
- Preparation of management plans and implementation of priority actions.
- Inventory and monitoring of fauna (molluscs, insects, amphibians and reptiles, birds and mammals).
- Monitoring of hydro-meteorological elements, air and water quality and level of pollution in the territory of the Republic of Albania; climatic evaluation and evaluation of water resources of the country; elaboration of data collected by national hydro-meteorological network and their keeping in archive.
- Public awareness on wetlands and coastal ecosystems; exchange of know-how and experience in wetland management; training (regional and local) in wetland management.
- Sustainable management of soils and water, soil classification and evaluation, division of soils according to categories of soil fertility, drainage, irrigation, soil and water pollution, monitoring of soil fertility, soil erosion, etc. Land Use Planning. Collection of analogue and digital data about land use.
- Administration and management of natural resources, forests, pastures, wild flora and fauna, protected areas and related activities. Forests and pastures inventory, wild life inventory. Cadastre and mapping of forests, pastures and protected areas.
- Project compilation and management plans for National Parks and protected zones; permanent information in Ministry of Environment on problems caused from pollution on various areas.

The exact answers per organisation are included in Appendix IX.

Question 4

Which of the above job positions relate to:

(i) wetland inventories

From the answers to this question, that followed the question 3, it turns out that the main jobs related to wetland inventories were those focused on the conservation of biodiversity and on the management of protected areas like:

- inventory and mapping of protected areas;
- monitoring and evaluation of quality and quantity of water bodies in the country;
- monitoring of fauna in coastal wetlands and river ecosystems;
- development of soils' geo-database with the wetland information.
- project compilation and management plans for National Parks and protected zones.

(ii) use of databases

Only 4 out of 22 respondents answered this sub question. It comes up that there are no specific job positions on databases, among the institutes. More specifically, the Project Coordinator of the MedWet Coast Project answered that they support a job position related to databases and this job includes data collection, data update and adaptation of databases. The Department of Land Use Policies of the Soil Study Institute supports job positions related to databases and land use planning. The Environmental Department of the Hydro-meteorological Institute holds job positions related to databases and monitoring and evaluation of the status of water bodies. The department of Forest Management and Inventory of the Forest and Pasture Research Institute holds job positions related to databases mainly regarding information on pollution of several areas. Finally, the Directorate General of Forestry and Pastures supports job positions related to data on activities related to forest and pastures cadastre and wild life inventories.

(iii) Geographical Information Systems

Only 3 out of 22 of the respondents answered this sub question, indicating the lack of such job positions related to GIS. It turns out that the NGOs and the REAs have no such job positions. The project coordinator of the MedWet Coast project answered that their GIS job position focuses on the preparation of management plans and monitoring programs. The Department of Land Use Policies of the Soil Study Institute supports a GIS position dealing with data processing and GIS applications. Finally the Directorate General of Forestry and Pastures supports job positions related to mapping of forests, pastures, wild life inventory and protected areas.

Question 5

a) For each job position list the main tasks related to:

(i) wetland inventories

The tasks undertaken by the employees of each job position related to wetlands inventories for the MedWet coast project are surveys and monitoring of biotic and abiotic features of two project sites (Narta and Orikumi). The tasks undertaken by the researchers of the Museum of Natural Sciences (Faculty of Natural Sciences) have to do the inventory and monitoring of mollusks, insects, amphibians, reptiles, birds and mammals. No other tasks related to the description of the jobs mentioned in question 4 were given by the respondents.

(ii) use of database

The tasks related to the use of databases are those undertaken by the MedWet Coast project with regard to data validation and data development. No other tasks were mentioned by the rest of the respondents.

(iii) Geographical Information Systems

The tasks mentioned are only those undertaken by the MedWet Coast project, related to the update of the software and hardware and the production of maps and other information upon project needs.

b) For each job position list the knowledge and skills required for carrying out:

(i) wetland inventories

Few answers were given to this question. The Museum of Natural Sciences (Faculty of Natural Sciences) indicates the necessity of knowledge on zoology and respective fields of hydrobiology, entomology, herpetology, ornithology and mammalogy. The Directorate General of Forestry and Pastures states that the necessary knowledge for carrying out such jobs is pertinent to wetland ecology, wetland inventory systems, approaches and tools used in wetland inventories.

(ii) use of database

As derived from question 5 (a), REAs do not have specific job positions upon databases, but the required skills for carrying out such job positions are basic knowledge of Microsoft Excel and Microsoft Access. The same answer was given by the coordinator of the MedWet Coast project. The Directorate General of Forestry and Pastures saw as necessity the knowledge on database creation and functioning. The NGOs and Educational and Research Institute's opinions are not available, due to the lack of answers from their representatives.

(iii) Geographical Information Systems

Although REAs do not have job positions related to GIS they consider essential for their staff the knowledge of GIS hardware and software, remote sensing and satellite image processing methods and cartography. The same goes for the MedWet Coast project, whereas the Heads of the NGOs and Educational and Research Institutes did not answer the question. The Directorate General of Forestry and Pastures considered essential for its staff the knowledge of basic GIS applications.

Question 6

Based on current or future needs, do you consider necessary the training of your employees, holding the positions listed under question 2 above, on: (i) wetland inventories, (ii) use of databases, (iii) Geographical Information Systems (GIS)

The Heads of the organisations were asked to prioritize their training needs. Thus, they were asked to rate the three main topics of the training for their employees, based on the current or future needs of their organisations. More precisely they were asked to rate them of high, medium or low importance. Most of the respondents considered the training in wetland inventory to be of high importance (62% out of 22 respondents). A similar interest was expressed for training in databases and GIS (56 and 55% out of 22 respondents respectively). (Table 3.2.1 and Figure 3.2.7).

Table 3.2.1 Necessity for training of the employees, as expressed by the Heads of the organisations.

Based on current or future needs, do you consider necessary the training of your employees, holding the positions listed under question 2 above, on:	Wetland inventories	Databases	GIS
Highly	14	13	12
Rather	4	5	8
Hardly	1	0	1
No answer	3	2	1
Other	0	2	0
TOTAL	22	22	22

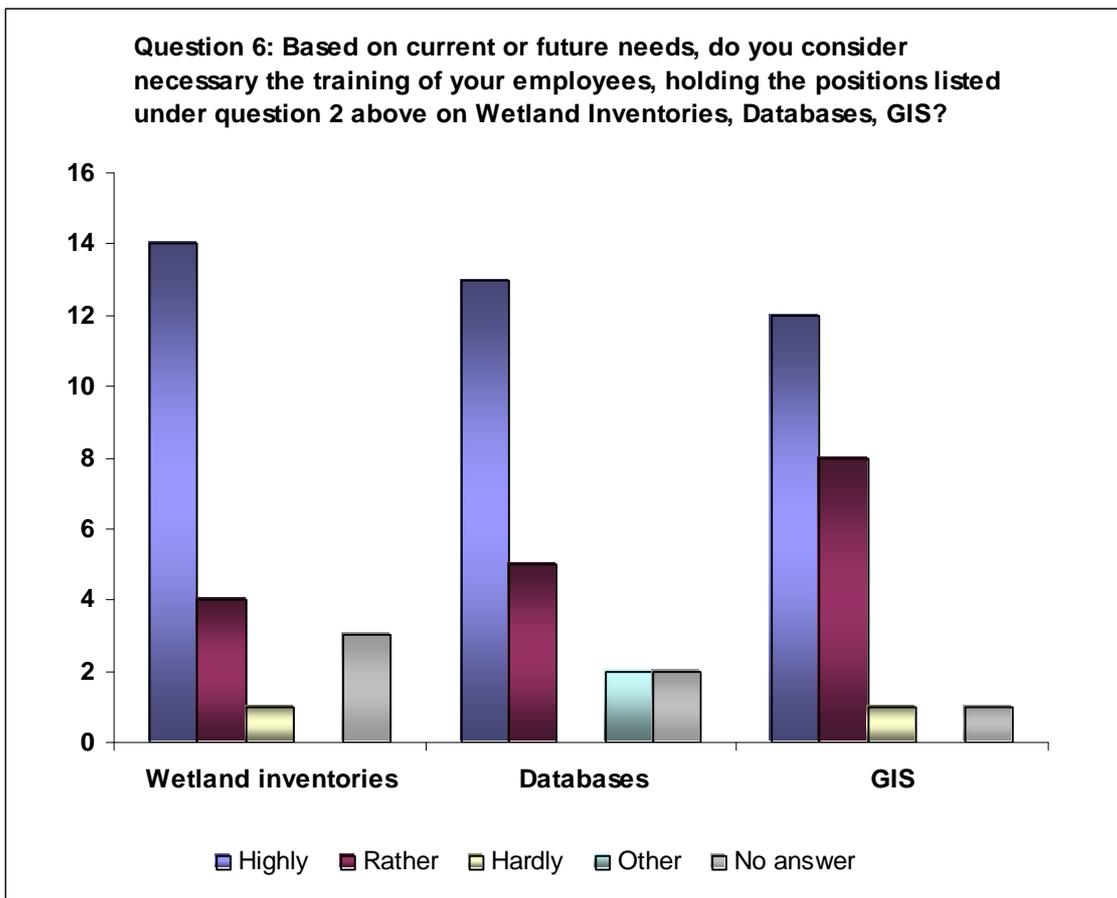


Figure 3.2.7 Necessity for training of the employees on Wetland Inventory, Databases and GIS.

Question 7

Are there any specific topics (in the context of wetland inventories, use of databases, GIS) that you would like to be included in such a training seminar?

This question is very important for the identification of the main desired topics of a training programme and the design of the training. Almost 50% of the respondents did not answer this question. An overview of the answers indicates that most of the organisations needs were focused on topics related to wetland inventory and data management using the MedWet inventory methodology, satellite image processing and interpretation and GIS. There is a strong need though for basic GIS training, whereas there is also a request for training on the most updated GIS software package (ArcGIS). Some of the respondents were also interested in the presentation of case studies on specific wetland inventories.

Question 8

Do you have any standard procedure for the participation of your employees in training seminars in Tirana or abroad? Please include any constraints that apply.

Most of the organisations (40%) that responded seemed to have no special restrictions on the training of their employees. A 24% of the organisations proposed that the trainees should be approved by the high authorities of the Ministry of Environment, whereas one organisation considered that they should be chosen based on UNDP operational procedures. Another interesting proposal was that of applying a kind of agreement between the involved institutions, in order to approve the candidates for the training seminars. Five organisations did not answer (Table 3.2.2).

Table 3.2.2 Constraints that apply for the participation of employees in the training seminars.

Do you have any standard procedure for the participation of your employees in training seminars in Tirana or abroad? Please include any constraints that apply.	Count
No restrictions apply	9
Candidates should be approved by the high authorities within Ministry of Environment	6
No answer	5
Candidates should be approved based on UNDP operational procedures	1
A letter of agreement should be written between the involved institutions	1
TOTAL	22

Question 9

We plan to develop a training package for in house training in (i) wetland inventory, (ii) use of database, (iii) GIS. How high is the possibility for your organisation to apply this training package in the future? Very high or Not at all.

The answers to this question were extremely positive, showing the strong need for attending a training procedure in the future and indicating the absence of a similar training material, which can guide them when they will implement the training. A 91% (20 out of 22) of the respondents answered that the possibility for their organisation to apply the training package in the future is very high (Table 3.2.3).

Table 3.2.3 Possibility to apply the training package in the future.

How high is the possibility for your organisation to apply the training package in the future?	Count
Very	20
Not at all	0
No answer	2
TOTAL	22

3.2.2 Current knowledge derived from answers in Part II of the Questionnaire

Forty (47) persons answered Part II of the Training questionnaire. It was filled in by both the Heads of the departments and their employees from all target groups (Figure 3.2.8). All types of organisations responded almost equally.

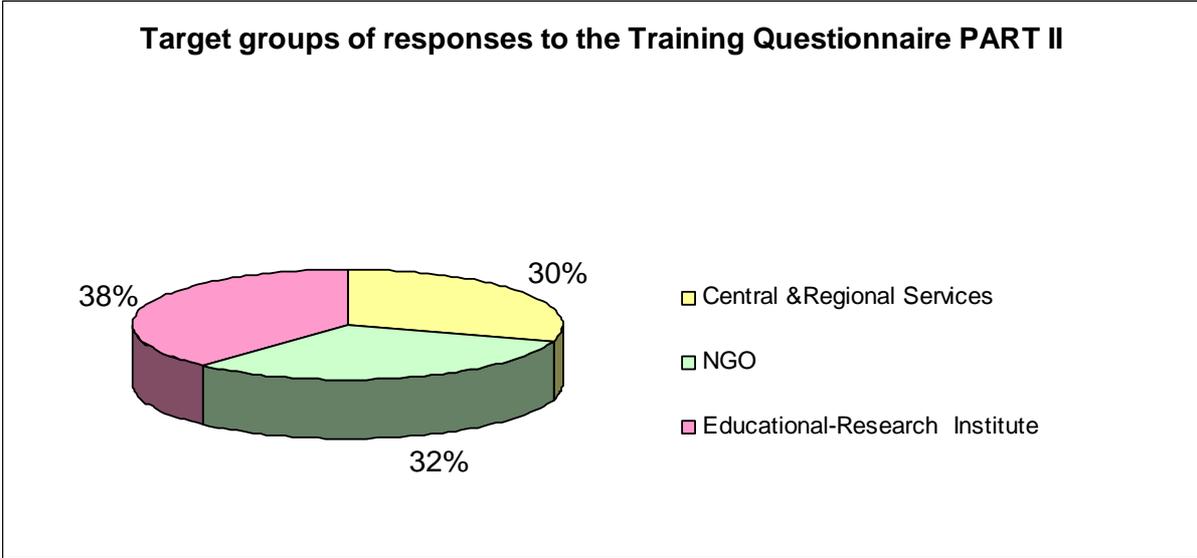


Figure 3.2.8 Responses per target group (%).

Part II consisted of 2 main sections: **Section A** included questions related to knowledge of wetland inventory processes. **Section B** included questions related to knowledge on data bases, Geographic Information Systems and general computer usage. Three more questions (question 1, 2 and 3) on the personal expertise and responsibilities of the respondent were also contained. The results of the analysis and the interpretation of the answers to questions from Section A and B, are given below.

3.2.3 Current knowledge on wetland inventory derived from answers in Section A of Part II of the Questionnaire

Question 4

Have you ever been involved in wetland management, conservation, or other activity concerning wetland areas?

Almost half out of 47 respondents have been involved in wetland conservation (22 persons), whereas 16 answered that they have been involved in wetland management. Most of the respondents and their organisations were not specialized in a specific scientific area, but were involved in more than one. The other activities mentioned concerning wetlands were impact assessment, monitoring, research and awareness. Ten respondents answered that they were involved in activities other than management and conservation, without mentioning which. Finally, 8 of them did not give any answer at all.

Question 5

Have you ever been involved in planning a wetland inventory at national, regional or site level? (i) National and / or regional level (ii) Site level. (Yes or no).

The results indicated that most of the respondents had not been involved in planning a wetland inventory neither at national and regional nor at site level. Only a small amount of them (23% out of 47 respondents) had been involved in planning a wetland inventory at national level and 34% out of 47 respondents at site level (Table 3.2.4).

Table 3.2.4 Involvement in planning a wetland inventory at national/regional and site level.

Have you ever been involved in planning a wetland inventory	at National and/or regional level?	at Site level?
Yes	11	16
No	29	26
No answer	7	5
TOTAL	47	47

Question 6

Have you ever taken part in field work in order to collect data (biotic or abiotic) for wetland areas? (Yes or no).

More than half of the respondents (27 out of 47 respondents) had taken part in field work in order to collect data (biotic or abiotic) for wetland areas. A 36% (17 out of 47 respondents) had not taken any part in field work at all (Figure 3.2.9).

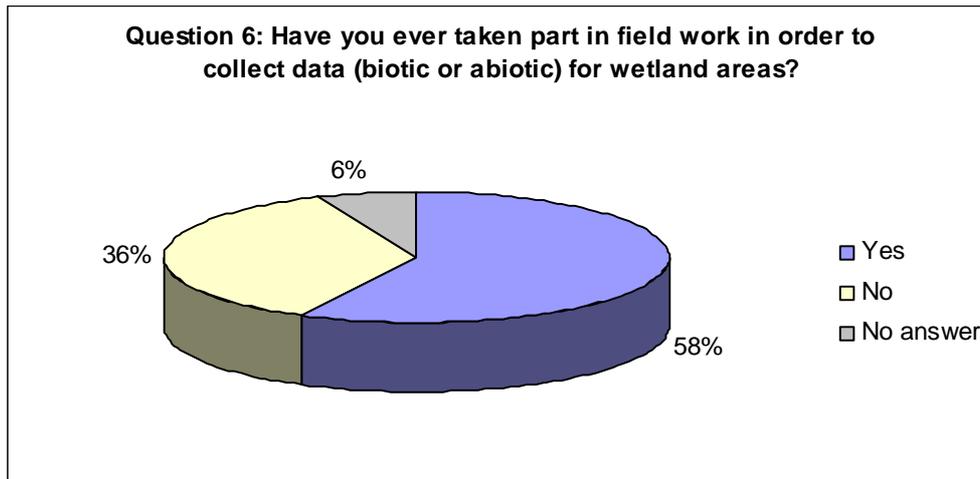


Figure 3.2.9 Repartition of responses in involvement in field work for wetland data collection. (%)

Question 7

Have you any experience in mapping using aerial photos, base maps, field data? (Yes, little or none).

This question indicates the lack of knowledge on some cartographic and mapping methods. It seems that 49% of the respondents did not have any kind of experience in mapping using aerial photos, 11% of them using base maps and 21% using field data. The answers showed that most of them had experience in mapping using base maps and field data, whereas few respondents knew how to map using aerial photos (Table 3.2.5).

