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Medcoastland Project

Thematic Network
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CIHEAM
Mediterranean Agronomic Institute
Bari-Italy

MEDCOASTLAND PROJECT

Mediterranean coordination and dissemination of land conservation management to combat land degradation for the sustainable use of natural resources in the Mediterranean coastal zones

Thematic **Network**
October 2002- September 2006

Workshop theme:

Determining an income-product generating approach for soil conservation management

(Marrakech, Morocco, 12-16 February 2004)

Workshop Report

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This report was prepared based on information provided by the reporters of the scientific sessions and on personal notes taken by P. Zdruli, M. Badraoui, and R. Bouabid.
The support of the reporters is greatly appreciated.

P. Zdruli wrote the report.

March 2004

The second workshop of the MEDCOASTLAND Thematic Network was held in the historical Moroccan city of Marrakech in 12-16 February 2004 in the beautiful campus of the COS ONE Village just a few kilometres from Marrakech city centre. The coordinating team of the Project as well as all the participants are thankful to the efforts of Prof. Dr. Mohamed Badraoui, Chairman of the Steering Committee and Leader of the Work Package 3, to Dr. Rachid Bouabid and all other members of the MEDCOASTLAND Moroccan team for making all the necessary arrangements in organising the workshop.

Summary of the conclusions of the workshop

1. The theme of the 2nd Workshop of MEDCOASTLAND Project was: “Determining and Income-Product Generating Approach in Soil Conservation Management”;
2. The workshop was successfully organised by Partner P10 IAV Hassan II Rabat Institute in close collaboration with the Agriculture School of Meknes, Land Management Direction of the Ministry of Agriculture and Rural Development, the Marrakech Provincial Directorate of Agriculture (DPA) and the Marrakech Regional Directorate of Water and Forests (DREF) and in close collaboration with the Mediterranean Agronomic Institute of Bari in Italy;
3. The MEDCOASTLAND team at IAMB prepared and printed 50 copies of both the Programme and of the Extended Abstracts that were included in the registration package distributed to all the participants;
4. Thirty partners representing all the 13 countries participating in the MEDCOASTLAND project attended the workshop. In total the workshop was attended by more than 80 people;
5. The following partners were missing in the workshop:

   - **P02 Institut National Agronomique, Algeria**
   - **P04 Ministry of Agriculture, Jordan**
   - **P15 Ministry of Environment, Lebanon**
   - **P22 Groupement de Mise en Valeur Salmastre, Algeria**
   - **P26 Farmers Central Co-operative Society**
   - **P30 Village Committee/Assoc. Product. Oliv. Nakhla Watershed, Morocco**

6. Three invited experts (Dr. Keith Wiebe, United States Department of Agriculture Economic Research Service, Washington DC, USA, Prof. Faiçal Benchekroun and Prof. Abdellatif Khattabi from IAV Hassan II, Rabat) provided keynote papers. The workshop was attended also by Prof. Franco Previtali, Università degli Studi di Milano-Bicocca, Italy, Sylvia von dem Busche and Ahmed El Karimi from the GTZ Morocco who presented also a key-note paper;
7. The workshop was attended also by Dr. Dirk Pottier, responsible Scientific Officer of the MEDCOASTLAND project at the headquarters of the European Commission in Brussels;
8. Dr. Atef Hamdy, Director of Research of the Mediterranean Agronomic Institute of Bari (IAM-B) and supervisor of the MEDCOASTLAND provided the greetings of Dr. Cosimo Lacirignola, Director of IAM-B and of Prof. Giuliana Trisorio Liuzzi (MEDCOASLAND Coordinator). The workshop was attended also by Dr. Pandi Zdruli (Project Manager) and Mr. Saverio De Santis (Financial Project Officer);
9. Several Moroccan authorities including representatives from the Ministere de l’Agriculture au Development Rural et des Eaux et Foret (MADREF), Insitut Agronomique et Veterinaire HASSAN II, Agricultural School of Meknes, the

Marrakech Provincial Directorate of Agriculture (DPA) and the Marrakech Regional Directorate of Water and Forests (DREF) greeted the workshop;