Table 3.2.5 Experience in mapping using aerial photos, base maps and field data.

Have you any experience in mapping using	Aerial photos	Base maps	Field data
Yes	13	27	26
Little	10	13	10
None	23	5	10
No answer	1	2	1
TOTAL	47	47	47

Question 8

List any topic relevant to wetland inventories that you would be interested to be trained in:

The most commonly proposed training topics suggested by respondents were:

- Wetland inventory method.
- Wetland inventory at habitat level.
- Wetland management and monitoring.
- Field data collection.
- Use of databases on wetlands.
- Electronic data management (using GIS and satellite images).
- Cartography/mapping.
- Mapping of plant communities.
- Use of GIS.
- Interpretation of aerial photos and satellite images.
- Any other topic that might be considered relevant.

3.2.4 Current knowledge on databases and GIS derived from answers in Section B of Part II of the Questionnaire

Question 9

What is your knowledge of Information Systems? (Very good, good, or no knowledge).

The responses to this question show the lack of knowledge of Information Systems of the sample of scientists that filled in the questionnaire (Figure 3.2.10). Twenty one respondents (44%) answered that they had no knowledge of Information Systems, whereas 18 persons (38%) answered that they had good knowledge. Only 4 out of 47 respondents (9%) had very good knowledge of Information Systems, whereas 4 persons did not answer the question.

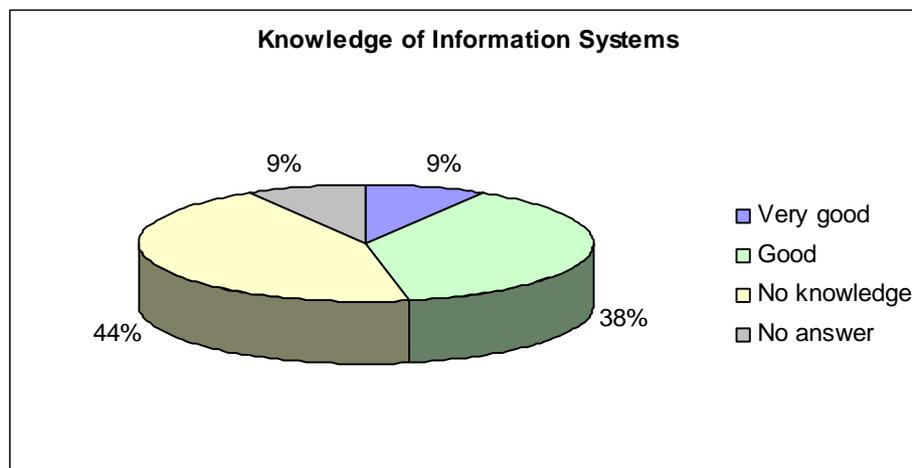


Figure 3.2.10 Knowledge of Information Systems (%).

Question 10

Do you know what the following terms mean?

This question indicates that there is a moderate situation concerning awareness on specific computer terms. Many respondents are aware of basic terms (e.g. text editor, zip file, tiff file, mail server) whereas there is a limited number of those that have knowledge on more advanced computer terms, such as FTP server, NTFS, EPS files, SVGA, etc (Table 3.2.6).

Table 3.2.6 Knowledge of specific computer terms.

Terms	Yes	No	No answer
text editor	30	16	1
ASCII file	17	28	2
TIFF file	25	18	4
ZIP file	32	14	1
EPS file	11	33	3
True color picture	22	20	5
FTP server	13	27	7
Mail server	29	16	2
SQL	14	29	4
Ethernet adaptor	13	30	4
SVGA	12	32	3
TWAIN driver	9	32	6
Print spooler	12	30	5
SCSI interface	9	33	5
UNIX	12	32	3
PCI Bus	9	32	6
DB Query	13	29	5
RIMM	4	37	6
OPENGL	5	36	6
NTFS	7	34	6
Xwindows	17	25	5
UFS	7	32	8

Questions 11, 12, 13 and 14

11. Have you ever used a database? (Yes or no).

12. Have you experience in using tables and databases in? (Ms Excel, Ms Access or other).

13. Do you know what a relational database is? (Yes or no).

14. Have you ever designed a relational database? (Yes or no).

Questions 11 to 14 are related to database knowledge and usage. The answers indicate that the majority of respondents had experience in using databases (62%), especially using the Ms Excel software. Many of them had additionally used Ms Access. The level of database

knowledge seems to be medium to low, since 38% of the respondents knew what a relational database is but only 21% had designed one (Table 3.2.7).

Table 3.2.7 Database knowledge.

Have you ever used a database?	Count
Yes	29
No	15
No answer	3
Have you experience in using tables and databases in Ms Excel, Ms Access, or other.	Count
Ms Excel	21
Ms Access	3
Other	0
Ms Excel and Ms Access	20
No answer	3
Do you know what a relational database is?	Count
Yes	18
No	26
No answer	3
Have you ever designed a relational database?	Count
Yes	10
No	35
No answer	2

Questions 15 and 16

15. Have you ever used any computer aided design software? (Yes or no).

16. If yes, which one? (AutoCAD, Micro station or other).

Apparently there is a lack of knowledge of computer aided design software, since only 19% of the respondents have ever used such software (Figure 3.2.11). AutoCAD seems to be the most commonly used CAD software, among the respondents (Table 3.2.8).

Table 3.2.8 Usage of specific CAD software.

If yes, which one? AutoCAD, Micro station or other	Count
AutoCAD	6
Micro station	1
Other	3
No answer	37
TOTAL	47

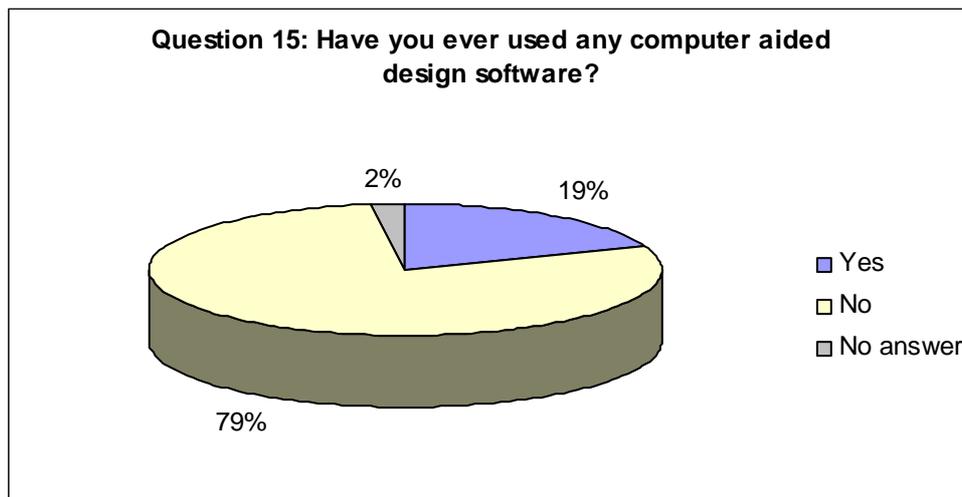


Figure 3.2.11 Usage of CAD software (%).

Questions 17 and 18

17. Do you have any kind of experience on using GIS? (Yes or no).

18. If yes, which GIS software have you used? At which level (basic-advanced) and for which purpose did you use GIS software?

Questions 17 and 18 aimed to identify the level of GIS knowledge. The answers to question 17 indicate that only 16 (34%) out of 47 respondents had ever used GIS (Figure 3.2.12). From those, only 4 (8,5% out of 47) were using GIS at an advanced level and the remaining 12 (18% out of 40) were using GIS at basic level (Figure 3.2.13). Most of the GIS users have experience in using ArcView version 3.x while some also use Geomedia and ArcGIS version 8 (Table 3.2.9).

The majority of GIS users in Albania uses GIS mostly as a tool for digitization and thematic mapping (land use maps, habitat maps, forest maps, biotope maps, protected areas maps) (Table 3.2.10). Only one of them seemed to have taken advantage of the analytical capabilities of GIS for the creation of statistical surfaces from sample measurements. That indicates that the level of GIS use is basic and most focused on cartographic issues.

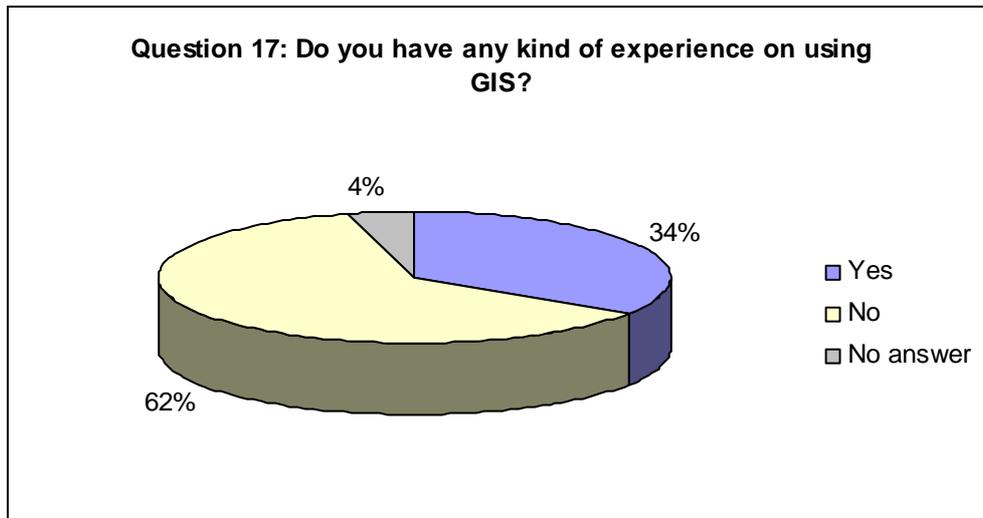


Figure 3.2.12 Experience in using GIS.

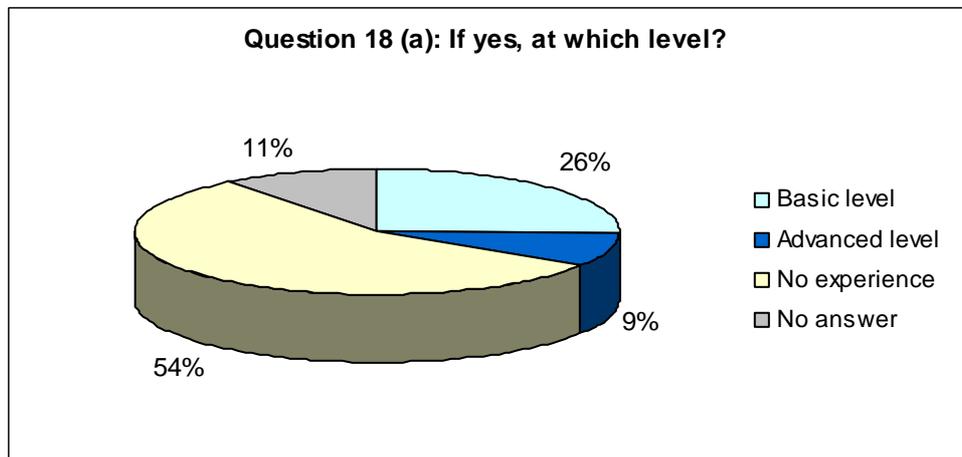


Figure 3.2.13 Level of GIS usage (%).

Table 3.2.9 Experience on using specific GIS software.

If yes, which GIS software have you used?	Count
ArcView 3.x	4
ArcInfo 7.x	0
ArcGIS 8.X	2
MapInfo	0
Geomedia	0
Surfer	1
ArcView 3.x and ArcGIS 8.x	3
ArcView 3.x, ArcGIS 8.x, Geomedia	1
ArcView 3.x, ArcGIS 8.x, MapInfo, Geomedia	1
ArcView 3.x ArcInfo 7 ArcGIS 8.x Geomedia	2
Other	2
TOTAL	16

Table 3.2.10 Purpose for using GIS.

For which purpose did you use GIS software?	Count
For the preparation of land use maps with their specification (hydro graphic and road net, buildings, processing of these data in map and database)	2
Mapping and different analysis based on GIS.	2
Biotope determination in digital maps in Germany.	1
Knowledge of GIS concepts used for preparation of thematic maps	1
For the mapping of protected areas (CORINE Project) and for the mapping of the main habitats in Albania.	1
For land use data recording and final presentation of land use maps.	1
Building of database, digitizing, map manipulation, manipulation of satellite images, creation of digital cartography.	1
Forest management mapping	1
Data presentation after creation of statistical surface (concentration)	1
Mapping of Corine Biotopes	1
According to job related needs	1
No answer	3
TOTAL	16

Question 19

How familiar are you with cartography, map scales, map projection, coordinate systems? (Very much, little or not at all).

Answers to this question indicated the little of knowledge in basic cartographic and geodetic terms. Most of the respondents were little familiar with these issues. . For example 38% was not familiar with cartography; 38% with map projections and 26% with coordinate systems (Table 3.2.11). Though, many seemed to understand map scales; 16 out of 47 respondents were very familiar with map scales and 24 were little familiar with them. It seems that although the respondents that use GIS use them for thematic mapping purposes, they are not well acquainted with geodetic and cartographic principles.

Table 3.2.11 Familiarity with basic cartographic terms.

How familiar are you with:	Cartography	Map Scales	Map projection	Coordinate systems
Very much	6	16	7	11
Little	22	24	21	23
Not at all	18	5	18	12
No answer	1	2	1	1
TOTAL	47	47	47	47

Questions 20 and 21.

20. Do you have any basic knowledge of Remote Sensing and Satellite Image Processing? (Yes or no).

21. If your answer is Yes, which software have you used? (ERDAS IMAGINE, ER- Mapper, ENVI or other). For which purpose did you use this software?

Questions 20 and 21 were related to remote sensing knowledge and usage. Only 19% of the respondents (9 out of 47) had basic knowledge of Remote Sensing and Satellite Image Processing (Figure 3.2.14). Most of them used remote sensing software and satellite images for georeferencing images and for classifying them, in order to extract land use information (Table 3.2.12). The most commonly used software seems to be Erdas IMAGINE (Table 3.2.13).

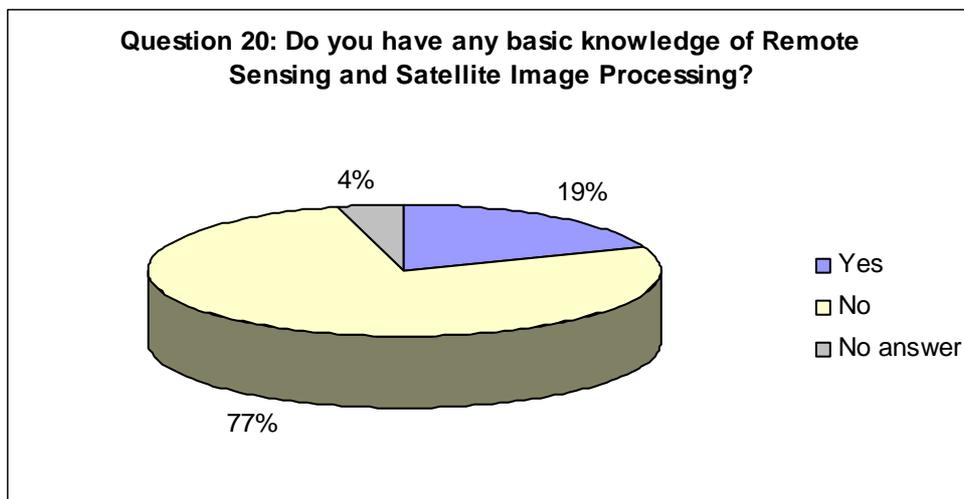


Figure 3.2.14 Knowledge of Remote Sensing and satellite image processing (%).

Table 3.2.12 Purposes for using Remote Sensing software.

For which purpose did you use this software?	Count
For geo-referencing of different maps.	1
For satellite image geo-referencing and interpretation.	1
Maps for the geothermal atlas of Albania	1
producing various maps for the project sites (land use, zoning, habitats, land tenure)	1
To prepare the Land Cover Map and the map of habitats for the MedWetCoast 3 and CORINE Land Cover projects.	1
Training at GIS laboratory of Geography department, and preparation of map of Shkodra city.	1
To prepare the Land Cover Map of Albania National Forest Inventory	1
Thematic mapping	1
No answer	1
TOTAL	9

Table 3.2.13 Remote Sensing software mostly used by the Albanian scientists.

If your answer is Yes, which software have you used?	Count
Erdas IMAGINE	4
ER-MAPPER	0
ENVI	2
Other	2
No answer	1
TOTAL	9

Question 22

Are you interested in learning basic skills of Remote Sensing and Digital Image Processing? (Yes or no).

This question shows the willingness of the Albanian scientists that participated in the survey, to acquire basic skills of Remote Sensing and digital image processing. Forty one from the total of forty seven respondents (88%) were interested in training in Remote Sensing subjects (Figure 3.2.15).

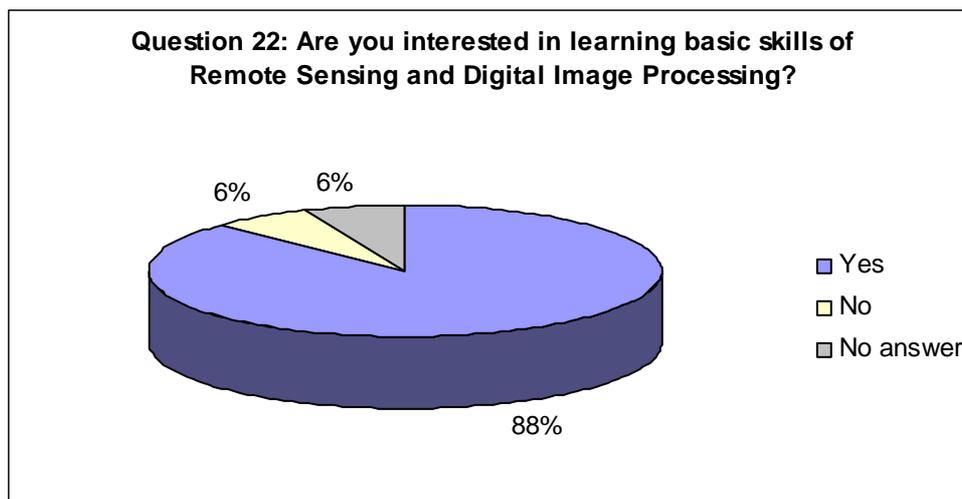


Figure 3.2.15 Interest in acquiring basic skills in Remote Sensing and Digital Image Processing.

Question 23

Do you know how to add a second HD on a PC? (Yes or no).

Thirty out of 48 respondents (64%) did not have practical knowledge on how to handle simple hardware jobs, such as adding a second hard disk on a computer (Figure 3.2.16).

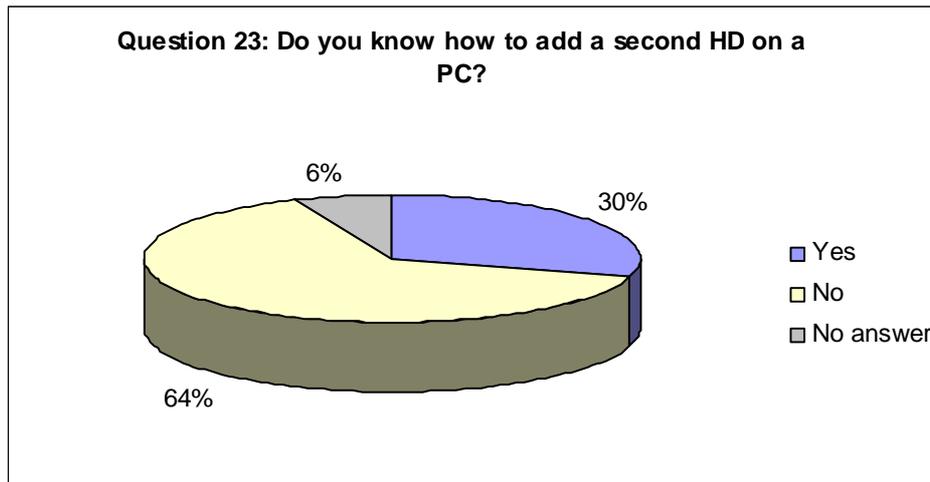


Figure 3.2.16 Knowledge of practical PC usage (%).

Question 24

Do you know any programming language? (Yes or no). Which one?

The answers indicated that the majority of the respondents (79%) did not know any programming language. Only 7 of them (15%) answered that they knew a programming language (Figure 3.2.17). Most of them used Visual Basic (Table 3.2.14).

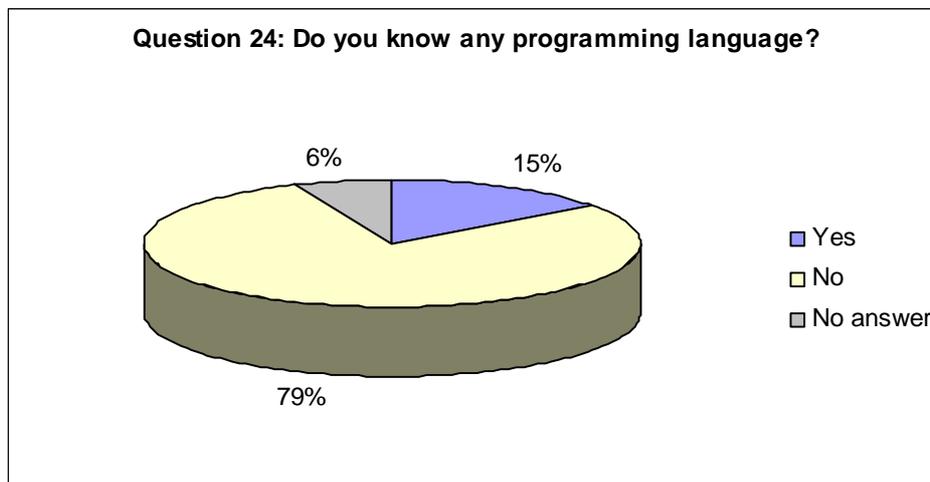


Figure 3.2.17 Knowledge of programming languages (%).

Table 3.2.14 Knowledge of specific programming languages.

Which programming language?	Count
Visual Basic, C	1
PASCAL	1
Visual Basic	2
FORTRAN	2
Visual Basic 6.0, Pascal, Assambler.	1
TOTAL	7

Question 25

List any topic relevant to electronic data management or GIS that you would like to be trained in.

This question reflects the most wanted areas of interest for training as expressed by the respondent. It seems that although most of them were really interested in learning how to apply a wetland inventory using modern methods (GIS, Remote Sensing and databases), they primarily wanted to be trained in the basic use of the relative software. The topics related to electronic data management and GIS in which most respondents showed preference to be trained are:

- Wetland inventory based on Remote Sensing methods and satellite image (or aerial photos) interpretation;
- data collection and electronic data management of wetland resources;
- design and basic use of databases;
- basic GIS software usage (digitization, geo-referencing, cartography, presentation of three dimensional surfaces, statistical analysis of digital information);
- advanced GIS and satellite image processing using specialized software packages (especially ArcGIS version 8);
- GIS applications on wetland management, analysis and presentation of land use data and ecosystem ecology;
- advanced use of databases for wetland management purposes;
- any other topic that might be considered relevant.

3.3 Findings from focus groups meetings

During the meetings with the AWG, representatives from Albanian organisations expressed their interest in:

- The MedWet database to be used for establishing a national standard for information on wetlands;
- Gaining experience from other countries with regard to the use of modern wetlands data management tools in decision making.

Representatives from Central and Regional Services:

- emphasized the importance of training the scientists employed in governmental organisations in the wetland inventory method and in data management,
- said that they consider training as a means for enhancing the work of the governmental organisations on wetland protection and management and
- expressed their opinion that training is a good way to maximize the efficient use of resources available under ALWET.

Representatives from Educational and Research Institutes emphasized the importance of involving Scientific Institutions' in the management of wetland ecosystems given the dependence of wise management on the quantity and quality of scientific data and agreed on the need to train scientific personnel of these institutes in wetland inventory and data management.

Representatives from NGOs expressed an interest mainly in the MedWet database as a tool for managing information related to wetlands.

CHAPTER 4: CONCLUSIONS

The main objective of the TNA of the ALWET project was to determine the current and desired situation of Albanian scientists, working on wetland conservation and management, as regards their knowledge and skills in undertaking wetland inventories using modern technology tools like remote sensing, databases and GIS so as enable the design of training activities.

Through the three basic steps of the TNA (Gap Analysis, identification of the Training Needs and identification of possible solutions) the following were derived:

- Current situation
- Desired situation
- Priorities for training (Training Needs).
- Possible approaches to cover training needs.

The current and desired situation, and the priorities for training have been identified among answers to groups of questions of the two questionnaires as mentioned in chapter 2 of this study. For identifying the possible approaches to cover training needs the results of the present study were combined with the previous experience of EKBY on wetland inventories and use of modern technology tools.

4.1 Current situation

As first step of the Gap Analysis was considered the identification of: a) the current status of conservation and management of Albanian wetlands (organisation involvement, main constraints that need to be resolved, main activities of organisations related to wetlands) and b) the current level of knowledge and lack of knowledge of the Albanian scientists that hold job positions related to wetlands.

4.1.1 Current status of conservation and management of Albanian wetlands

For eighty five percent (85%) of the Heads of the organisations that participated in the survey, wetland management in Albania is not sustainable (see Figure 3.1.2 of Chapter 3). The main reasons for this situation appear to be:

- unclear legal status and legal framework regarding wetland management;
- low environmental awareness;

- lack of human capacities, equipment, financial means and manuals;
- weak coordination of activities between different institutions and specialists from different fields;
- absence of a steering committee for wetland management.

Local authorities do not seem able to invest on wetland protection and management plans. A main reason mentioned by most of the Heads is the present situation of the Albanian economy. As a result of that, wetland conservation is not a high priority in Albania. A wetland conservation strategy for the country has not yet been prepared. Enforcement of environmental regulations is still weak.

Additionally, 58% of the Heads considered the existing regulations and laws insufficient (see Figure 3.1.3 of Chapter 3.1) and made proposals for the improvement of existing regulations and preparation of new ones, regarding the sustainable use of wetlands and their protection and management. The major factors that constrain the implementation of regulations as they were identified by the Heads are:

- lack of capacity (training, human and financial resources);
- insufficient professional education;
- low public environmental awareness regarding values and functions of wetlands;
- lack of understanding of existing laws;
- lack of law enforcement and of structures specialised on it;
- social and economical problems of the local communities living next to wetlands;
- absence of a wetland conservation strategy for the country;
- inefficient wetland management;
- lack of institutional co-ordination regarding protection and management of wetlands;
- unclear institutional responsibilities on wetland management and several overlapping;
- negative interference of politics into decision making;
- lack of political will;
- few investments on wetland protection and management.

It must be stressed that most of the above factors have been found more or less to hold true for wetland conservation all over the Mediterranean basin even in the economically advanced countries.

The results of the questionnaire survey indicated that a significant number of organisations in Albania (71%) are related to wetland management (see results of question 1 of the questionnaire “Conservation and management status of Albanian wetlands” in Chapter 3.1). It appears also that Central and Regional Environmental Services are more involved in such issues than NGOs, Educational Institutes and Research Institutes (see Figure 3.1.1 of Chapter 3.1). The list of the organisations that are involved in wetland management can be found in Appendix VII.

At the same time, the survey indicated that the organisations that are related to wetland management in Albania are not as efficient as desired. Their responsibilities on wetland management are often unclear, resulting in several overlapping between them and in weak institutional co-ordination regarding the protection and management of wetlands.

Most of the organisations would wish to have more governmental funding and better trained personnel. According to the Heads of the organisations, people involved in wetland inventories do not have the capacity and means (human and financial resources) due to insufficient professional education and lack of public awareness. A problem appears also to be the lack of documentation on the wetland inventory methodology, especially available in the Albanian language.

A combination of the results of questions 1, 3, 4 and 5 of the questionnaire “Training needs at national level regarding a) wetland inventory and b) electronic data management and GIS” (Chapter 3.2) indicated that a common problem related to the organisations’ structure, is the absence of certain job positions at the fields of databases and GIS. Their main job positions related to wetland conservation and management are those dealing with conservation of biodiversity and protected areas. A list of the job positions related to wetland conservation and management of the organisations that participated to the survey can be found at Appendix IX.

The activities and responsibilities of organisations, with regard to wetlands, are related to control of current activities in wetlands, sustainable use of wetlands, protection, management and monitoring of natural resources (wetlands, water, habitats etc.), environmental impact assessment of various activities, and environmental analysis as part of the process of issuing licenses for activities in wetlands or nearby them. Few organisations have responsibilities that are related to wetland inventory, mapping and wetland data management.

Moreover, involvement of organisations in wetland inventories at site and especially at national level is considerably low (see Figures 3.2.5 and 3.2.6 of Chapter 3.2). Few have been involved in wetland inventories at national level, whereas more have been involved at inventories at site level, mostly using field data. Furthermore, most of the organisations keep maps, field data, photos, scientific collections on species, slides and booklets. The types of available field data vary, depending on the organisations' responsibilities. It seems though that they do not keep adequate field data on wetlands, with an exception of ECAT-Tirana that keeps an integrated collection of wetland data, such as a comprehensive list of the Albanian wetlands, data at catchment and site level, data collections on the Kune-Vain Lagoon and several thematic maps.

Additionally, although many of their activities relate to environmental planning and monitoring, it appears that there is a lack of activities related to public awareness. A list of the main jurisdictions and responsibilities of the organisations that participated in the survey can be found in Appendix VIII.

4.1.2 Current level of knowledge of the Albanian scientists

Most of the employees do not have a lot of experience in wetland inventorying at site level and have almost no experience in wetland inventorying at national level. They are more experienced in applying a wetland inventory using field data in combination with base maps. They have however limited experienced in using aerial photos and satellite images for wetland identification and mapping. Additionally, they have very limited experience in photo-image interpretation.

The majority of employees have limited experience in using information systems in general. They use databases at a basic level, whereas they know little about Remote Sensing and Satellite Image Processing.

Most of them are unaware of advanced database manipulations and have not used the MedWet database (see also deliverable of Activity 1 of Task 1: report on the "Assessment of the level of adaptation of the MedWet method").

Few employees have used remote sensing software at a basic level for image and map georeferencing, image classification and photo interpretation purposes. It appears that there is also a lack of knowledge in basic issues related to geodesy and cartography.

A small number of employees take advantage of the capabilities offered by GIS. They use GIS mainly for digitization and thematic mapping (land use maps, habitat maps, forest maps, biotope maps, protected areas maps). .

4.2 Desired situation

As a second step of the Gap Analysis, the desired or necessary conditions a) of the Heads of the organisations and b) of their employees were identified.

4.2.1 Needs according to the Heads of the organisations

The Heads of the organisations provided input on training needs both through the questionnaires “Conservation and Management Status Albanian wetlands” and “Training needs at national level regarding a) wetland inventory and b) electronic data management and GIS” (Part I) and during the meetings they had with the AWG. Through the questionnaires, the Heads of the organisations identified the training priorities by rating the three main topics of the training for their employees, based on the current and anticipated needs of their organisation. Most of them attributed a high importance to the training of their staff in wetland inventory, whereas they also showed a great interest for their training in the use of databases and GIS for wetland inventory.

In particular, most of the organisations would like their staff to be trained in topics related to wetland inventory and data management using the MedWet inventory methodology, satellite image processing and interpretation and GIS. There is a strong tendency toward basic GIS training for cartography, whereas there is also a request for training upon the most updated GIS software package (ArcGIS). Many have also expressed a great interest in training in Remote Sensing techniques and also in implementing case studies on specific wetland issues. The most commonly proposed training topics suggested by the Heads of the organisations are:

- Wetland inventory method;
- wetland management and monitoring;
- use of databases on wetlands;
- cartography;
- electronic data management with GIS.

During the meetings with the AWG, the Heads and representatives of Albanian organisations expressed an interest in the MedWet database as they considered it as a chance for establishing a national standard for information related to wetlands. Many of the heads were also found to be interested in gaining experience from other countries in which the database had been used in facilitating decision making in wetland management.

4.2.2 Needs according to the employees

Most of the employees also expressed interest in learning how to apply a wetland inventory using modern methods (GIS, Remote Sensing and databases). Nevertheless, they were mostly interested to be firstly trained in the basic use of the software needed for applying these methods and then to continue with more advanced applications related to wetlands. The most commonly proposed training topics suggested by the employees of the organisations are:

- Wetland inventory based on Remote Sensing methods and satellite image (or aerial photos) interpretation;
- data collection and electronic data management of wetland resources;
- design and basic use of databases;
- basic GIS software usage (digitization, geo-referencing, cartography, presentation of three dimensional surfaces, statistical analysis of digital information);
- advanced GIS and satellite image processing using specialized software packages (especially ArcGIS version 8);
- GIS applications on wetland management, analysis and presentation of land use data and ecosystem ecology;
- advanced use of databases for wetland management purposes.

4.3 Training needs

A careful examination of the differences between the *Current* and the *Desired* situation, helped to identify which are the training needs of the employees of the Albanian organisations on the subject of wetland inventorying and how these relate to the needs and requirements of the organisations.

First of all, a subject where an increase in knowledge and skills is required is wetland inventorying at site level and at national level. Furthermore, in mapping using satellite image

and aerial photo interpretation and in data management using either simple databases or the MedWet database.

There is also a strong requirement for training in GIS, since a very small number of employees use GIS and most among them use GIS only as a tool for digitization and thematic mapping, but have lack of knowledge in basic cartographic and geodetic issues, which are necessary skills for creating accurate thematic maps. Moreover, most of them do not seem familiar with the advanced analytical capabilities of GIS.

Based on the above, a priority is identified for Albanian scientists to be trained in applying wetland inventories both at site and national level using remote sensing, databases and GIS techniques.

More specifically, the following priorities for training are identified:

- to plan a wetland inventory at national and site level;
- to gather and collect inventory data on wetlands systematically by applying standardized methods so as to increase compatibility both among Albanian bodies and with other Mediterranean countries;
- to extract information from aerial photos or satellite images, using Remote Sensing techniques;
- to manage collections of field data using databases and specifically the MedWet database;
- to use GIS tools for data management, mapping and geodetic purposes;
- to use advanced GIS tools for data processing, analysis and visualization.

4.4 Recommendations and further steps

The identification of priorities for training set out in 4.3 above enables the design, planning and implementation of the Training activities within the ALWET project. These involve the creation of training material (a training package), the organisation of training seminars and the carrying out of follow-up activities that will provide trainees with an opportunity to apply in practice the acquired knowledge and skills.

The design and development of the training package “Wetland Inventory Using Information Systems” and the carrying out of training seminars is the subject of Task 3 of the ALWET

project, which has separate project deliverables. A concise description of the objectives, target groups and content of training is given in paragraphs 4.4.1 to 4.4.3 below. The teaching plan for training seminars within the ALWET project is given in paragraph 4.4.4 below. Finally, the application in practice (follow-up activities), as part of Task 4 of the ALWET project, of the subjects taught is described in 4.4.5 below.