10. The objectives of the workshop included a thorough investigation of socio-economic factors inducing or preventing farmers to adopt sustainable land management practices. Other topics included the level of income, farmer's perception of land degradation, potential impacts, and access to credit and markets;
11. A total of 29 presentations were made during the workshop. They included 5 keynote papers, 6 country reports and the rest were case studies from specific projects either completed on under way in several countries participating in the Network;
12. Full papers for publication of the proceedings of the workshop are due by the end of March 2004;
13. The task to identify and establish the link between soil conservative measures, income-product generating activities and farmer's involvement was thoroughly discussed and investigated. Yet there is much to be done in determining an income-product generating approach for soil conservation management in relation to economic and production aspects generated by the sustainable land management practices;Discussions during the working sessions and especially in the final plenary session pointed out towards the need for a better and clear definition of what is meant with income-product generating activities;
15. It was decided that under the leadership of Work Package 3 Leader Prof. Badraoui, the work should deepen towards the formulation of a conceptual scheme where the success and impacts of soil conservation measures should be assessed;
16. Both income-product generating activities and participatory approaches are very much linked to each other. This fact was often mentioned both in presentations as well as in discussions;
17. The field excursion was devoted to visit specific projects in the Province of Al-Haouz and the Royal Natural Reserve of Msabih Talaa of the Marrakech region. Success stories in income-product generating activities were shown. In particular they offered a perfect match between rural development, farmer and herder participation, selection of appropriate crops (i.e. artiplex and cactus) that reduce the negative effects of land degradation and provide income for the local people;
18. It was emphasised that the major objective of MEDCOASTLAND project "Assisting in planning and management of natural resources particularly in the Mediterranean coastal areas, in regard to land degradation and resource base conservation and management" is still not completed;
19. It was decided that information retrieval and the compilation of knowledge base of the project should continue to lead to the complete creation of the database of the project; critics were addressed to all the partners that have not yet provided information retrieval data;
20. Specific objectives of the workshop dealt with the identification of gaps in information and knowledge base for the proper regional understanding of sustainable land management;
21. Satisfactory comments were made in regard to the web page of the project and the information retrieval available. It was strongly emphasised that the web page should be continuously up-dated and enriched with new information. Concerns were raised for the future perspectives of the site, after the end of the project;
22. Partners were encouraged to use more frequently the web page and especially the WEB-FORUM that via Internet connects all of them and serve as an open forum for debate, discussions, and sharing of ideas; partners were urged to use more frequently those services;

23. The financial cost of the workshop was covered by the budget of P10 (IAV Hassan II, Rabat, Morocco) and will be reported in the cost statement of the 2nd year of the project;
24. The next workshop will be held in Alexandria, Egypt, in 9-13 October 2004. The theme of the workshop is: "*Promoting Participatory Management of the Land System to Enhance Soil Conservation*";
25. Topics for Alexandria workshop include:
    - **Legislative aspects of participatory approach including gender issues;**
    - **Economic aspects;**
    - **Social aspects;**
    - **Institutional framework;**
    - **Analyses of bottom-up and top-down approaches;**
    - **The relation between effective land management and farmer's participation;**
    - **Centralisation and decentralisation;**
    - **Establishing the role and responsibilities of rural communities, scientists, researchers, policy-makers and decision-makers in soil conservation;**

WORKSHOP OUTLINE

The workshop is organised in seven sessions as given below:

Session 1:	Introduction and welcome address
Session 2:	Key-note papers Invited experts: F. Benchekroun (Morocco), K. Wiebe (USDA-ERS, USA), and S. von dem Busche (GTZ-Morocco)
Session 3:	Key-note papers and specific reports: JRC-Ispra, SCAPE project, INRA-France and country specific report Algeria. Invited expert: A. Khatabi, Morocco
Session 4:	Country specific reports: CSIS Spain, Jordan, Morocco and Egypt
Session 5:	Country specific reports: Malta, Syria, and Tunisia
Session 6:	Country reports: Palestine, Syria, Morocco, and Tunisia
Session 7:	Soil conservation management, environmental and economic impacts: Lebanon, Morocco, and Palestine
Session 7:	Conclusions and recommendations

The final goal of the workshop was to come out with some conclusions and recommendations that allow sustainable use and management of land recourses and in the meantime assists farmers to generate income.

SESSIONS ORGANISATION

Sessions were organised in a way to give sufficient time for questions and discussions. Each session was chaired and introduced by a speaker who gave an overview of the major topics to be presented. All people selected for oral presentations used Power Point software or videos. The purpose of the presentations was to set the floor for discussions.

The time allocated for each presentation was 30 minutes, however, speakers were advised to leave at least 5 minutes from this time for short questions and discussions or comments. At the end of each session, a thirty minutes period was allocated for final comments, questions and open discussions. During the final session the performance of the partners was examined in detail and the floor was set up for the concluding remarks. Additional information for all the presentations is available at the Summary of Extended Abstracts.

Because most of the participants coming from Maghreb North Africa (Algeria, Morocco, Tunisia) do not understand and speak well enough English, simultaneous translation from French to English, and vice versa was provided.

Thursday, 12 February 2004

INTRODUCTION AND WELCOME ADDRESS

SESSION 1 (9:00 – 10:15) OPENING CEREMONY

Chairman:* *Prof. Mohamed Badraoui,
Institute of Agronomy and Veterinary Sciences Hassan II, Rabat Institute, Morocco

Prof. Mohamed Badraoui in the quality of Chairman of the session and as representative of the Institute of Agronomy and Veterinary Sciences Hassan II, Rabat Institute, Morocco, opened the workshop. He emphasised the fact that the MEDCOASTLAND project was launched because the problem of land degradation in the Mediterranean region is real and its negative effects have a direct impact on agricultural productivity and on the quality and sustainable use and management of limited land and water resources of the region.

Members of the panel of the opening ceremony

As Chairman of the Steering Committee of the project he pointed out that MEDCOASTLAND is moving successfully forward thanks to active involvement of almost all the partners. In particular Dr. Badraoui appreciated the work done by the Coordinating team at the Mediterranean Agronomic Institute of Bari, in Italy.

The goal of the Marrakech workshop is ***to explore the links between income-generating activities, increased income for the farmer or land user and reduction of land degradation***. There is ample evidence to show that the Mediterranean region is suffering from desertification, soil erosion, salinisation, organic matter reduction, urbanisation and many other problems. "*To combat these processes and in the meantime provide income for the farmer is not an easy task but we have to deep into this subject and to show those positive examples that are available in many countries, including Morocco*"-concluded Prof. Badraoui.

Prof. M. Badraoui, IAV Hassan II Rabat, Morocco

Dr. Dirk Pottier provided the greetings of the European Commission DG Research INCO Programme. He congratulated the Co-ordinator (CIHEAM-IAM Bari) for bringing together such a large and diversified thematic network of high quality participants. "*This is already a result in itself, a success which you have to merit*" pointed Dr. Pottier. It is important to notice that this network is made of several layers including decision makers, researchers/scientists, and farmer associations therefore this work brings science close to the society as scientists themselves need to approach farmers more closely.

Participants of the Marrakech workshop

Continuing Dr. Pottier gave an overview of Europe's agriculture research trends. Among them "food scare" remains a great concern for the European consumer. Several food crises including mad cow disease, dioxins in chickens, etc have decreased the **trust** of the European citizens in the functioning of the agricultural and food sectors. The EU citizens are now taking part in the **debate** on the agriculture sector's future and they expect politicians to correct this trend of wrong-goings.

Another aspect is the need for **impact**. Civil society demands applied research with realistic possibilities for societal outcome. The impacts that research findings have on related development processes are unclear. What has research really accomplished so far, what has it changed? Is the cost benefit ratio reasonable? The significance of research findings and their impact on development policy issues is not transparent. Who are the actual beneficiaries of research findings? We all talk about **target groups** but are the research results really relevant to these groups? There is unspoken impression that maintaining research institutions might possibly be held to be more important than the impact of findings on target groups.

Dr. D. Pottier, EC/DG Research, INCO Programme
MEDCOASTLAND Scientific Officer

Finally he stressed that MEDCOASTLAND in his opinion is proceeding nicely and progressing continuously. "*Having followed your activities since project inception I can be confident that the project is doing its job and perhaps do more than expected initially. This is ascertained through the regular reports but also through that wonderful information tool which is your project's web site. Congratulations with this instrument, I do hope that it will facilitate continued debate amongst you and that users from outside the project may, when appropriate, join the discussions and enrich you with their observations, suggestions and wisdom*"-concluded Dr. Pottier.

Prof. Atef Hamdy, Director of Research and MEDCOASTLAND supervisor provided the greetings of CIHEAM-Mediterranean Agronomic Institute of Bari, Italy. He brought the personal warm greetings of the Director of IAMB, Dr. Cosimo Lacirignola and of Prof. Giuliana Trisorio Liuzzi who were not able to attend such an important event due to unexpected important obligations.

Initially Prof. Hamdy congratulated all the partners of this project and in particular he emphasised the hard work that IAM Bari is doing in coordinating and managing such a large thematic network.

Prof. A. Hamdy, Director of Research, IAM Bari

Continuing Prof. Hamdy made a thorough analysis of the situation of land degradation in the Mediterranean Region. "*Land degradation and desertification, probably more than any other environment-related phenomenon, demonstrates very clearly the inextricable linkage between natural resources management and social and economical as well as political factors. All these need our attention and concerted action today, as tomorrow may be too late*"-pointed Prof Hamdy.

Such conditions surrounded with very complex arising problems are hitting severely the human well being and allow to state that the great concern within the MEDCOASTLAND project is of paramount importance to face the enormous challenges the region is facing to achieve the final goal towards a sustainable use of the natural resources and in particular of land and water.

At the end of his intervention, Prof. Hamdy suggested some solutions to the tackle the problem of land degradation in the Region. In the Mediterranean, does exist the right expertise, the know-how and the tools to combat land degradation and to stop its deterioration. There is full confidence that with all the goodwill and efforts put forth to the different issues included in the MEDCOASTLAND thematic network attention should be addressed towards:

- preventive conservation measures to ensure that the use of land and water resources is sustainable and to protect the productive system against excessive misuse and mismanagement;
- corrective measures that redresses partly damaged land system and restore its productivity;
- rehabilitation measures that aim at reclaiming lost (severely damaged land); and
- measures for development of natural resources of dry land.

"*The tasks are not easy, but surly with the efforts you are doing in developing the project, we shall reach our final goal in developing the natural resources in the Mediterranean region within the* *framework of an ecologically sound land use policy and ensuring positive participation of the people concerned*"- completed Prof. Hamdy.

Mr. Mohamed Milourhmane, spoke on the name of the Ministere de l'Agriculture au Development Rural et des Eaux et Foret, (MADREF) Direction des Amenagements fanciers of Morocco. He provided the greetings of Minister and welcomed all to Morocco. This MEDCOASTLAND workshop is very important for several reasons but moreover will increase the knowledge on socio-economic issues. "*In my view two are the most important key topics, overpopulation and poverty as the poor depends on natural resources for their survival*"-stressed Mr. Milourhmane.