The adoption and use, by the responsible authorities and organisations of Albania, of the training material and of the training opportunities provided through the ALWET project during the project implementation and after its completion will prove beneficial to:

- The employees – since it will improve their prospects of career development,
- The state – since it will help it to meet its national and international obligations in respect of wetland resources,
- The conservation of wetland resources in themselves – since it will increase the number of suitably trained scientific staff.

The future application of the training material for the training of unemployed graduates, just entering the labour market, and graduates with very little prior experience, will help a) to meet future needs for trained staff of agencies engaged in the conservation and management of the country's wetlands, and b) to combat unemployment, because the various categories of graduate will have the opportunity to acquire additional knowledge and skills and thereby improve their prospects of finding employment related to their field of study.

To summarise, the increase in knowledge and skill of the scientists through training will contribute to the sustainable wetland management in Albania. Increase in knowledge and skills will however need to be supplemented by other actions aiming to address the factors affecting the conservation of wetlands as these were discussed in paragraph 4.1.1 of the present study. Proposals from the people who contributed to this study to this direction included the preparation of a national wetland strategy and action plans, wise resource allocation and the establishment of a steering committee for wetland management. Proposals for the conservation and sustainable management of wetlands in Albania will certainly need to be further discussed among the pertinent bodies of Albania. The present study is hoped to serve as a contribution to this dialogue.

4.4.1. Objective of the training

The objective of the training is “To build capacities of scientists involved in nature conservation in order to advance their knowledge and skills and make them capable to

undertake wetland inventories using modern technology tools such as remote sensing, databases, and Geographic Information Systems (GIS)”.

4.4.2 Target groups of training and potential trainees

The training within the ALWET project was designed for employees in a) central and regional public sector services, b) educational and research institutions, c) NGOs (environmental and others), whose duties involve aspects of wetland conservation and management.

For the implementation of the ALWET training seminars, thirty seven (37) candidate trainees were selected among the respondents in Part II of the “Training needs at national level regarding a) wetland inventory, and b) electronic data management and GIS” questionnaire (Appendix VIII). Trainees had to satisfy basic educational criteria (English knowledge, computer knowledge, university degree, sufficient knowledge on wetlands, involvement in wetland issues).

Seven (7) candidates seemed to have the qualifications needed for attendance of advanced level seminars. From the remaining candidates (30), no advanced level candidates could be identified. The majority of them had only basic knowledge on wetland inventories and information systems.

According to the above TNA findings, the training package was designed to be used on two different levels of training programme (seminars for beginners and seminars for more advanced students), offering in both cases the necessary knowledge and skills to scientists from different social groups with education in the conservation of renewable natural resources or in information systems.

Within the ALWET project, in addition to training seminars that will be organised for beginners and for more advanced students, the training will be also addressed to a limited number of scientists who will serve as future trainers on the subject matter of the training package in Albania.

It was therefore decided that the 7 identified advanced level candidates were the most appropriate to be trained as future trainers and participate in the ALWET *Train the trainers* seminar. From the remaining 30 candidates, trainees that will participate in the *Beginners* seminar can be chosen. Those of them that will attend this seminar and will successfully take a knowledge evaluation test, can also participate in the *Advanced* seminar. A table with the

names and expertise of potential trainees for the *Train the Trainers* seminar and for the *Beginners* seminar can be found at Appendix X.

4.4.3 Content of training - Training modules

The training content combines different fields of knowledge (i.e. wetlands, databases, GIS) and is separated into three modules strongly interrelated to each other: i) Wetland Inventory, ii) Databases, and iii) GIS. The “Wetland Inventory” provides the theoretical basis on the subject including Remote Sensing as the main source for inventory applications. This module promotes the adaptation of modern information systems as a mean towards wetland assessment of any level. In parallel, the “Databases” and “GIS” modules are focusing on these tools that could facilitate the effective and efficient implementation of wetland inventories.

For each module, the general and specific objectives are defined individually but not autonomous. To achieve the general and specific training objectives a number of thematic units and curricula are designed under each module. The description of training modules is as follows.

Wetland Inventory Module

General objective: Make trainees be capable to plan and implement a wetland inventory of a country or region making use of remote sensing data and in line with the Convention’s on Wetlands (Ramsar) relevant framework. Moreover make them recognize that the application of a wetland inventory with the use of modern technology tools (like remote sensing, databases and GIS) allows for effective and efficient wetland conservation and management.

Specific Objectives

The trainees will:

- receive the required cognition on wetlands;
- understand the difference among the procedures of wetland identification, delineation, mapping;
- understand the ecological and conservation perception of the wetland boundaries;

- be aware of the relations between wetland ecosystems and other ecosystems (e.g. agro ecosystems).
- be aware of the remarkable inventory initiatives (symposia, workshops, projects) the last decade;
- be aware of the present priorities regarding wetland inventory implementation;
- recognize the significance of the planning phase when a wetland inventory is initiated
- Learn the MedWet inventory method;
- acquire knowledge and skills to identify, classify and map wetlands;
- learn the basic principles of remote sensing (RS);
- get trained on preparation of RS data;
- get trained on image classification techniques;
- learn how to extract data for geographic information systems and Relational DataBase Management Systems (RDBMS);
- learn to use GIS and RS tools and techniques for monitoring purposes;
- recognize the necessity of inventory data processing and presentation for management purposes, using databases and GIS.

Databases Module

General Objective: Make trainees capable to use database software for processing and presenting inventory data in order to serve wetland management.

Specific Objectives:

The trainees will:

- learn the basic principles of data base technology;
- learn to use the MS Access software and to develop data base applications using this software;
- learn to manipulate wetland data using the MedWet data base;
- develop team skills, critical thinking, the ability to analyse and synthesise information.

Geographic Information Systems (GIS) Module

General Objective: Make trainees capable to use GIS tools for mapping purposes and for processing and presenting inventory data in order to serve wetland management.

Specific objectives:

The trainees will:

- learn the general principles, techniques, and advantages of information system technology and be briefed on the recent advances in computing methods which relate to spatial information;
- understand basic cartographic and geodetic concepts;
- develop skills in the use of electronic data and geographic information systems for the retrieval, analysis, processing, organisation and management of geographic and information data;
- develop skills in the production of maps with GIS;
- learn to use GIS tools to solve special environmental problems and natural risks;
- develop team skills, critical thinking, the ability to analyse and compose information.

A number of thematic units and curricula are defined under each module.

In order to address the different knowledge level of the potential candidate trainees, the curriculum is separated into two levels, i.e. for beginners and for advanced. In the “Databases” and “GIS” modules all thematic units are distinguished as such. In “Wetland Inventory” module only the thematic unit of “Remote Sensing applications” is distinguished in beginners and advanced level, whereas the rest of the thematic units are addressed to participants with an interest in wetlands meeting at least the beginners’ attendance requirements (i.e. basic computer knowledge).

The teaching units and curriculum of each module are shown in Table 4.4.1. An indication is provided for the beginners and advanced levels.

Table 4.4.1: Thematic units and curriculum per module of the training on “Wetland Inventory using information systems” (beginners and advanced level are identified by B and A in brackets respectively).

THEMATIC UNITS	CURRICULUM
Module I: Wetland Inventory	
1.1. Introduction to wetlands	<ul style="list-style-type: none"> ▪ What is a wetland? ▪ Definitions ▪ Identification & Delineation ▪ Functions & Values
1.2. Introduction to Wetland Inventories	<ul style="list-style-type: none"> ▪ Wetland inventory profile ▪ Background (remarkable symposia, workshops, projects) ▪ Uses of wetland inventories ▪ Future priorities
1.3. Planning a Wetland Inventory	<ul style="list-style-type: none"> ▪ Structured framework (Ramsar) ▪ Analysis of steps <ul style="list-style-type: none"> - State the aim - Scale - Data sources - Core data set - Classification - Method adaptation - Information system adaptation & Metadata - Involvement of pertinent bodies & Dissemination
1.4. Wetland Inventory Implementation: The MedWet Inventory Method	<ul style="list-style-type: none"> ▪ Process ▪ Data recording ▪ Classification systems ▪ Data storage ▪ Mapping

Table 4.4.1: *continued*

THEMATIC UNITS	CURRICULUM
Module I: Wetland Inventory	
1.5. Remote Sensing applications	<ul style="list-style-type: none"> ▪ Basic theory and principals of remote sensing (B) ▪ Preparation of remote sensing data <ul style="list-style-type: none"> - remote sensing data corrections (A), (B) - remote sensing data optimisation (NDVI, Tasseled Cap) (A) ▪ Image classification <ul style="list-style-type: none"> - computer assisted photo interpretation (B) - unsupervised classification (B) - supervised classification (B) - knowledge based classification (A) - change detection (A) - Accuracy assessment of image classification (A), (B) ▪ Data extraction and customisation into an information system (A), (B)
1.6. Linkage of wetland inventory to management	<ul style="list-style-type: none"> ▪ Data processing <ul style="list-style-type: none"> - MedWet database tools - spatial indicators ▪ Data presentation: <ul style="list-style-type: none"> - MedWet database reports - thematic maps

Table 4.4.1: *continued*

THEMATIC UNITS	CURRICULUM
Module II: Databases	
2.1. Introduction to Databases	<ul style="list-style-type: none"> ▪ database and database management systems (B) ▪ database organisation types (B), (A)
2.2. Database design	<ul style="list-style-type: none"> ▪ why a database? (B) ▪ entities and relationships (E-R diagrams) (B), (A) ▪ MS Access databases (B), (A) ▪ normalisation (A)
2.3. Creating tables (I & II) with MS Access	<ul style="list-style-type: none"> ▪ defining fields in the design view (B) ▪ setting field properties (A) ▪ defining relationships (B), (A) ▪ sorting and filtering data (B)
2.4. Creating queries with MS Access	<ul style="list-style-type: none"> ▪ creating a new query (B) ▪ adding criteria (B), (A) ▪ using AND, OR, NOT operators (B), (A) ▪ SQL (B), (A) ▪ Data Definition Language (DDL) and Data Manipulation Language (DML) (A)
2.5. Creating forms and reports with MS Access	<ul style="list-style-type: none"> ▪ creating a form using the form wizard (B) ▪ creating a subform using the form wizard (B) ▪ creating a report using the report wizard (B) ▪ modifying a form in the design view (A) ▪ modifying a report in the design view (A)
2.6. The MWD v.3 fundamentals	<ul style="list-style-type: none"> ▪ history of MWD (B) ▪ the catchment area information level (B) ▪ the wetland information level (B) ▪ custom reports in the MWD v.3 (B)
2.7. Advanced features of MWD v.3	<ul style="list-style-type: none"> ▪ creating a query with MWD v.3 (A) ▪ customising dictionaries (A) ▪ the geographic module of MWD v.3 (A)

Table 4.4.1: *continued*

THEMATIC UNITS	CURRICULUM
Module III: Geographic Information Systems	
3.1. Principles of Geographic Information Systems	<ul style="list-style-type: none"> ▪ GIS definition (B) ▪ basic concepts (B) ▪ system components (B) ▪ GIS software (B) ▪ GIS applications (B)
3.2. Cartographic and GIS Data Structures	<ul style="list-style-type: none"> ▪ basic data formats (B) ▪ raster structures (B) ▪ vector structures (B) ▪ geodatabases (B)
3.3. Introduction to ArcGIS	<ul style="list-style-type: none"> ▪ introduction to ArcGIS (B) ▪ ArcGIS products (B) ▪ introduction to basic ArcGIS Desktop (B) ▪ introduction to ArcMap, ArcCatalog and ArcToolbox (B) ▪ extending ArcGIS Desktop (A) ▪ migrating from ArcView 3.x to ArcGIS (A) ▪ migrating from ArcGIS 8.x to ArcGIS 9.x (A)
3.4. Data management in GIS	<ul style="list-style-type: none"> ▪ managing data in ArcCatalog (B) ▪ creating GIS data (B) ▪ building geodatabases (A)
3.5. Thematic Mapping	<ul style="list-style-type: none"> ▪ working with layers and maps in ArcMap (B) (A) ▪ symbology (B), (A) ▪ labeling (B), (A)
3.6. Tabular data	<ul style="list-style-type: none"> ▪ tabular databases (B) ▪ database operations (A) ▪ querying a database (A) ▪ editing tables (B) ▪ relationships (A)

Table 4.4.1: *continued*

THEMATIC UNITS	CURRICULUM
Module III: Geographic Information Systems	
3.7. The Map as a Model of Geographic Data	<ul style="list-style-type: none"> ▪ coordinate systems and map projections (B) ▪ specifying a coordinate system (B) ▪ georeference (B)
3.8. Creation of geographic data	<ul style="list-style-type: none"> ▪ GIS data input methods (B) ▪ digitisation methods (B) ▪ editing methods (B)
3.9. GIS Analysis	<ul style="list-style-type: none"> ▪ spatial operations (A) <ul style="list-style-type: none"> -proximity -overlay analysis ▪ spatial statistics (A) <ul style="list-style-type: none"> -distance and density maps -suitability maps -surface analysis ▪ visualization (A) <ul style="list-style-type: none"> -3d mapping
3.10. Presentation of results- Map composition	<ul style="list-style-type: none"> ▪ layouts (B) ▪ map templates (A) ▪ printing and exporting maps (B) ▪ publishing maps (A)

4.4.4. Teaching plan for the ALWET training seminars

In order to meet the needs of the target groups of the ALWET training activities (as these groups are defined in paragraph 4.4.2 above) and the specifications of the ALWET project (duration of training, available budget), the teaching plan is developing in two seminars, each for a separate level of trainee’s background knowledge. Additionally, a third seminar is designed to be addressed at advanced level trainees who are to be trained to act as trainers in future training events. For this purpose they are going to be trained also on teaching methods and on possible ways of using the training material that will be included in the training

package. Table 4.4.2 presents the teaching plan, which will be followed during ALWET project.

Table 4.4.2: Teaching plan to be followed in ALWET project.

Seminar: Train the Trainers		
Day 1	Opening–Description of training procedure Wetland Inventory	8 h
Day 2	Databases	8 h
Day 3	GIS	8 h
Day 4	GIS and Remote Sensing	8 h
Day 5	Planning and implementation of training Evaluation Closure -Discussion	8 h
Seminar: Beginners		
Day 1	Opening -Description of training procedure Wetland Inventory	8 h
Day 2	Wetland inventory using Remote Sensing & GIS	8 h
Day 3	Wetland Inventory using Dbases	8 h
Day 4	Case study (office & field work)	8 h
Day 5	Case study (office work)	8 h
Day 6	Presentation of case study results Evaluation tests Closure-Discussion	8 h
Seminar: Advanced		
Day 1	Opening–Description of training procedure Wetland Inventory using remote sensing	8 h
Day 2	Dbases	8 h
Day 3	Dbases	8 h
Day 4	GIS	8 h
Day 5	GIS	
Day 6	Case study Presentation of case study results Evaluation tests Closure-Discussion	8 h

The attendance requirements are suggested as follows:

- i) The “*Train the Trainers*” seminar is to be addressed at scientists (with an advanced level of knowledge on wetland inventories and the use of information systems) who potentially could serve as future trainers in Albania.
- ii) The “*Beginners*” seminar is to be addressed at scientists with basic level knowledge on the use of computers and on the use of databases and GIS.

iii) an “*Advanced seminar in Wetland Inventory using Information Systems*” is to be addressed at the group of scientists who have successfully completed the “*Beginners*” seminar or possess equivalent knowledge.

The *Beginners* and the *Advanced* seminars will be further followed by the elaboration of case studies, relevant to the taught subjects. In order to deeply involve the future trainers in the training process, they will act as trainers during the two other seminars by supporting the hands on activities and by leading the execution of the case studies.

4.4.5. Follow up activities for the training event

Follow-up activities are planned to provide the trainees with an opportunity to apply the acquired knowledge and skills and the trainers with feedback on the effectiveness of training. Task 4 of the ALWET project involves a pilot application of wetlands inventory in selected sites and provides the ideal ground for the trainees to use the acquired knowledge and skills in planning and conducting the wetland inventory. It will engage trainees who will have attended the advanced level of training. It is proposed to set up a multi-disciplinary group of trainees, named Application Working Group (APWG), covering the relevant fields of expertise, i.e. wetlands, databases and GIS. The trainers shall support the execution of the follow – up activity and shall try to receive feedback on the training programme.

In this context the follow-up activity will be carried out in three phases as follows:

1. Planning the inventory of 3 wetland sites

A group of trainees shall go through all steps of planning and produce a relevant document.

2. Implementation of the inventory in three wetland sites applying the MedWet inventory method and tools and using information systems

A group of trainees shall apply the MedWet Inventory method at the three pilot wetland sites, whereas another group shall organize the inventory data in the MedWet Database and in a GIS. They will undertake any planned processing and presentation of the inventory data (according to the plan document).

3. Dissemination of inventory results

The trainees involved in the first phase will undertake action to disseminate the results.

4.5 Epilogue

The present document has been produced after several months of effort undertaken by all members of the ALWET Project Team.

The level of success of the training seminars (“Train the trainers”, “Beginners”, “Advanced”), the follow-up activity and the training package will be a measure of the effectiveness of the TNA survey.

It is hoped that the training package, which will be based on the recommendations developed through this study, will be subsequently used in the future in Albania and in other Mediterranean or European countries and will serve, among others, the goal of the MedWet initiative under the Ramsar Convention for compatibility of inventory data produced in different countries.

ACKNOWLEDGEMENTS

The main contributors to the success of the Training Needs Analysis were the Head representatives of the Albanian organisations that participated to this survey and their employees as well.