Mr. Mohamed Milourhmane (MADREF)

Other problems related to natural resources management have to do with legal and inheriting rights on land that brings to extensive land fragmentarisation. The combination of poverty with the lack of financial needs is further aggravating the situation. To have success therefore in rural development projects and sustainable use and management of natural resources it is very important to secure increased income for farmers and land users through the adoption of participatory approaches.

Mr. Abdeljalil Alkama from the DPA, Marrakech

At the end of the session **Mr. Abdeljalil Alkama** from the Provincial Agricultural Directorate of Marrakech (DPA) provided to all the participants the welcome greetings of DPA and Marrakech Regional Directorate of Water and Forests (DREF). He said that the Directorate that he represents was very happy to host this workshop and they had made all the necessary arrangements for a pleasant stay in Marrakech, including the marvellous location of COS ONE village. Moreover the Directorate organised the field trip in the surrounding areas of Marrakech.

SESSION 2 (11:00 – 13:00) KEY-NOTE PAPERS

Chairman:* *Prof. Mohamed Badraoui,
Reporter:* *Dr. Basim Dudeen, LRC, Palestine

Prof. M. Badraoui chairing Session 2 (left) and Dr. B. Dudeen (right) reporting

The first speaker of session 2 was **Prof. Faiçal Benchekroun** from the IAV HASSAN II Forestry Department, Rabat-Instituts, Morocco, speaking in the quality of invited speaker. He articulated his presentation around two parts: taking the soil as a production unit in the first part and considering it as a capital in the second part. In the first the commercial value was to be defined and a method of evaluating its economic and financial values was presented taking into consideration 3 variables: **the consumption value, the management value, and the future value**. The soil is considered as a production value having its financial balance. This new approach based on the concept of enterprise management permits to correct the human mismanagement of the soil and to sustain land use. This method has the advantages to be easy to perform, less expensive, and provide directly exploitable results.

Prof. Faiçal Benchekroun from the IAV HASSAN II

This study was applied in the Wadi Alkhader area, in Morocco. A new methodology is adopted in this study based on the following assumptions:

- Farmers do not invest in the process of soil conservation;
- Lack of public awareness and overexploitation of natural resources lead to its degradation;
- Farming techniques are affecting the results;
- The soil is considered as a unit of production and as a capital;
- Soil degradation cost is approached by the sustainable development model (DSR) and the principle of polluter payer (PPP);

- There are many constraints in the field such as capacity building, biophysical and socio-economic constraints.
- Much information is needed at the level of analysis and surveys.

The equation representing the value of the soil is

$$\mathbf{V = R/(1+a)^{n-m} + R/(1+a)^{2n-m}}$$

Where,
R is the benefit;
a is the rate of updating;
m is the year when economic analysis started

Simplifying this equation

$$\mathbf{V\alpha = R\ (1+a)^{m}/(1+a)^{n-1}}$$

The soil value is finally estimated at **10,350** Dirham[1]/ha.

Discussions

The presentation of Prof. Benchekroun was followed by a number of questions and comments. Mr. Lhacen Ljouad (P20, MADREF, Morocco) commented about the wide economic effects of land degradation up to the risks related to public health. Other participants were interested to know about the financial support of the state in the study area and whether in the above presented equations were discussed also management techniques. The answers were that there is a certain type of participation from the state and that the values used in the equations are deriving from real data that are correlated with certain values, however the figures are still in the process of elaboration and adjustment.

Dr. H. Hamrouni (P7, MoA Tunisia) asked whether the Government should invest in soil conservation and the answer was that without Government support is rather impossible to succeed in land conservation management and increased income for the farmers. Dr. A. Loulou (P36, ACSAD) asked about the applicability of the presented equations in other areas of the Mediterranean region. Prof. Benchekroun replied that he has tried to collect information also from other areas inside Morocco and seems that equations could be applicable, but they have to be checked carefully and possibly adjusted.

Intensive discussions following presentation of Prof. Benchekroun

Dr. T. Darwish (P5 NCSR, Lebanon) commented on farmer's perception of soil conservation and specifically on maintaining soil fertility. He said that farmers in Lebanon at the end of the cropping

[1] Moroccan currency

season add sodium nitrate. They do not realize the negative impacts of sodium on soil fertility. Mr. Milourhmane commented on the soil conservation increasing production by 12 % (R value in the equation) that seems high. The response was that the study was conducted with farmers that are trying to maximise the profits.

The second invited speaker was **Dr. Keith Wiebe** from the United States Department of Agriculture Economic Research Service (USDA ERS) in Washington DC, USA. He provided a keynote paper on "Land quality, agricultural productivity, and food security at local, regional, and global scales". The paper describes how new data and analyses have been used to re-examine an old question: how differences and changes in land quality affect agricultural productivity and food security. As rising populations and income increase pressure on land and other resources, agricultural productivity becomes increasingly important for continued improvement in food supplies and food security. Agronomic studies and conventional wisdom have long recognized that land quality affects agricultural productivity, but disentangling land quality's effects from those of other factors has been rather difficult.

Dr. Wiebe analysed several factors related to land degradation's effect on agricultural productivity and consequently on food supply and security. **First,** using new data on soils and climate, and controlling for the effects of agricultural inputs and other measures of resource quality, econometric analysis confirms that differences in land quality contribute to significant differences in agricultural productivity between countries.

Second, land degradation appears to generate productivity losses that are relatively small on a global scale (although their relative importance may increase if productivity growth continues to slow). New estimates of productivity losses are consistent with the lower range of previous estimates. **Third**, as a result, it is critically important to recognize farmer's responses in order to better understand how potential impacts on yields may translate into actual impacts on agricultural productivity.

Finally, land degradation's impacts on productivity may affect food security in some areas both through losses in aggregate production (and thus higher food prices for all consumers) and through losses in income for those who derive their livelihoods from agricultural land or agricultural labour.

Dr. K. Wiebe, USDA-ERS, Washington DC, USA

These results suggest that when markets function well, private incentives to reduce land degradation are generally sufficient to address on-farm productivity losses. When markets function poorly (e.g. when property rights are insecure or credit is expensive or unavailable), private incentives to address productivity losses are diminished. In either case, private actions are unlikely to adequately address degradation's other and perhaps more significant effects: off-site impacts on both economic performance and environmental quality. Priorities for further progress in understanding and addressing the links between resource quality, agricultural productivity, and food security include targeted improvements in data, analysis, technology development, and policy.

Discussions

A number of questions and comments followed the presentation of Dr. Wiebe. Dr. L. Montanarella (P35, JRC Ispra, Italy) asked about the relation between farmers, their global distribution and the impact on food production. Worldwide are reported around 800 Million farmers but only 90 Million of them produce the majority of global food available on the market. The rest are more subsistence farmers not able to compete with their products. What are the studies in this domain? Dr. Wiebe accepted that more complex analyses are needed.

Mr. Firas Ziadat (P14. University of Jordan) asked about the gap between soil scientists and economists and about potential and optimal soils losses and whether is the time to redefine the concept of soil loss and other relevant factors. The answer was that soil scientists have their perception of land degradation and economists have another view, but there are plenty of examples that both could work closely together and have much to share and learn from each other, as it was clearly shown during the presentation and also by a number of publications. In regard to the second question there are not enough data to settle this complicated issue.

Dr. Arnold Arnoldussen (SCAPE Project, NIJOS Norway) asked about the effect of land degradation on farmers and Dr. Atef Al-Kharabsheh from the Al-Balqa Applied University, Jordan (representing P24 JSDCBD, Jordan) asked about the possibilities how to involve farmers in soil conservation actions. The answers were that the greater the extent of land degradation, the greater the effect on production. In regard to the question of Al-Kharabsheh there are many options. One option practiced in USA is to provide subsidies. Another option is to add certain subsidy each year. There are many different policy instruments that could be used as well.

Prof. A. Hamdy elaborated on food security and land degradation especially in rainfed agriculture zones that are degraded and should be considered as priority areas for soil conservation projects. He also pointed out that it is necessary to know how to make better understanding between technical and economical aspects of land conservation measures. Dr. Rachid Bouabid (P29, Agricultural School of Meknes, Morocco) commented on the approaches and links between land degradation and economic aspects and especially about what point in land degradation could be considered as the reference value to compare positive or negative changes in the quality of land resources. Due to time constraints, Dr. Pandi Zdruli urged the participants to look at the publication of Dr. Wiebe on the web page of USDA ERS.

The presentation of Dr. Wiebe was followed by a joint presentation from **Ms. Sylvia vom dem Busche** GTZ-PAN / Morocco Programme for the implementation of the National Action Plan for Combating Desertification and **Mr. Ahmed El Karimi** ADEDRA Association for the Development of the Draâ-Valley. The title of their presentation was “The average farmer, the Convention of the United Nations to Combat Desertification (UNCCD) and local economic development”.

The UNCCD emerged in Rio de Janeiro in 1972. In 1994 Morocco signed the Convention while the National Action Plan (NAP) was approved in 2001.

Ms. Sylvia vom dem Busche (GTZ-PAN Morocco UNCCD)

The NAP it involves a modern strategy implying the bottom-up approach. Ms. Vom dem Busche then explained the characteristics of the study area. The average farmer in the southern part of Morocco is 48 years old, has 0,7 ha land and cultivates the Argan tree or the date palm tree, both known for their modest water and nutrient requirements.

Seeing the little rainfall of less than 80mm per year and the barren landscape due to progressing desertification, this characteristic is essential for the survival of any plant in the Souss Massa Draâ region. These average farmers live in a "*Douar*" which is best translated as "Circle", referring not only to the way the ancestors built their tents, but also to the solidarity of the people. The inhabitants nowadays are mostly women, children, and elderly men. The younger men have left their "Douar" to find work in the bigger towns nearby; some have even emigrated. However, most of them come back sooner or later because of the desperate situation. Even a university degree is not a guarantee for a job. And all of them would have preferred not to emigrate at all, if the conditions had been different. Agriculture is the main source of income in the pilot area. There is limited potential for agriculture in this area degraded by the overexploitation of natural resources.