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APPENDICES

APPENDIX I

QUESTIONNAIRE

“Conservation and management status of wetlands”

Questionnaire

Conservation and management status of wetlands

This questionnaire is distributed in the framework of the LIFE 3rd Countries project “Capacity Building on Conservation of Albanian Wetlands; ALWET” which is undertaken by ECAT and EKBY. It is to identify wetland management status, available facilities, existing data sources, gaps in the law.

PERSONAL DATA

Name: _____ **Surname:** _____

Title: _____

Organisation: _____

Department: _____

Position: _____

Address: _____

Tel, fax: _____

Email: _____

1. Is your organisation involved in wetland management?

Yes

No

2. If yes, list the main responsibilities of your organisation with regard to wetlands.

.....
.....
.....

3. List the data collections on wetlands (i.e. field data, maps, photos) that your organisation maintains.

.....
.....
.....
.....
.....
.....
.....

4. Do you think that wetland management in Albania is sustainable? What are the main weaknesses and what improvements would you propose?

.....
.....
.....

5. Do you consider the existing regulations and laws which refer to conservation and protection of wetlands sufficient? If not what additional laws and regulations are needed?

Yes No

.....
.....
.....

6. List the main factors constraining the implementation of regulations and laws with respect to conservation and protection of wetlands.

.....
.....
.....
.....

7. If wetland inventorying was planned for Albanian wetlands what would be the ideal organisation or organisations:

(i) to seek funding,

.....
.....
.....
.....

(ii) to undertake inventories,

.....
.....
.....

(iii) to function as national focal point for the wetland inventory data dissemination and reporting,

.....
.....
.....

(iv) to provide services regarding electronic data management.

.....
.....
.....

APPENDIX II

QUESTIONNAIRE

“Training needs at national level regarding a) wetland inventory and b) electronic data management and GIS”

Questionnaire

Training needs at national level regarding

a) wetland inventory, and b) electronic data management and GIS

This questionnaire is distributed in the framework of the LIFE 3rd Countries project “Capacity Building on Conservation of Albanian Wetlands; ALWET” which is undertaken by ECAT and EKBY. It is to investigate the training needs of Albanian scientists who are employed in governmental services, institutes, universities, NGO’s.

Part I is to be filled in only by heads of organisations and Part II is to be filled in by all. Part II is distinguished in two sections: (A) wetland inventory and (B) data bases and Geographical Information Systems addressing the subjects of training. Based on your answers you may be one of the candidates for the basic or the advanced training seminars. The seminars will be held as follows: a) on February 2005 (advanced) at EKBY premises, Thessaloniki, b) on April 2005 (basic part I) at Tirana, c) on November 2005, (basic part II) at Tirana. The scientists who will attend the advanced seminar will participate as trainers in the two basic level seminars. Travel and accommodation costs are covered by the project.

Training seminars will serve one of the project’s primary objectives which is to build the capacity of relevant bodies, focusing on inventory and mapping issues and electronic data management and GIS, in order for them to undertake wetland inventory actions compatible with those of other countries in Mediterranean.

PERSONAL DATA

Name: _____ Surname: _____

Title: _____

Organisation: _____

Department: _____

Position: _____

Address: _____

Tel, fax: _____

Email: _____

Age:

20 - 30 30 - 40 40 - 50 > 50

English knowledge level:

Good Basic No knowledge

.....
.....
(ii) use of databases

.....
.....
(iii) Geographical Information Systems (GIS)

5. For each job position list

a) the main tasks related to:

(i) wetland inventories

.....
.....
(ii) use of database

.....
.....
(iii) Geographical Information Systems (GIS)

b) the knowledge and skills required for carrying out:

(i) wetland inventories

.....
.....
(ii) use of database

.....
.....
(iii) Geographical Information Systems (GIS)

6. Based on current or future needs, do you consider necessary the training of your employees, holding the positions listed under question 2 above, on:

(i) wetland inventories

- Highly Rather Hardly

(ii) use of databases

- Highly Rather Hardly

(iii) Geographical Information Systems (GIS)

- Highly Rather Hardly

7. Are there any specific topics (in the context of wetland inventories, use of databases, GIS) that you would like to be included in such a training seminar?

.....
.....
.....

8. Do you have any standard procedure for the participation of your employees in training seminars in Tirana or abroad? Please include any constraints that apply.

.....
.....
.....

9. We plan to develop a training package for in house training on (i) wetland inventory, (ii) use of database, (iii) GIS. How high is the possibility for your organisation to apply this training package in the future?

- Very Not at all

6. Have you ever taken part in field work in order to collect data (biotic or abiotic) for wetland areas?

Yes No

7. Have you any experience in mapping using:

- aerial photos? Yes Little None

- base maps? Yes Little None

- field data? Yes Little None

8. List any topic relevant with wetland inventories that you would be interested to be trained in:

.....
.....
.....

SECTION B: DATA BASES & GEOGRAPHIC INFORMATION SYSTEMS

9. What is your knowledge of Information Systems?

Very good Good No knowledge

10. Do you know what the following terms mean?:

- | | | |
|--------------------|------------------------------|-----------------------------|
| text editor | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| ascii file | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| TIFF file | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| ZIP file | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| EPS file | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| True color picture | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| FTP server | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Mail server | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| SQL | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Ethernet adaptor | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| SVGA | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| TWAIN driver | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Print spooler | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| SCSI interface | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| UNIX | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

- PCI Bus Yes No
- DB Query Yes No
- RIMM Yes No
- OPENGL Yes No
- NTFS Yes No
- XWindows Yes No
- UFS Yes No

11. Have you ever used a database?

- Yes No

12. Have you experience in using tables and databases in?

- Ms Excel Ms Access Other.....

13. Do you know what a relational database is?

- Yes No

14. Have you ever designed a relational database?

- Yes No

15. Have you ever used any computer aided design software?

- Yes No

16. If yes, which one?

- AutoCAD MicroStation Other.....

17. Do you have any kind of experience on using GIS?

Yes No

18. If yes, which GIS software have you used?

ArcView 3.x ArcInfo 7 ArcGIS 8.x Map Info
 Geomedia Other.....

and at which level?

Basic Advanced

For which purpose did you use GIS software?-----

19. How familiar are you with:

- cartography?

Very much Little Not at all

- map scales?

Very much Little Not at all

-map projection?

Very much Little Not at all

- coordinate systems?

Very much Little Not at all

20. Do you have any basic knowledge of Remote Sensing and Satellite Image Processing?

Yes No

21. If your answer is Yes, which software have you used?

ERDAS IMAGINE ER-Mapper ENVI Other.....

For which purpose did you use this software?-----

22. Are you interested in learning basic skills of Remote Sensing and Digital Image Processing?

Yes No

23. Do you know how to add a second HD on a PC?

Yes No

24. Do you know any programming language?

Yes No

Which one? -----

25. List any topic relevant to electronic data management or GIS that you would like to be trained in:

APPENDIX III

List of participants of meetings between the AWG and the representatives of the organisations of the three sampling groups.

APPENDIX III: List of participants of meetings between the AWG and the representatives of the organisations of the three sampling groups.

Representatives of Educational and Research Institutes

1st meeting - 14th of April 2004

Nr	Name Surname	Position	Organisation
1	Efigjeni Kongjika	Director	Institute of Biological Research
2	Jani Vangjeli	Head of Flora Dpt	Institute of Biological Research
3	Alfred Mullaj	Deputy Director	Institute of Biological Research
4	Arjola Grazhdani	Specialist	Institute of Hydro-Meteorology
5	Mitat Sanxhaku	Director	Institute of Hydro-Meteorology
6	Manjola Banja	Deputy Director	Institute of Hydro-Meteorology
7	Emirjeta Adhami	Specialist	Institute of Hydro-Meteorology
8	Agim Selenica	Hydrologist	Institute of Hydro-Meteorology
9	Arqile Berxholli	Director	Center of Geographical Studies
10	Albana Zotaj	GIS Expert	Center of Geographical Studies
11	Enkela Begu	GIS Expert	Center of Geographical Studies
12	Sherif Lushaj	Director	Soil Study Institute
13	Valentina Suljoti	Head of Land Use Dpt	Soil Study Institute
14	Hajri Hasko	Director	Institute of Research on Forestry and Pastures
15	Kastriot Osmani	Director	Institute of Biological research
16	Thimaq Lako	Director	Project of Forest Inventory
17	Milva Ikonomi	Director	INSTAT
18	Lantona Sado	Statistic Specialist	INSTAT
19	Altin Elezi	Expert	Institute of Environment
20	Monda Marku		Institute of Environment
21	Adelina Mallka	Expert	Institute of Environment
22	Kujtim Bicaku	Director	Institute of Environment
23	Linda Ndroqi	Specialist	Institute of Environment
24	Stavri Lame	Director	Institute of Hydroteknik
25	Idriz Haxhiu	Director	Museum of natural Sciences, Tirana University
26	Murat Xhulaj	Head of Biological Dpt.	Faculty of Natural Sciences
27	Petrit Hoda	Specialist	Botanical Garden, Tirana University
28	Sabri Laçi	Socio-economist	Faculty of History and Geography, Tirana University
29	Adelina Manlliu	Specialist	Institute of Public Health
30	Cerciz Dyrmishi	Deputy Director	Gjeo-Alba
31	Taulant Bino	AWG	Museum of Natural Sciences, Tirana University
32	Ferdinand Bego	AWG	Museum of natural Sciences, Tirana University

2nd meeting - 18th of May 2004

Nr	Name Surname	Position	Organisation
1	Efigjeni Kongjika	Director	Institute of Biological Research
2	Jani Vangjeli	Head of Flora Dpt	Institute of Biological Research
3	Alfred Mullaj	Deputy Director	Institute of Biological Research
4	Arjola Grazhdani	Specialist	Institute of Hydro-Meteorology

5	Emirjeta Adhami	Specialist	Institute of Hydro-Meteorology
6	Agim Selenica	Hydrologist	Institute of Hydro-Meteorology
7	Albana Zotaj	GIS Expert	Center of Geographical Studies
8	Enkela Begu	GIS Expert	Center of Geographical Studies
9	Valentina Suljoti	Head of Land Use Dpt	Soil Study Institute
10	Hajri Hasko	Director	Institute of Research on Forestry and Pastures
11	Altin Elezi	Expert	Institute of Environment
12	Monda Marku		Institute of Environment
13	Adelina Mallka	Expert	Institute of Environment
14	Linda Ndroqi	Specialist	Institute of Environment
15	Stavri Lame	Director	Institute of Hydroteknik
16	Idriz Haxhiu	Director	Museum of Natural Sciences, Tirana University
17	Murat Xhulaj	Head of Biological Dpt.	Faculty of Natural Sciences, Tirana University
18	Petrit Hoda	Specialist	Botanical Garden, Tirana University
19	Adelina Manlliu	Specialist	Institute of Public Health
20	Cerciz Dyrnishi	Deputy Director	Gjeo-Alba
21	Taulant Bino	AWG	Museum of Natural Sciences, Tirana University
22	Ferdinand Bego	AWG	Museum of natural Sciences, Tirana University
23	Julia Canga	Secretary	ECAT-Tirana

3rd meeting - 9th of June 2004

Nr	Name Surname	Position	Organisation
1	Jani Vangjeli	Head of Flora Dpt	Institute of Biological Research
2	Alfred Mullaj	Deputy Director	Institute of Biological Research
3	Arjola Grazhdani	Specialist	Institute of Hydro-Meteorology
4	Emirjeta Adhami	Specialist	Institute of Hydro-Meteorology
5	Agim Selenica	Hydrologist	Institute of Hydro-Meteorology
6	Albana Zotaj	GIS Expert	Center of Geographical Studies
7	Enkela Begu	GIS Expert	Center of Geographical Studies
8	Valentina Suljoti	Head of Land Use Dpt	Soil Study Institute
9	Kastriot Osmani	Director	Institute of Biological research
10	Altin Elezi	Expert	Institute of Environment
11	Adelina Mallka	Expert	Institute of Environment
12	Linda Ndroqi	Specialist	Institute of Environment
13	Murat Xhulaj	Head of Biological Dpt.	Faculty of Natural Sciences, Tirana University
14	Petrit Hoda	Specilist	Botanical Garden, Tirana University
15	Sabri Laçi	Socio-economist	Faculty of History and Geography, Tirana University
16	Adelina Manlliu	Specialist	Institute of Public Health
17	Taulant Bino	AWG	Museum of Natural Sciences, Tirana University
18	Ferdinand Bego	AWG	Museum of Natural Sciences, Tirana University
19	Julia Canga	Secretary	ECAT-Tirana

Representatives of Central and Regional Services

1st meeting - 14th of April 2004

No	Name Surname	Position	Organisation
1	Zamir Dedej	Director of the Nature Protection Dept.	Ministry of Environment
2	Bajram Mediaj	Head of the legislation session	Ministry of Environment
3	Saimir Hoxha	Chief of Minister cabinet	Ministry of Environment
4	Pellumb Abeshi	General secretary	Ministry of Environment
5	Violeta Zunaj	MedWet Coast Project Coordinator	Ministry of Environment
6	Roland Kristo	Director of the Fishery Dept.	Ministry of Agriculture and Food
7	Gjergji Sotiri	Director of Water Resource Dept.	Ministry of Agriculture and Food
8	Maxhun Dida	Director of the General Directorate of Forests and Pastures	Ministry of Agriculture and Food
9	Bashkim LUSHAJ	Head of office	REA Tirane
10	Gani Deliu	Inspector	REA Tirane
11	Ferit Hysa	Inspector	REA Librazhd
12	Estref Cekrezi	Inspector	REA Gramsh
13	Viktor Jubani	Head of office	REA Shkoder
14	Illir Qesja	Head of office	REA Durres
15	Tahir Zela	Inspector	REA Lushnje
16	Angjelina Mertiri	Head of office	REA Fier
17	Gafur Gishti	Head of office	REA Berat
18	Areti Papadhima	Inspector	REA Sarande
19	Vath Gabili	Inspector	REA Laç
20	Afrim Kurtaga	Head of office	REA Peshkopi
21	Jak Gjini	Head of office	REA Lezhe
22	Nazif Gjoka	Inspector	REA Burrel
23	Luiza Zanaj	Head of office	REA Vlore
24	Orjeta Mato	Inspector	REA Pogradec
25	Luk Gjini	Inspector	REA Puke
26	Ferdinand Bego	Member of Adatation Working Group	ECAT-Tirana
27	Julia Canga	ECAT-secretary	ECAT-Tirana

2nd meeting – 21st of May 2004

No	Name Surname	Position	Organisation
1	Zamir Dedej	Director of the Nature Protection Dept.	Ministry of Environment
2	Bajram Mediaj	Head of the legislation session	Ministry of Environment
3	Pellumb Abeshi	General secretary	Ministry of Environment
4	Violeta Zunaj	MedWet Coast Project Coordinator	Ministry of Environment
5	Eno Dodbiba	MedWet Coast Project-Technical Expert	Ministry of Environment
6	Petrit Dervishi	MedWet Coast Project-Vlora office	Ministry of Environment
7	Bashkim LUSHAJ	Head of office	REA Tirane
8	Gani Deliu	Inspector	REA Tirane

9	Ferit Hysa	Inspector	REA Librazhd
10	Estref Cekrezi	Inspector	REA Gramsh
11	Viktor Jubani	Head of office	REA Shkoder
12	Ilir Qesja	Head of office	REA Durres
13	Avni Hida	Inspector	REA Fier
14	Angjelina Mertiri	Head of office	REA Fier
15	Xhako Lamcellari	Head of office	REA Berat
16	Areti Papadhima	Inspector	REA Sarande
17	Vath Gabili	Inspector	REA Laç
18	Jak Gjini	Head of office	REA Lezhe
19	Beqir Shehu	Head of office	REA Kukes
20	Nazif Gjoka	Inspector	REA Burrel
21	Luiza Zanaj	Head of office	REA Vlore
22	Orjeta Mato	Inspector	REA Pogradec
23	Luk Gjini	Inspector	REA Puke
24	Ferdinand Bego	Member of Adaptation Working Group	ECAT-Tirana
25	Julia Canga	ECAT-secretary	ECAT-Tirana

3rd meeting – 11th of June 2004

No	Name Surname	Position	Organisation
1	Zamir Dedej	Director of the Nature Protection Dept.	Ministry of Environment
2	Violeta Zunaj	MedWet Coast Project Coordinator	Ministry of Environment
3	Eno Dodbiba	MedWet Coast Project-Technical Expert	Ministry of Environment
4	Petrit Dervishi	MedWet Coast Project-Vlora office	Ministry of Environment
5	Ferit Hysa	Inspector	REA Librazhd
6	Ilir Zaja	Head of office	REA Shkoder
7	Zamir Llazani	Inspector	REA Shkoder
8	Ilir Qesja	Head of office	REA Durres
9	Avni Hida	Inspector	REA Lushnje
10	Angjelina Mertiri	Head of office	REA Fier
11	Xhako Lamcellari	Head of office	REA Berat
12	Areti Papadhima	Inspector	REA Sarande
13	Vath Gabili	Inspector	REA Laç
14	Jak Gjini	Head of office	REA Lezhe
15	Beqir Shehu	Head of office	REA Kukes
16	Nazif Gjoka	Inspector	REA Burrel
17	Luiza Zanaj	Head of office	REA Vlore
18	Orjeta Mato	Inspector	REA Pogradec
19	Luk Gjini	Inspector	REA Puke
20	Ferdinand Bego	Member of Adatation Working Group	ECAT-Tirana
21	Julia Canga	ECAT-secretary	ECAT-Tirana

Representatives of local NGOs

1st meeting – 1st of June 2004

Location: Lezha

No	Name Surname	Position	Organisation
1	Ali Brahimi	Head of the NGO	Eco Integration Retina Lezhë, Albania” (EIRLA)
2	Jak Gjini	Head of REA	REA Lezha

2nd meeting – 1st of June 2004

Location: Shkodra

No	Name Surname	Position	Organisation
1	Fatbardh Sokoli	Head of the APNE NGO, Prof. Dr. Lecturer University of Shkodra - Faculty of Natural Sciences.	Association for the Protection of Natural Environment”
2	Ervis Krymbi	Member of the APNE NGO, Assistant Lecturer Shkodra University	Association for the Protection of Natural Environment”
3	Marash Rakaj	Member of the APNE NGO, Head of Bio Ecology Division,	Association for the Protection of Natural Environment”
4	Aurora Dibra	Member of the APNE NGO, Lecturer in Ecology, Shkodra University	Association for the Protection of Natural Environment, APNE, Shkoder-Biology & Chemistry department Shkodra University

3rd meeting – 1st of June 2004

Location: Pogradec

No	Name Surname	Position	Organisation
1	Spase Shumka	Project Coordinator	Association for the Protection and Preservation of Natural Environment, Albania (PPNEA)
2	Ferit Hysa	Head of the NGO	Environmental Association “Lilium albanicum”
3	Naum Gegprifti	Head of the NGO	Tourism and Environment
4	Niko Pano	Head of the NGO	Association of Albanian inland and coastal water protection and conservation

APPENDIX IV

List of organisations that responded to the questionnaires

APPENDIX IV: List of organisations that responded to the questionnaires.

No	Name of Organisation	Target group	Region	Address	Responses per organisation
1	Association for the Protection and Preservation of Natural Environment, Albania (PPNEA)	NGO	Tirana	Boulevardi : ZOG I 97/1/5, Tirana	1
2	Association for the Protection of Aquatic Fauna (APAF)	NGO	Tirana	Muzeu i Shkencave Natyrore, Rruga e Kavajës, 132, Tiranë	1
3	Association for the Protection of Natural Environment, APNE, Shkoder	NGO	Shkoder	Lagjia Vojo Kushi, Rruga Çlirimi, Nr. 67, Shkoder	5
4	Association of Albanian inland and coastal water protection and conservation	NGO	Tirana	Rr. Muahamet Gjollësia, Pall. Moskat, Nr. 1, Shk. 2, App 11, Tirana	2
5	Biological Research Institute - Department of Flora and Ecology	Educational-Research Institute	Tirana	Rr. “Sami Frasheri”, No. 5, Tirana	1
6	Biological Research Institute, Tirana-Flora and Ecology Department	Educational-Research Institute	Tirana	Rr. “Sami Frasheri”, No. 4, Tirana	1
7	Centre of Geographical Studies, Tirane	Educational-Research Institute	Tirana	Rr. “Murat Toptani”, Nr. 11, Tirana, Albania	2
8	Conservation of Wetland and Coastal Ecosystems in Mediterranean”, financed by	NGO	Tirana	Rruga “Pjeter Bogdani”, Nr. 39/1; Ap.3/3. Tirana	2

	UNDP/GEF/Ministry of Environment				
9	Conservation of Wetland and Coastal Ecosystems of Mediterranean”, financed by UNDP/GEF/Ministry of Environment	NGO	Vlora	Lagjia “Isa Boletini”, Rruga Sadik Zotaj, Pall. 292, Vlora	1
10	Directorate General of Forest and Pastures / Directorate of Protected areas management	Central &Regional Services	Tirana	Rruga “Sami Frasheri”, No. 4, Tirana, Albania	1
11	Directorate of Nature Protection (DNP)	Central &Regional Services	Tirana	Rruga e Durresit, Nr. 27. Tirana	1
12	Environmental Centre for Administration and Technology (ECAT Tirana)	NGO	Tirana	Rr. A. Frasheri, Pall.16/ Shk.6/ Ap.53	2
13	Environment Institute, Tirana-Water Monitoring Department	Educational-Research Institute	Tirana	Environment Institute, Blloku “Vasil Shanto”, Tirane	2
14	Environmental Association “Lilium albanicum”	NGO	Tirana	Lagjia nr 1, Pallati 66, Librazhd, Albania	1
15	Fishery Research Institute-Fishery Stock Department	Educational-Research Institute	Durres	L. 4, Rr. “Skenderbej”, Durres	1
16	Forest and Pasture Research Institute	Educational-Research Institute	Tirana	Vlora Prefecture, Lagjia “15 Tetori”, Rruga “ 4 Heronjte”, Vlora	1
17	GEF Small Grants Program	NGO	Tirana	Rruga Donika Kastrioti Vila 1/1	1

18	Hydro meteorological Institute, Environmental Department	Educational-Research Institute	Tirana	Hydro Meteorological Institute, Rruga e Durresit, Tirana	2
19	Public Health Institute, Tirana Sanitary Expertise & Environmental Health Department	Educational-Research Institute	Tirana	Rr. "Aleksander Moisiu", Nr. 80	1
20	REA - Berat	Central &Regional Services	Berat	Berati municipality, Rajoni 1; Lagjia "Deshmoret e Kombit"	1
21	REA - Durres	Central &Regional Services	Durres	Durres municipality. Regional Environmental Agency (REA).	1
22	REA - Fier	Central &Regional Services	Fier	Lagjia Kastrioti, Pall. no. 103, Fier	1
23	REA - Fieri	Central &Regional Services	Fieri-Lushnja	Lushnja Sub-Prefecture	1
24	REA - Kukes	Central &Regional Services	Kukes	Kukes Municipality, Square "Skenderbej"	1
25	REA - Lezha	Central &Regional Services	Lezha	REA-Lezhe (Bank Building)	1
26	REA - Lezha, Office of Lac	Central &Regional Services	Lezha	SubPrefecture of Kurbin, Lac	1

27	REA- Diber, Office of Mati	Central &Regional Services	Diber	Burrel, Lagjia Drita, Mat	1
28	REA- Korce, Office of Pogradec	Central &Regional Services	Korce, Office of Pogradec	Pogradeci Municipality	1
29	REA- Puke	Central &Regional Services	Puke	Fushe-Arrez, Puka Sub-Prefecture	1
30	REA- Shkoder	Central &Regional Services	Shkoder	Shkodra Prefecture	2
31	REA- Vlora	Central &Regional Services	Saranda	Saranda Subprefecture, Rruga “V. Pandi”, Saranda	1
32	REA- Vlora	Central &Regional Services	Vlora	Vlora Prefecture, Lagjia “15 Tetori”, Rruga “ 4 Heronjte”, Vlora	1
33	Soil Study Institute, Tirana Department of Land Use Policies	Educational- Research Institute	Tirana	Rr. e Durrësit, Laprake, Tirana	5
34	Tirana University - Faculty of Natural Sciences / Botanical Garden	Educational- Research Institute	Tirana	Rruga : Komuna e Parisit”	1
35	Tirana University - Museum of Natural Sciences	Educational- Research Institute	Tirana	Rruga e Kavajes, Nr. 134, Tirana	3
36	Tourism and Environment (NGO)	NGO	Pogradec	Bulevardi “ Reshit Çollaku “ , Pogradec	1

APPENDIX V

List of respondents.

APPENDIX V: List of respondents.

Q1 = Conservation and management status of wetlands

Q2 = Training needs at national level regarding a) wetland inventory, and b) electronic data management and GIS

No	Name of respondent	E-mail	Target group	Organisation	Profession	Telephone	Questionnaires filled	
							Q2	Q1
1	Adelina Manlliu	manlliu1@hotmail.com	Educational-Research Institute	Public Health Institute, Tirana Sanitary Expertise & Environmental Health Department	Specialist of Environmental Pollution & Working Health-Bio-Chemist Specialist	0355 69 22 11005	Yes	Yes
2	Albana Zotaj	a_zotaj@yahoo.com a_zotaj@hotmail.com	Educational-Research Institute	Centre of Geographical Studies, Tirane-GIS/Remote Sensing Sector	Chief of GIS/Remote Sensing Sector-Geodesy Engineer	0355 42 27098 (Home)	Yes	Yes
3	Alfred Mullaj	Ikbiol@albmail.com	Educational-Research Institute	Biological Research Institute-Department of Flora and Ecology	Deputy Director	0355 42 22638	Yes	Yes
4	Altin Elezi	tini@icc-al.org	Educational-Research Institute	Environment Institute, Tirana-Water Monitoring Department	Chemist Specialist	0355 42 25190	Yes	No
5	Angjelina Mertiri	-	Central & Regional Services	REA - Fier	Head of the REA Fier	264 11 and 0692163927	Yes	Yes

6	Areti Papadhima	-	Central &Regional Services	REA- Vlora	Environmental Inspector, Saranda office-Chemist	8522621	Yes	Yes
7	Arian Gace	arian.gace@undp.org	NGO	GEF Small Grants Program	National Coordinator	0355 4 230 541	Yes	No
8	Arqile Berxholi	geography-albania2003@yahoo.com	Educational-Research Institute	Centre of Geographical Studies, Tirane	Director of Centre of Geographical Studies	0355 42 27985	Yes	Yes
9	Avni Hida	-	Central &Regional Services	REA - Fieri	Environmental Inspector, Lushnje - Chemist	682390888	Yes	Yes
10	Beqir Shehu	-	Central &Regional Services	REA - Kukes	Head of the REA Kukes	2423058 and 0682154621	Yes	Yes
11	Bexhet Islamaj	Bexhetisl@yahoo.com	Educational-Research Institute	Soil Study Institute, Tirana Department of Land Use Policies	Responsible for the management of Informatics System-Specialist of Informatics	0355 69 22 65269	Yes	No
12	Diana Gumeni	digumeni03@yahoo.co.uk	Educational-Research Institute	Institute of Environment	Expert biologist	04 225190; 04 223466	Yes	No
13	Dr Neki Frasheri	nfra@inima.al	NGO	Association of Albanian inland and coastal water protection and conservation	Head of the software and mathematical methods department.	0355 22 4790	Yes	No

14	Dr Spase Shumka	ppnea@albmail.com; sprespa@yahoo.co.uk	NGO	Association for the Protection and Preservation of Natural Environment, Albania (PPNEA)	Project Coordinator.	0355 42 49571	Yes	Yes
15	Emirjeta Adhami	thadhami@icc-al.org	Educational-Research Institute	Hydro meteorological Institute, Tirana-Environmental Department	Chief of Environmental Department	0355 42 23518	Yes	Yes
16	Eno Dodbiba	medwet3alb@albaniaonline.net	NGO	Project: Conservation of Wetland and Coastal Ecosystems in Mediterranean”, financed by UNDP/GEF/Ministry of Environment	Technical Expert nearby the MedWetCoast project, financed by UNDP/GEF/Ministry of Environment	00355 4 257627	Yes	No
17	Ervis Krymbi	elvis.krymbi@uniklu.ac.at	NGO	Association for the Protection of Natural Environment, APNE, Shkoder	Member of APNE, Head Bio Ecology Division, Assistant Lecturer Shkodra University	0355 22 42722	Yes	Yes
18	Evis Baxha	evis_baxha@yahoo.com	Educational-Research Institute	Soil Study Institute, Tirana Department of Land Use Policies	GIS Specialist	0355 69 22 30770	Yes	No
19	Ferdi Bego	ferdibego@albaniaonline.net	Educational-Research Institute	Museum of Natural Sciences-Tirana University	Lecturer and Researcher	00355 42 29028	Yes	No
20	Genti Kromidha	gkromidha@dppk.com; gkromidha@yahoo.it	Central &Regional Services	Directorate General of Forestry and Pastures/ Directorate of Protected Areas management	Director	+ 355 4256784	Yes	No
21	Idriz Haxhiu	taobino@icc-al.org	Educational-Research Institute	Tirana University - Museum of Natural Sciences (Faculty of Natural Sciences)	Head of the Museum of Natural Sciences	00 355 42 29028	Yes	Yes

22	Ilir Qesja	-	Central &Regional Services	REA- Durres	Head of the REA - Environmental inspector, Biologist.	5222352	Yes	Yes
23	Ilir Zaja	-	Central &Regional Services	REA - Shkoder	Head of the REA- Shkoder	692145139	No	Yes
24	Jak Gjini	jakgjini@yahoo.com	Central &Regional Services	REA - Lezha	Head of the REA.	02152747; 0692327195	Yes	Yes
25	Jani Vangjeli	jvangjeli@albmail.com	Educational-Research Institute	Biological Research Institute, Tirana-Flora and Ecology Department	Chief of Flora and Ecology Department	0355 42 55204	Yes	Yes
26	Kastriot Osmani	ikpd@icc-al.org kosmani@albmail.com	Educational-Research Institute	Fishery Research Institute- Fishery Stock Department	Director	0355 52 22552	Yes	Yes
27	Lefteri Dushaj	Lela_Dushaj@yahoo.com	Educational-Research Institute	Soil Study Institute, Tirana Department of Land Use Policies	Agronomist specialist	0355 69 24 43745	Yes	No
28	Linda Selfo	lindaselfo81@yahoo.com lselfo@icc-al.org	Educational-Research Institute	Hydro meteorological Institute, Tirana	Geographer	04-267459	Yes	No
29	Luiza Zanaj	lzanaj@yahoo.it	Central &Regional Services	REA- Vlora	Head of REA Vlora	03322830; 03323695	Yes	Yes

30	Luk Gjini	-	Central &Regional Services	REA- Puke	Environmental Inspector, Puke office-Forest Engineer	682528560	Yes	Yes
31	Majlinda Cenameri	majlinda_cenameri@yahoo.com	Educational-Research Institute	Soil Study Institute, Tirana Department of Land Use Policies	GIS Specialist	0355 42 31564	Yes	No
32	Marieta Mima	mima@sanx.net	NGO	ECAT-Tirana	Director of ECAT-Tirana	04 22 39 30	No	Yes
33	Mr Ferit Hysa	ferit@albmail.com	NGO	Environmental Association "Lilium albanicum"	Head of NGO	0355 69 22 96678	Yes	Yes
34	Mr Krenar Dibra	kenidibra2000@yahoo.it	NGO	Association for the Protection of Natural Environment, APNE, Shkoder	Student, Shkodra University	0355 69 21 74809	Yes	Yes
35	Mr Marash Rakaj	marashrakaj@yahoo.com	NGO	Association for the Protection of Natural Environment, APNE, Shkoder	Head Bio Ecology Division, Shkodra University & Lecturer University of Shkodra	0355 22 43747	Yes	Yes
36	Ms. PhD Aurora Dibra	adibra@yahoo.com	NGO	Association for the Protection of Natural Environment, APNE, Shkoder-Biology & Chemistry department Shkodra University	Lecturer in Ecology, Shkodra University	0355 69 21 57643	Yes	Yes

37	Naum Gegprifti	turizmidhemjedisi@yahoo.com	NGO	Tourism and Environment - Pogradec	Head of the NGO.	0355 68 25 19111	Yes	No
38	Nazif Gjoka	-	Central &Regional Services	REA- Diber, Office of Mati	Environmental Inspector, Mati office	682552138	Yes	Yes
39	Orieta Mato	-	Central &Regional Services	REA - Korce, Office of Pogradec	Environmental Inspector, at the Pogradeci office- Construction Engineer	692239559	Yes	Yes
40	Petrit Dervishi	medwet3v1@aul.com.al	NGO	MEDWET Coast project: Conservation of Wetland and Coastal Ecosystems of Mediterranean”, financed by UNDP/GEF/Ministry of Environment	Head of the Project local office; Hydrotechnical Engineer	033/28309	No	Yes
41	Petrit Hoda	hodap@albmail.com	Educational- Research Institute	Tirana University - Faculty of Natural Sciences / Botanical Garden	Researcher	+355 422257	Yes	No
42	Prof, Dr Niko Pano	alfi@inima.al	NGO	Association of Albanian inland and coastal water protection and conservation	Head of the NGO.	0355 22 4790	No	Yes
43	Prof. Dr. Fatbardh Sokoli	bardhsokoli@yahoo.com	NGO	Association for the Protection of Natural Environment, APNE, Shkoder & Biology & Chemistry department Shkodra University	Head of the APNE, Dean of Faculty of Natural Sciences, Shkodra University, Prof. Dr. Lecturer University of Shkodra	0355 22 43688	Yes	Yes

44	Saimir Beqiraj	beqirajs@yahoo.com	NGO	Association for the Protection of Aquatic Fauna (APAF)	Dr. Biologist - Head of the NGO.	0355 42 29028	Yes	Yes
45	Taulard Bino	taobino@icc-al.org	Educational-Research Institute	Tirana University - Museum of Natural Sciences (Faculty of Natural Sciences)	Researcher ornithologist	00 355 42 29028	Yes	Yes
46	Valbona Simixhiu	ecat@icc-al.org; Vsimixhi@yahoo.com	NGO	ECAT Tirana	GIS Specialist	+ 355 4 223930	Yes	No
47	Valentina Suljoti	valisuljoti@yahoo.com	Educational-Research Institute	Soil Study Institute, Tirana Department of Land Use Policies	Chief of Land Use Policies Department	0355 42 31564	Yes	No
48	Vath Gabili	-	Central &Regional Services	REA - Lezha, Office of Lac	Environmental inspector at the Office of Lac.	682128631	Yes	Yes
49	Violeta Zuna	medwet3alb@albaniaonline.net	NGO	Project: Conservation of Wetland and Coastal Ecosystems in Mediterranean”, financed by UNDP/GEF/Ministry of Environment	National coordinator of the MedWet Coast project in Albania; Chemist	00355 4 25 76 27	Yes	No
50	Khako Lamcellari	-	Central &Regional Services	REA - Berat	Environmental specialist, Chemist Engineer.	3232990	No	Yes
51	Ylli Hoxha	starplus04@yahoo.com yllstar01@yahoo.com	Educational-Research Institute	Forest and Pasture Research Institute	Scientific Researcher	++355 04 37 12 37 & Fax: ++355 04 37 12 42	Yes	No

52	Zamir Dedej	zamir@cep.tirana.al	Central &Regional Services	Directorate of Nature Protection (DNP)	Director of DNP MsC, Biologist	270624	Yes	Yes
53	Zamir Llazani	-	Central &Regional Services	REA - Shkoder	Environmental Inspector- Chemist, Toxicologist	069 2304967	Yes	No
TOTAL RESPONSES							48	34

APPENDIX VI

List of persons to whom questionnaires were distributed and respective response rate

APPENDIX VI: List of persons to whom the questionnaires were distributed and respective response rate.