Mr. Ahmed El Karimi representing the ADEDRA Association for the Development of the Draâ-Valley, Zagora, Morocco completed the presentation. He addressed the following main activities for the project area:

- The strategy and objectives of the project;
- Instruments used in the project involve the micro-credit system that encompasses 565 clients and 1,184,500 Dh.
- The establishment of an association of local craftsmen;
- Organising the first training seminar entitled: "Competency based economics through formation of entrepreneurs" attended by 24 young entrepreneurs;
- Creation of rural cooperatives;
- Managing a training program for local tourist organizations and caravan leaders to promote eco tourism;

Mr. Ahmed El Karimi, ADEDRA Association

The following lessons were drawn out of this experience:

- The serious social problems in Zagora demand the identification of locally appropriate solutions.
- Creating a new environment for local companies is very important.
- Gender promotion.
- Economic success of micro and small enterprises should be strengthened.

Discussions

Mr. M. Milourhmane commented on the great success of this project and congratulated the speakers and the staff involved for the work that they are doing. "*The success is also related to the fact that the link of project management with local population is strong*"-said Mr. M. Milourhmane.

Apart from socio-economic activities in the project Dr. Loulou asked if any applied measures were taken for soil conservation and the answer was positive. Dr. Franco Previtali (University of Milan, Biccoca, Italy) told about Italian experience in regard to agricultural trends in the hilly and mountain areas from where large portions of population (especially young people) are moving out. He asked whether the ADEDRA Association had specific plans to tackle this problem. The response was that there are plans to integrate young people in the local administration.

Dr. Murat Ozden (P21 GDRS, Turkey) asked if without international funding this project could continue and the answer was that in Morocco funding is the least problem to address, as both local and international organisations are very active in the country.

SESSION 3 (15:00 – 18:30) KEY-NOTE PAPERS AND SPECIFIC REPORTS

***Chairman**: Dr. Murat Ozden, General Directorate of Rural Services, Turkey*
***Co-chairman**: Dr. Talal Darwish, NCSR-NCRS, Beirut, Lebanon*
***Reporter**: Drs. Leila Habib, University of Tishreen, Syria*

The first keynote speaker of the session was **Dr. Luca Montanarella** who spoke on "Off-site effects of soil degradation in Europe". Initially Dr. Montanarella informed the participants on new trends in soils going on in Europe and culminating with the European Union Soil Thematic Strategy.

This strategy being developed in Europe considers soils not only for their agricultural productivity importance but also for a number of other relevant functions including for instance its buffer and filtering capacity, habitat and gene pool, biodiversity, source of raw materials, etc.

Dr. Murat Ozden (GDRS Turkey) and Drs. Leila Habib (Tishreen University, Syria)

Dr. Luca Montanarella, JRC IES Ispra, Italy

Soil as non-renewable resource incorporate also private property rights and environmental liability for all actions taken upon it.

Dr. Montanarella pointed out 8 major threats on soils identified in Europe. They include *Erosion, Decline in organic matter, Soil contamination, Soil sealing, Soil compaction, Decline in soil biodiversity, Salinisation, and Floods and landslides*.

Continuing he made a thorough analyses of the effects of soil erosion in Europe by considering a large number of data deriving from erosion experiments in Spain and assumptions created by several models. Erosion, is currently estimated in Europe by using advanced models, like the Pan-European Soil Erosion Risk Assessment (PESERA) model, that combine soil data from the European Soil Information System, with climate data, slope and relief data (Digital Terrain Models) and land cover data in order to get an estimate of the extent and intensity of erosion in Europe in tons per hectare per year of soil lost. As for organic carbon, these estimates need extensive validation before they can be used for policy-making purposes.

Off site effects of soil erosion include: Silting of water reservoirs, contamination of surface waters, dust formation with human health impact, effects on climate (albedo, loss of organic matter, etc.), and hazardous mudflows. In conclusion he stated that:

- Soil degradation has on-site and off-site effects;
- Quantification of these effects in **economic terms** justifies immediate action in order to reverse the negative trend;
- Implications for private property in terms of environmental liability may require compulsory soil protection measures.

Dr. Loulou asked about the effects and risks of wind erosion in Europe and the answer was that very little information if available. Dr. Zdruli (CIHEAM-IAMB) asked about the establishment of Soil Conservation Service in Europe following the example of USDA SCS (now Natural Resources Conservation Service). Dr. Montanarella informed that there is discussion on the topic but no decision has been taken yet by the EC. Dr. Dudeen commented on legal aspects of land as private property and on the rights and responsibilities of the landowner.

The second speaker was **Dr. Arnold Arnoldussen** (NIJOS, Norway) who presented SCAPE Project (Soil Conservation and Protection Strategies for Europe). This EU funded Concerted Action will have duration of 3 years (2002 – 2005). Project leader is the University of Amsterdam – Prof. Anton Imeson with partner the Norwegian Institute of Land Inventory (NIJOS) and in the Steering Committee participate the following countries Iceland, The Netherlands, Spain, France, Norway and JRC, Ispra, Italy.

Dr. Arnold Arnoldussed (NIJOS, Norway)

The era in which SCAPE evolved coincides with the belief evolving during the 90's that something was wrong with land management and soils, with the decision of European Commission to develop a Thematic Strategy on Soils as well as with the formulation of the Soil Communication – adapted in June 2002. Following Dr. Arnoldussen re mentioned the 8 major threats of soils in Europe and presented the objectives of SCAPE which include:

- Develop a platform that can be used to develop responses and strategies to address the threat to sustainability posed by the loss or decline of soil functions;
- Provide opportunities for discussing the development and application of soil conservation and protection strategies;
- Scientifically support the responsible organisations in their efforts to obtain data/information needed for soil protection / conservation;
- Bridging the gap between Policy – Research and Practice
- Disseminating best conservation practices

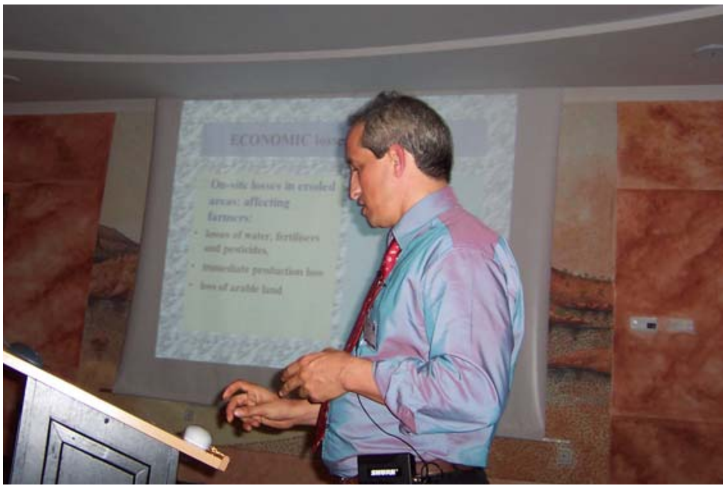
A series of workshops and one international conference will be held during the duration of the project. Finally Dr. Arnoldussen greeted the MEDCOASTLAND workshop participants and urged all of the to collaborate closely with SCAPE as there are many common objectives between the two projects.

Discussions

Prof. A. Hamdy commented on the missing link between decision-making and bottom level farmers. Dr. Arnoldussen agreed that the link was often missing and that is due to a number of factors including the lack of a functioning Extension Service and total absence of the Soil Conservation Service in Europe. Dr. Rachid Bouabid criticised the trend in the EU and USA that publication of high quality basic research was highly regarded compared to papers dealing with applied research.

The third speaker of session 3 was **Prof. Abdellatif Khattabi** (Ecole Nationale Forestiere D'Ingenieus, Morocco). He presented the paper: "Are immediate financial benefits sufficient to justify soil protection and restoration management?-A case study from Morocco".

The study area of the case study is the Oued Ourika Basin located in the Central High-Atlas, 35 km from Marrakech. The total area of the basin is 570 km^2 altitudes vary between 400 m and 900 m, average annual rainfall is 550 mm, and two rural communes (Tnine Ourika and Setti-Fadma) populate the area with a total population of 46,177 inhabitants. The methodology of the study was based on determining and quantifying inputs and outputs, associate them monetary values and compare the benefits with the costs. Inputs include archive data and are mainly of financial order, while outputs represent social, financial, data environmental that not always are easily available.



Prof. Abdellatif Khattabi

Financial analyses was based on the concept 'with' and 'without project' for an area of 675 ha, for a time period of 26 years starting from 1970 using the criteria of decision NPB and C/B ratio and two discounting rates of 4% and 10%. "Without project' concept assumes that land is cultivated with barley, used after harvesting for pasture. The potential reduction of agricultural productivity of land was taken into account. 'With project' assumes that plantations reduce the agricultural surface by 30% and the presence of trees prohibits the benefit of pasture.

Results of the study show that the work of agricultural extension to increase erosion awareness have resulted in many benefits like generalization of some cultural techniques which were not totally mastered before by farmers (agricultural shifting, fallow-land, use of fertilizers,) and cultivating perpendicularly to dominant slope. In regard to income generating activities income resulting from harvesting tree fruits from the project areas is negligible (0.1% of the total agricultural income). The remaining income is composed of 70.5% by irrigated agriculture, 25.5% by non-irrigated agriculture, and 3.9% by arboricultural harvests. Final conclusion was that generally without farmer's involvement in these projects results are weak and moreover they are not interested to plant trees that do not provide immediate profit.

Last speaker was **Drs. Christine Le Bas** (P32, INRA France) who spoke on Pan European Soil Erosion Risk Assessment. The study is based on the European Soil Database at 1:1 M scale and uses the pedotransfer rules for establishing soil crusting and erodibility. A set of parameters including soil name, dominant and secondary topsoil texture, and parent material were considered in the evaluation process. Several difficulties arise however. For instance, within the Soil Geographical database of France at 1 1million scale there are only five classes of texture, a majority of French soils belong to the medium class that includes a large variability in term of crusting risk. In order to overcome this problem the pedotransfer rule used take into account other parameters present in the base to better assess crusting risks and erodibility.

Further on Drs. Le Bas presented a number of maps of Europe showing dominant texture class, textural factor for soil crusting, second level dominant parent material, textural factor for soil erodibility, and the link between soil physical chemical properties and the 3rd level of FAO (1990) soil name legend. Finally the Soil Erosion Expert Model for France was shown. The model considers land use, crusting, slope, erodibility and sensitivity to assess the risk of erosion.