Q1 = Conservation and management status of wetlands

Q2 = Training needs at national level regarding a) wetland inventory, and b) electronic data management and GIS

Note that: 1=questionnaire was sent and answered and 0=sent but not answered.

Target group: Central and Regional Services

Nr	Name Surname	Organisation	Target group	Q1	Q2
1	Afrim Kurtaga	REA Peshkopi	Central & Regional Services	0	0
2	Agim Minxhozi	Ministry of Education and Science	Central & Regional Services	0	0
3	Alma Bako	Ministry of Environment	Central & Regional Services	0	0
4	Angjelina Mertiri	REA Fier	Central & Regional Services	1	1
5	Arbina Rexha	Ministry of Environment	Central & Regional Services	0	1
6	Areti Papadima	REA Sarande	Central & Regional Services	1	1
7	Artan Lame	Ministry of Territory Adjustment and Tourism	Central & Regional Services	0	0
8	Avni Hida	REA Lushnje	Central & Regional Services	1	1
9	Bajram Mediaj	Ministry of Environment	Central & Regional Services	0	0
10	Bardhyl Qilimi	Ministry of Agriculture	Central & Regional Services	0	0
11	Bashkim Lushaj	REA Tirane	Central & Regional Services	0	0
12	Beqir Shehu	REA Kukes	Central & Regional Services	1	1
13	Besnik Baraj	Ministry of Integration	Central & Regional Services	0	0
14	Bujar Reme	Ministry of Territory Adjustment and Tourism	Central & Regional Services	0	0
15	Enis Tela	Ministry of Environment	Central & Regional Services	0	0
16	Ermira Fida	Ministry of Environment	Central & Regional Services	0	0
17	Estref Cekrezi	REA Gramsh	Central & Regional Services	0	0
18	Etleva Canaj	Ministry of Environment	Central & Regional Services	0	0
19	Gani Deliu	REA Tirane	Central & Regional Services	0	0
20	Gaqo Marko	REA Korce	Central & Regional Services	0	0
21	Genta Hasko	Ministry of Environment	Central & Regional Services	0	0
22	Genti Kromidha	Directorate General of Forestry and Pastures/ Directorate of	Central & Regional Services	0	1

		Protected Areas management			
23	Gjergji Sotiri	Ministry of Agriculture	Central & Regional Services	0	0
24	Gjon Feiza	Ministry of Agriculture	Central & Regional Services	0	0
25	Illir Qesja	REA Durres	Central & Regional Services	1	1
26	Illir Zaja	REA Shkoder	Central & Regional Services	1	0
27	Jak Gjini	REA Lezhe	Central & Regional Services	1	1
28	Luiza Zanaj	REA Vlore	Central & Regional Services	1	1
29	Luk Gjini	REA Puke	Central & Regional Services	1	1
30	Maxhun Dida	Ministry of Agriculture	Central & Regional Services	0	0
31	Mira Fida	Ministry of Environment	Central and Regional Services	0	0
32	Mirela Kamberi	Ministry of Environment	Central & Regional Services	0	0
33	Narin Panariti	Ministry of Environment	Central & Regional Services	0	0
34	Nazif Gjoka	REA Mati	Central & Regional Services	1	1
35	Nazif Gjoka	REA Burrel	Central & Regional Services	0	0
36	Orjeta Mato	REA Pogradec	Central & Regional Services	1	1
37	Pajtim Bello	Ministry of Local Government	Central & Regional Services	0	0
38	Pellumb Abeshi	Ministry of Environment	Central & Regional Services	0	0
39	Roland Kristo	Ministry of Agriculture	Central & Regional Services	0	0
40	Saimir Hoxha	Ministry of Environment	Central & Regional Services	0	0
41	Shpresa Leka	Ministry of Territory Adjustment and Tourism	Central & Regional Services	0	0
42	Stefan Rrapi	REA Gjirokaster	Central & Regional Services	0	0
43	Vath Gabili	REA Laç	Central & Regional Services	1	1
44	Viktor Jubani	REA Shkoder	Central & Regional Services	0	0
45	Vladimir Dosti	REA Permet	Central & Regional Services	0	0
46	Vladimir Lleshi	REA Rreshen	Central & Regional Services	0	0
47	Khako Lamcellari	REA Berat	Central & Regional Services	1	0
48	Zamir Dedej	Ministry of Environment	Central & Regional Services	1	1
49	Zamir Llazani	REA - Shkoder	Central & Regional Services	0	1
Total responses of Central & Regional Services				14	14

Target group: Non Governmental Organisations (NGOs)

Nr	Name Surname	Organisation	Target group	Q1	Q2
1	Arian Gace	GEF Small Grants Project	NGO	0	1
2	Aurora Dibra	Association for the Protection of Natural Environment	NGO	1	1
3	Elvis Krymbi	Association for the Protection of Natural Environment	NGO	1	1
4	Eno Dodbiba	MedWet Coast Project: Conservation of Wetland and Coastal Ecosystems in Mediterranean”, financed by UNDP/GEF/Ministry of Environment	NGO	0	1
5	Fatbardh Sokoli	Association for the Protection of Natural Environment	NGO	1	1
6	Ferit Hysa	Environmental Association “Lilium albanicum”	NGO	1	1
7	Krenar Dibra	Association for the Protection of Natural Environment	NGO	1	1
8	Marash Rakaj	Association for the Protection of Natural Environment, Shkoder	NGO	1	1
9	Marieta Mima	ECAT-Tirana	NGO	1	0
10	Naum Gegprifti	Tourism and Environment	NGO	0	1
11	Neki Frasheri	Association of Albanian inland and coastal water protection and conservation	NGO	0	1
12	Niko Pano	Association of Albanian inland and coastal water protection and conservation	NGO	1	0
13	Petrit Dervishi	MedWet Coast Project	NGO	1	0
14	Romeo Eftimi	ITA Consult	NGO	0	0
15	Saimir Beqiraj	Association for the Protection Aquatic Fauna	NGO	1	1
16	Spase Shumka	PPNEA	NGO	1	1
17	Valbona Simixhiu	ECAT-Tirana	NGO	0	1
18	Violeta Zunaj	MedWet Coast Project	NGO	0	1
Total responses of NGOs				111	14

Target group: Educational-Research Institutes

Nr	Name Surname	Organisation	Target group	Q1	Q2
1	Adelina Manlliu	Public Health Institute, Tirana Sanitary Expertise & Environmental Health Department	Educational-Research Institutes	1	1
2	Albana Zotaj	Centre of Geographical Studies, Tirane-GIS/Remote Sensing Sector	Educational-Research Institutes	1	1
3	Alfred Mullaj	Biological Research Institute-Department of Flora and Ecology	Educational-Research Institutes	1	1
4	Altin Elezi	Environment Institute, Tirana-Water Monitoring Department	Educational-Research Institutes	0	1
5	Arqile Berxholi	Centre of Geographical Studies, Tirane	Educational-Research Institutes	1	1
6	Bexhet Islamaj	Soil Study Institute, Tirana Department of Land Use Policies	Educational-Research Institutes	0	1
7	Diana Gumeni	Institute of Environment	Educational-	0	1

			Research Institutes		
8	Emirjeta Adhami	Hydro meteorological Institute, Tirana-Environmental Department	Educational-Research Institutes	1	1
9	Evis Baxha	Soil Study Institute, Tirana Department of Land Use Policies	Educational-Research Institutes	0	1
10	Ferdi Bego	Museum of Natural Sciences-Tirana University	Educational-Research Institutes	0	1
11	Idriz Haxhiu	Tirana University - Museum of Natural Sciences (Faculty of Natural Sciences)	Educational-Research Institutes	1	1
12	Jani Vangjeli	Biological Research Institute, Tirana-Flora and Ecology Department	Educational-Research Institutes	1	1
13	Kastriot Osmani	Fishery Research Institute-Fishery Stock Department	Educational-Research Institutes	1	1
14	Lefteri Dushaj	Soil Study Institute, Tirana Department of Land Use Policies	Educational-Research Institutes	0	1
15	Linda Selfo	Hydro meteorological Institute, Tirana-Environmental Department	Educational-Research Institutes	0	1
16	Majlinda Cenameri	Soil Study Institute, Tirana Department of Land Use Policies	Educational-Research Institutes	0	1
17	Mitat Sanxhaku	Academy of Science/Institute of Hydrometeorology	Educational-Research Institutes	0	0
18	Murat Xhulaj	Faculty of Natural Science/Tirana University	Educational-Research Institutes	0	0
19	Petrit Hoda	Tirana University - Faculty of Natural Sciences / Botanical Garden	Educational-Research Institutes	0	1
20	Sabri Laci	Faculty of History and Geography/Tirana University	Educational-Research Institutes	0	0
21	Sherif Lushaj	Soil Research Institute	Educational-Research Institutes	0	0
22	Stavri Lame	Institute of Hydromechanics	Educational-Research Institutes	0	0
23	Taulard Bino	Tirana University - Museum of Natural Sciences (Faculty of Natural Sciences)	Educational-Research Institutes	1	1
24	Valentina Suljoti	Soil Study Institute, Tirana Department of Land Use Policies	Educational-Research Institutes	0	1
25	Ylli Hoxha	Forest and Pasture Research Institute	Educational-Research Institutes	0	1
Total responses of Educational-Research Institutes				9	20

APPENDIX VII

List of organisations involved in conservation and management of wetland resources

APPENDIX VII: Organisations involved in wetland management (derived from the Status Questionnaire).

Organisations involved in wetland management	Target group
Association for the Protection and Preservation of Natural Environment, Albania (PPNEA).	NGO
Association of Albanian inland and coastal water protection and conservation.	NGO
Biological Research Institute, Tirana-Flora and Ecology Department.	Educational-Research Institute
Centre of Geographical Studies, Tirana-GIS/Remote Sensing Sector.	Educational-Research Institute
Directorate of Nature Protection (DNP).	Central &Regional Services
Environmental Centre for Administration and Technology (ECAT-Tirana)	NGO
Hydro meteorological Institute, Tirana-Environmental Department.	Educational-Research Institute
MEDWET Coast project: Conservation of Wetland and Coastal Ecosystems of Mediterranean”, financed by UNDP/GEF/Ministry of Environment.	NGO
REA – Berat.	Central &Regional Services
REA – Fier.	Central &Regional Services
REA – Fieri.	Central &Regional Services
REA - Korce, Office of Pogradec.	Central &Regional Services
REA – Kukes.	Central &Regional Services
REA – Lezha.	Central &Regional Services
REA - Lezha, Office of Lac.	Central &Regional Services
REA - Shkoder	Central &Regional Services

REA- Diber, Office of Mati	Central &Regional Services
REA- Durres	Central &Regional Services
REA- Puke	Central &Regional Services
REA- Vlora	Central &Regional Services
REA- Vlora	Central &Regional Services
Tirana University - Museum of Natural Sciences (Faculty of Natural Sciences).	Educational-Research Institute

APPENDIX VIII

Main jurisdictions and responsibilities of organisations that participated in the survey

APPENDIX VIII: Main jurisdictions and responsibilities of organisations that participated in the survey.

Name of Organisation	Target group	Jurisdictions and responsibilities on wetland areas
Association for the Protection and Preservation of Natural Environment, Albania (PPNEA)	NGO	No legal responsibilities.
Association for the Protection of Aquatic Fauna (APAF)	NGO	No answer.
Association for the Protection of Natural Environment, APNE, Shkoder	NGO	No answer.
Association of Albanian inland and coastal water protection and conservation	NGO	No legal responsibilities.
Biological Research Institute, Tirana-Flora and Ecology Department	Educational-Research Institute	No answer.
Centre of Geographical Studies, Tirane	Educational-Research Institute	No specific tasks.
Conservation of Wetland and Coastal Ecosystems in Mediterranean”, financed by UNDP/GEF/Ministry of Environment (Tirana)	NGO	No legal responsibilities.
Conservation of Wetland and Coastal Ecosystems of Mediterranean”, financed by UNDP/GEF/Ministry of Environment (Vlora)	NGO	Implementation of the project activities and actions for the two project sites: 1) Vjosa-Narta, and 2) Orikum-Llogora-Karaburun.
Directorate General of Forest and Pastures / Directorate of Protected areas management	Central &Regional Services	Administration and management of protected areas and related activities.
Directorate of Nature Protection (DNP)	Central &Regional Services	No answer.
ECAT Tirana	NGO	No answer.
Environment Institute, Tirana-Water Monitoring Department	Educational-Research Institute	No answer.
Environmental Association “Lilium albanicum”	NGO	No answer.
Forest and Pasture Research Institute - Department of Forest Management and Inventory	Educational-Research Institute	The wetland areas, in point of view of species richness (flora and fauna), fight a considerable weigh on the scientific research of Forest and Pasture Research

		Institute (FPRI). The lays responsibilities of FPRI, on wetland areas are to take into consideration, the inventory and preparing of management plans, to go till in proposals level to decree those zones protected or/and National Parks.
Fishery Research Institute-Fishery Stock Department	Educational-Research Institute	For the moment no any law or Decision of the Council of Ministers gave responsibilities to the Fishery Research Institute on the wetland specific issues.
GEF Small Grants Program	NGO	No jurisdictions on wetlands but due to the high biodiversity associated with wetland environment, GEF has a keen interest in supporting projects that aim at the protection of such habitats.
Hydro meteorological Institute, Environmental Department	Educational-Research Institute	Based on Decision of Council of Ministers no 103 of 31/03/002 "On Environmental Monitoring in Republic of Albania" the Hydro meteorological Institute of Tirana has the responsibility for the monitoring and evaluation of water quality and quantity in Albanian wetlands.
Public Health Institute, Tirana Sanitary Expertise & Environmental Health Department	Educational-Research Institute	No answer.
REA - Berat	Central &Regional Services	No answer.
REA - Durres	Central &Regional Services	Protection, conservation, management and monitoring of wetlands; Implementation of environmental policies and legislation; Environmental Impact Assessment of activities linked with wetlands.
REA - Fier	Central &Regional Services	Protection and monitoring of wetland.
REA - Fieri	Central &Regional Services	No answer.
REA - Kukes	Central &Regional Services	Protection and monitoring of wetland.
REA - Lezha	Central &Regional Services	Collection of data and information on hunting, fishing, habitats; Conservation, sustainable use of wetlands; Control current activities in wetlands; Environmental analysis as part of the process of issuing licenses for activities in wetlands or nearby them; Awareness raising on values and functions of wetlands.

REA - Lezha, Office of Lac	Central &Regional Services	No answer.
REA- Diber, Office of Mati	Central &Regional Services	No answer.
REA- Korce, Office of Pogradec	Central &Regional Services	No answer.
REA- Puke	Central &Regional Services	No answer.
REA- Shkoder	Central &Regional Services	No answer.
REA- Vlora	Central &Regional Services	Implementation of the regulatory framework related to conservation, management and monitoring of wetlands; control and monitor activities that have impacts on wetlands. Environmental Impact Assessments and analysis on activities running in wetland areas.
Soil Study Institute, Tirana Department of Land Use Policies	Educational- Research Institute	No answer.
Tirana University - Museum of Natural Sciences	Educational- Research Institute	Expertise on Biodiversity, wildlife management, protected areas, nature resource management, wetland inventory and monitoring, Environmental Impact Assessment (EIA); environmental planning; project identification and development.
Tourism and Environment (NGO)	NGO	No legal responsibilities.

APPENDIX IX

Supported job positions related to nature conservation and management of organisations that participated in the survey

APPENDIX IX: Job positions related to nature conservation and management, per organisation.

Name of Organisation	Target group	Job positions related to nature conservation and management
Association for the Protection and Preservation of Natural Environment, Albania (PPNEA)	NGO	Not applicable.
Association for the Protection of Aquatic Fauna (APAF)	NGO	This NGO does not have fulltime employees. Some of the members have taken part in inventory of wetlands at their state jobs.
Association for the Protection of Natural Environment, APNE, Shkoder & Biology & Chemistry department Shkodra University	NGO	Not applicable.
Association for the Protection of Natural Environment, APNE, Shkoder	NGO	Not applicable.
Centre of Geographical Studies, Tirane	Educational-Research Institute	No specific tasks.
Department of Land Use Policies	Educational-Research Institute	No answer.
Directorate General of Forestry of Pastures	Central &Regional Services	Administration and management of natural resources, forests, pastures, wild flora and fauna protected areas and related activities. Forests and pastures inventory, wild life inventory. Cadastre and mapping of forests, pastures and protected areas.
Directorate of Nature Protection (DNP)	Central &Regional Services	No answer.
Environmental Association "Lilium albanicum"	NGO	This NGO does not specific job positions related to wetlands.
Forest and Pasture Research Institute - Department of Forest Management and Inventory	Educational-Research Institute	Project compilation and management plans for National Parks and protected zones; permanent information in Ministry of Environment on problems caused from pollution on different areas.
Fishery Research Institute-Fishery Stock Department	Educational-Research Institute	No answer.

GEF Small Grants Program	NGO	No answer.
Hydro meteorological Institute, Tirana- Environmental Department	Educational- Research Institute	<ol style="list-style-type: none"> 1. Monitoring of hydro meteorological elements, air and water quality and level of pollution in the territory of Republic of Albania. 2. Climatic evaluation and evaluation of water resources of the country. 3. Elaboration of data collected by national hydro meteorological net and their keeping in archive.
Project: Conservation of Wetland and Coastal Ecosystems in Mediterranean”, financed by UNDP/GEF/Ministry of Environment	NGO	<p>Improve legal and regulatory framework on protection and management of wetlands; Prepare management plans and implement priority actions; Awareness raising on wetlands and costal ecosystems; Exchange of know-how and experience on wetland management; Training (regional and local) on wetland management.</p>
REA - Fier	Central &Regional Services	<p>Control and inspections, monitoring, collaboration with other authorities (inspectorates); Participation in the preparation of the Local Environmental Action Plan (LEAP); Nature conservation, Protected areas, Biodiversity.</p>
REA - Kukes	Central &Regional Services	<p>Control and inspections, monitoring, collaboration with other authorities (inspectorates); Participation in the preparation of the Local Environmental Action Plan (LEAP); Nature conservation, Protected areas, Biodiversity.</p>
REA - Lezha	Central &Regional Services	<p>Control and inspections, monitoring, collaboration with other authorities (inspectorates). Participation in the preparation of the Local Environmental Action Plan (LEAP) and Master plans; Nature conservation, Protected areas, Biodiversity.</p>
REA- Durres	Central &Regional Services	<p>Protection, conservation, management and monitoring of wetlands; Implementation of environmental policies and legislation; Environmental Impacts Assessments of the activities linked with wetlands; Protected Areas.</p>
REA- Vlora	Central &Regional Services	<p>Legal enforcement on on protection and management of wetlands; collect data on biodiversity, monitoring, protected areas.</p>
Soil Study Institute, Tirana	Educational- Research Institute	<p>The Institute of Soil Study (ISS) is the only research institute in Albania dealing with soil studies and scientific management of soils and water, aiming the sustainable management of these natural resources. ISS, based on a Government decision, is responsible for the soil classification and evaluation, division of soils according to categories of soil fertility, drainage, irrigation, soil and water pollution, monitoring of soil</p>

		<p>fertility, soil erosion, etc.</p> <p>The Department of Land Use Policies is a follow up of the Land Use Policies (LUP2) project, implemented during the period 2002-2003, funded by European Commission through the Phare Program. The main task of the Land Use Policies Department is to support the government institution with necessary information for the formulation of policies on Land Use Planning.</p> <p>The Department of Land Use Policies collects the analogue and digital information about land use in the geo-database (information related with land use, road and hydro graphic net, buildings, etc.), as well as deals with the soil adaptability aiming Land Use Planning.</p> <p>The Department of Land Use Policies has a well equipped GIS lab (ArcGIS 8.3 package) for the data elaboration and mapping as well as a capable staff to work with these programs.</p> <p>For the year 2004 the Department of Land Use Policies works in five different komune of four different regions: Maminas (Durrës), Bucimas and Hudenisht (Korce), Dajç (Shkoder) and Orikum (Vlore).</p>
Tirana University - Museum of Natural Sciences (Faculty of Natural Sciences)	Educational-Research Institute	Inventory and monitoring of fauna (molluscs, insects, amphibians and reptiles, birds and mammals) all over Albania during 1949-nowdays.
Tourism and Environment - Pogradec	NGO	Our NGO deals with issues of nature protection and conservation in general. We are particularly interested and active in issues related to environmental protection and water quality of Ohrid Lake and its effluents, protection of monuments of nature in and around Ohrid and Prespa Lakes.

APPENDIX X

List of proposed respondents for participating in the training procedure according to their current level of knowledge

APPENDIX X: List of proposed respondents for participating in the training procedure according to their current level of knowledge and their scientific background.

No	Name	Target group	Organisation	Profession	Expertise	Main responsibilities and tasks	Level of seminar to participate in
1	Albana Zotaj	Educational-Research Institute	Centre of Geographical Studies, Tirana-GIS/Remote Sensing Sector	Chief of GIS/Remote Sensing Sector-Geodesy Engineer	<p>GIS specialist in GIS/Remote Sensing Sector of Tirana Geographical Study Centre (1996-now).</p> <p>Participation in the following international and national projects:</p> <ul style="list-style-type: none"> • Methodology of Digital Management for the Municipality Urbanistic's based on GIS Technology (Co-operation Program between Republic of Albania and republic of Italy); • Environmental Atlas "Watershed of Prespa" (Co-operation between Albania, Greece and Macedonia); <ul style="list-style-type: none"> • CORINE Land Cover; • Administrative Organisation of Albania; • Municipalities of Albania (Project developed with the co-operation of the Local Government & Decentralization Ministry); • TED – Study of natural, social and cultural values of Tirana-Elbasan-Durres region; <ul style="list-style-type: none"> • CORINE Air; • MedWetCoast3. 	<p>1996-2001 GIS specialist in Tirana Geographical Study Centre.</p> <p>2001 up to now: Chief of GIS/Remote Sensing Sector in Tirana Geographical Study Centre.</p>	Train the Trainers

2	Arian Gace	NGO	GEF Small Grants Program	National coordinator	Biologist by training, general knowledge of coastal and wetland hydrology, nitrogen budgets in a coastal ecosystem.	Coordination of GEF/SGP program in Albania.	Train the Trainers
3	Bexhet Islamaj	Educational-Research Institute	Soil Study Institute, Tirana Department of Land Use Policies	Responsible for the management of Informatics System-Specialist of Informatics	Specialist of Information System (PMU of Land Tenure Project); IT Specialist –Land Tenure Project; IT specialist – LUPP2.	Management of database and computer network, programming, TOOLS preparation in Visual Basic, maintenance of Hardware and Software, etc.	Train the Trainers
4	Ervis Krymbi	NGO	Association for the Protection of Natural Environment, APNE, Shkoder	Member of APNE, Head Bio Ecology Division, Assistant Lecturer Shkodra University	Assistant lecturer in the Geography department teaching Geomorphology and GIS.	Member of APNE-Shkoder. Involved in collection of geographical information.	Train the Trainers
5	Genti Kromidha	Central & Regional Services	Directorate General of Forestry and Pastures / Directorate of Protected Areas management	Director	Forest management (field and office works). Forest management database creation and maintenance. Forest management mapping, wild life inventory, biodiversity assessment, vegetation studies, ecosystem management.	Supervision of protected areas management, provide information of protected area status, update of protected areas network, wild life inventory, staff training.	Train the Trainers

6	Neki Frasheri	NGO	Association of Albanian inland and coastal water protection and conservation	Head of the software and mathematical methods department.	Mathematical modeling, development and deployment of application packages, system and network engineering, project management.	Head of software and mathematical methods department, technical leader for INIMA in European projects: SEEREN, SEEGRIO, ISOTEIA.	Train the Trainers
7	Valbona Simixhiu	NGO	ECAT Tirana	GIS Specialist	Preparation of maps; establishment of GIS system; digitization, GIS applications, etc.	May 1999- June 2004: GIS Specialist at the Forestry Project Management Unit by the Directorate General of Forests and Pastures. July 2004 – now: ECAT Tirana - GIS Specialist (ALWET Project, Sustainable Traffic Development in Tirana Project.	Train the Trainers
8	Adelina Manlliu	Educational-Research Institute	Public Health Institute, Tirana Sanitary Expertise & Environmental Health Department	Specialist of Environmental Pollution & Working Health-Bio-Chemist Specialist	Bio-Chemist specialist in Public Health Institute, Tirana, responsible for the monitoring of environmental pollution.	Specialist of environmental pollution from impacts of industrial production or their effects.	Beginners

9	Alfred Mullaj	Educational-Research Institute	Biological Research Institute-Department of Flora and Ecology	Deputy Director	-	-	Beginners
10	Areti Papadhima	Central & Regional Services	REA- Vlora	Environmental Inspector, Saranda office- Chemist	Construction Engineer, control construction activities, land use practices, including the use of wetlands	Environmental inspector, monitoring activities of the enterprises that affect wetlands	Beginners
11	Avni Hida	Central & Regional Services	REA - Fieri	Environmental Inspector, Lushnje - Chemist	Chemist, expert on water pollution	Environmental inspector, monitoring activities of the enterprises that affect wetlands	Beginners
12	Diana Gumeni	Educational-Research Institute	Institute of Environment - Department of Evaluation of the Environmental Pollution	Expert Biologist	Environmental problems, effects	Evaluation of the environmental pollution and the ways to rehabilitate the polluted areas.	Beginners

13	Dr Spase Shumka	NGO	Association for the Protection and Preservation of Natural Environment, Albania (PPNEA)	Project Coordinator.	Management of protected areas (PA), monitoring	Preparation of project proposals Project management	Beginners
14	Emirjeta Adhami	Educational-Research Institute	Hydro meteorological Institute, Tirana-Environmental Department	Chief of Environmental Department	Graduated in 1993 from Faculty of Natural Sciences, department of Industrial Chemistry. Master of science (1999-2001). From 1993 Chief of Environmental Department in Hydro meteorological Institute of Tirana.	Continuous monitoring of the quality of superficial water in all the territory of Albania through monthly mission. Evaluation of the situation of water environments in the territory of Albania. Elaboration of data collected as results of the analysis carried out on the samples collected in different water environments and keeping in archive.	Beginners
15	Eno Dodbida	NGO	MedWet Coast Project	National expert/Hydrologist	Environmental related issues and wetland management	Thematic expertise to areas pertaining to wetland management	Beginners

16	Evis Baxha	Educational-Research Institute	Soil Study Institute, Tirana Department of Land Use Policies	GIS Specialist	GIS operator in Land Use Policies Project and in the Department of Land Use Policies of Soil Study Institute.	Data recording and processing, collected in target komunas; Digitalization of maps; Recording of Land Use data for the years 1991 and 2004; Updating in ArcGIS of new buildings, etc.	Beginners
17	Ferdi Bego	Educational-Research Institute	Museum of Natural Sciences-Tirana University	Lecturer and Researcher	Expert on Biodiversity, wildlife management, protected areas, nature resource management, wetland inventory, management and monitoring, Environmental Impact Assessment (EIA); environmental planning; project identification and development	Project coordinator on drafting National Biodiversity Strategy and Action Plan (NBSAP); technical focal point for wetland inventory; national consultant on nature resource management; conducting several EIAs; National coordinator for the preparation of the management plans for the wetland and coastal ecosystem of the selected sites of MedWet Coast project.	Beginners

18	Idriz Haxhiu	Educational-Research Institute	Tirana University - Museum of Natural Sciences (Faculty of Natural Sciences)	Head of the Museum of Natural Sciences	Expert on herpetology, wildlife management, wetland inventory and monitoring, project identification and development	Project coordinator for several projects on fauna monitoring in wetlands of Albania.	Beginners
19	Illir Qesja	Central & Regional Services	REA- Durres	Head of the REA - Environmental inspector, Biologist.	As an Environmental specialist I have experience on wetland biodiversity, pollution, water, air and soil pollution	Head of REA-Durres. Inspections and monitoring of activities that may cause damage on environments, including wetlands. Co-operation and coordination with other authorities	Beginners
20	Jak Gjini	Central & Regional Services	REA - Lezha	Head of the REA.	Conducted an inventory on medicinal plants of Lezha district (1988-2000). Knowledge on hydro chemical conditions of the Lezha's lagoons. Conduct research on coastal erosion. Conduct research on the impacts of the Cu Industry on Biodiversity of the Lezha prefecture (Kurbin-Mirdite). Knowledge on MEDWET inventory methodology As an Environmental specialist I have experience on wetland pollution, water, air and soil pollution	Head of REA-Lezhe. Inspections and monitoring of activities that may cause damage on environments, including wetlands. Co-operation and coordination with other authorities. Implementation of environmental policies and legislation	Beginners

21	Jani Vangjeli	Educational-Research Institute	Biological Research Institute, Tirana-Flora and Ecology Department	Chief of Flora and Ecology Department	Specialist of Albanian Flora, vegetation of Pinus leucodermis and Oak (Quercus) Forests, rare and threatened species in Albania, biodiversity and mapping of vegetation habitats.	-	Beginners
22	Linda Selfo	Educational-Research Institute	Hydro meteorological Institute, Tirana-Environmental Department	Geographer	-	-	Beginners
23	Luiza Zanaj	Central & Regional Services	REA- Vlora	Head of REA Vlora	As an Environmental specialist I have experience on wetland pollution, water, air and soil pollution	Head of REA-Vlora. Inspections and monitoring of activities that may cause damage on environments, including wetlands. Co-operation and coordination with other authorities	Beginners
24	Majlinda Cenameri	Educational-Research Institute	Soil Study Institute, Tirana Department of Land Use Policies	GIS Specialist	I have a long experience with projects for map preparation in a mechanical way and during the last seven years using AutoCAD and GIS.	Preparation of the database in ACCESS, data recording, data export in ArcGIS, data processing for buildings, roads, irrigation channels, and other data and overlapping with	Beginners

						other data in ACCESS program.	
25	Mr Ferit Hysa	NGO	Environmental Association “Lilium albanicum”	Head of NGO	Some publications on protected areas, lakes and their drainage basin	Head of NGO. Coordinator and expert in several projects	Beginners
26	Mr Ferit Hysa	NGO	Environmental Association “Lilium albanicum”	Head of NGO	Some publications on protected areas, lakes and their drainage basin	Head of NGO. Coordinator and expert in several projects	Beginners
27	Mr Marash Rakaj	NGO	Association for the Protection of Natural Environment, APNE, Shkoder	Head Bio Ecology Division, Shkodra University & Lecturer University of Shkodra	Member of APNE – Shkoder as well as other national and international organisations such as SETACH, KALIMERA.	Member of APNE-Shkoder	Beginners
29	Ms. PhD Aurora Dibra	NGO	Association for the Protection of Natural Environment, APNE, Shkoder-Biology & Chemistry department Shkodra University	Lecturer in Ecology, Shkodra University	Lecturer Shkodra University for 3 years. Involved with environmental NGOs since 8 years. Part of the working group responsible for the preparation of Strategy on environmental education and in the trainers group of Milieukontakt Oost Europa (MKOE). Courses taken in the University of Jena, Germany. Actually training on some new experimental methods in practical ecology at Ecology Institute, Jena	Lecturer Ecology, Shkodra University. Secretary of the NGO.	Beginners

30	Nazif Gjoka	Central & Regional Services	REA- Diber, Office of Mati	Environmental Inspector, Mati office	Biochemist, knowledge on Biodiversity, water quality and pollution of wetlands	Environmental inspector, land use, monitoring activities of the enterprises that affect wetlands	Beginners
31	Petrit Hoda	Educational-Research Institute	Tirana University, Faculty of Natural Sciences/Botanical Garden	Researcher	Study of Albanian Flora and Vegetation	Lecturer on “ <i>Biogeography</i> “ and” <i>Plant Geography</i> ”, Vegetational and floristic studies mainly on protected areas, Introduction of Albanian flora in Botanical Garden of Tirana	Beginners
32	Prof. Dr. Fatbardh Sokoli	NGO	Association for the Protection of Natural Environment, APNE, Shkoder & Biology & Chemistry department Shkodra University	Head of the APNE, Dean of Faculty of Natural Sciences, Shkodra University, Prof. Dr. Lecturer University of Shkodra	Lecturer Shkodra University for 29 years. Area of expertise: Botany. Involved in nature protection.	Head of APNE, Dean of Faculty of Natural Sciences, Shkodra University	Beginners
33	Saimir Beqiraj	NGO	Association for the Protection of Aquatic Fauna (APAF)	Dr. Biologist - Head of the NGO.	Hydro biologist specialized in benthic mollusks. 7 years of work experience	Head of NGO - Coordination	Beginners
34	Taulard Bino	Educational-Research Institute	Tirana University - Museum of Natural Sciences	Lecturer and Researcher	Expert on Biodiversity, wildlife management, protected areas, nature resource management, wetland inventory, management and	Ornithologist of the Museum of natural Sciences, team leader for wetland	Beginners

					monitoring, Environmental Impact Assessment (EIA); environmental planning; project identification and development	inventory; national consultant on nature resource management; conducting several EIAs; National coordinator for the preparation of the management plans for the wetland and coastal ecosystem of the selected sites of MedWet Coast project	
35	Valentina Suljoti	Educational-Research Institute	Soil Science Institute, Tirana - Department of Land Use Policies	Chief of Land Use Policies Department	Besides my engagement in the preparation and development of many research studies on soil chemistry, soil fertility, soil classification, land protection, I have also being involved in projects on land use, land consolidation, land use planning, GIS applications, especially during Land Use Policy (LUP) project, financed by EC, like local coordinator and now, like head of LUP Department.	As the head of Land use policies department my main responsibilities are to lead the staff in the realization of the department tasks related to collection and processing in GIS of land information, the work coordination with the government and non government institutions, as well as communes and municipalities.	Beginners
36	Violeta Zuna	NGO	Project: Conservation of Wetland and Coastal Ecosystems in	National Coordinator of the MedWet	The MedWet Coast project has a permanent staff (4 persons) and a number of contracted personnel (10 persons)	Expert on hydrology, forestry, zoology, botany, fishery, Salinas, agronomist,	Beginners

			Mediterranea”, financed by UNDP/GEF/Ministry of Environment	Coast project in Albania; Chemist		environmental education, medicinal plants, lawyer, GIS expert, and so on. Overall co- ordination of the project; co-operation and co-ordination with other projects and authorities	
37	Ylli Hoxha	Educational- Research Institute	Forest and Pasture Research Institute - Department of Forest Management and Inventory.	Scientific Researcher	-	-	Beginners