Discussions

Prof. Previtali emphasised the need for detailed soil mapping far beyond small scales like 1:1 M. Unless appropriate soil maps at 1:50,000, 1:20,000 or larger are prepared the estimation of soil erosion risk will remain always qualitative and moreover the economic damage will be difficult to be evaluated. Prof. Hamdy commented on the effect of soil structure on erosion and asked for more attention of such property in the modelling process of erosion.

Drs. C. Le Bas (INRA Soil Science Orleans, France)

<u>FRIDAY, 13 FEBRUARY 2004</u>

Field trip (see Annex 1)

SATURDAY, 14 FEBRUARY 2004

SESSION 4 (9:00 – 13:00) COUNTRY SPECIFIC REPORTS

Chairman: Dr. Dirk Pottier, European Commission, Brussels, Belgium
Co-chairman: Dr. Rachid Bouabid, Ecole Nationale d'Agriculture de Meknes, Morocco
Reporter: Mr. Ljoud Lahcen, Ministry of Agriculture and Rural Development, Morocco

Session 4 was opened with the presentation of **Prof. A. Gad** (P13, NARSS, Egypt) who spoke on "Impacts of soil degradation and national rural development programmes on soil productivity of the irrigated alluvial soils in Egypt". Despite the fact that only 4 percent of Egypt's land is suitable for farming and the rest is desert once the country was called the "bread basket of the Middle East".

Dr. D. Pottier (left), Dr. R. Bouabid (center) and Dr. L. Lhacen (right)

The principal problem facing Egypt at present is the slow expansion of cultivated land area in comparison with the very rapid increase of human population and extensive urbanisation.

The new expansion of cultivated land area in desert fringes results in a weak outcome while old cultivated fertile lands are lost to urbanization, salinisation, water logging and erosion. The newly reclaimed area with its low productivity is just compensating for only a part of fertile lands lost by different degradation processes. Data show that between the periods 1978-1984 the city of Cairo increased its territory by 28,8 percent and the trend is continuing. The expansion was clearly shown by the remote sensing images.

Prof. Dr. Abd-Alla Gad (NARSS, Egypt)

Other degrading processes include water and wind erosion and Aeolian activity that brings sand invasion of fertile lands and movement of sand dunes. Often even the irrigation canals are occupied with sand. Salinisation is another big problem for the sustainable development of agriculture in Egypt. One reason for salinity expansion is poor drainage and poor quality of water used for irrigation. It is calculated that annually about 18 million tons of salt are added into the soils through the use of surface, ground and reused drainage water.

The speaker elaborated also legal aspects of natural resources management. He concluded by showing some practical examples that are taking place in Egypt to prevent further degradation of land resources. They include, temporal and permanent sand fixation methods through establishment of vegetation barriers, efficient use of water, and sea water desalinisation using solar and wind energy.

The efforts of the Egyptian farmers beside national programs, to face soil degradation are monitored although not sufficiently. There is an urgent need though to implement a long-term National Program to efficiently control soil degradation and the sustainable development of agriculture in the country.

The majority of the **discussions** following the presentation of Prof. Gad were devoted to the effects of urbanisation and desertification on the living conditions of present and future population of Egypt and what could be some of the solutions to these problems. The general understanding is that a societal commitment is needed to confront these realities that should include farmers, land users, decision makers, politicians and international organisations.

Mr. Feras Ziadat, (P14, University of Jordan) presented the paper "Improvement of agricultural productivity in arid and semi-arid zones of Jordan (JAZPP Project): Socio-economic aspects". He exposed initially the major problems that agriculture is facing in Jordan aggravated also by the quality of land and water resources. Less than 10% of the country's 9 million hectares of land receives more than 200mm annual rainfall, the rest is drier.

A complex study was managed by the University of Jordan between the period 1985-1989. A research station of 200 hectares was established about 40 km southeast of Amman, near the town of Al-Muwaqar. The overall objective of the project (JAZPP) is to contribute to the sustainable development of the Badia lands of Jordan by providing a basis for the optimal use of the region's land and water resources. Its principal contribution will be to build on the achievements of earlier work at Muwaqar, to develop and promote improved techniques for producing crops and livestock, to formulate comprehensive land use recommendations aimed at optimising the region's scarce rainfall, and to start the process of technology transfer.

Mr. Feras Ziadat (University of Jordan)

Raising agricultural output under experimental conditions does not guarantee that new techniques will be adopted. They must be socially acceptable, affordable and rewarding to the potential end-users. They must also make sense in the light of current patterns of land ownership or control. Proposed techniques were therefore also assessed according to these criteria before they were recommended for adoption.

In regard to socio-economic indicators included in the JAZPP project Mr. Ziadat, made an analyses between the economic benefits of cultivating barley and livestock based on increased fodder crops production through irrigation. Irrigation water derives from the construction of small earth dams. Their economic value has been also estimated. The conclusion is that depending on rainfall two are the best land use options: 1) cultivation of high value crops if rainfall is high or 2) otherwise barley is the best economical option. Final conclusion from the project is that without farmers' participation in soil conservation projects they are likely to fail.

Dr. Atef Al-Kharabsheh from the Al-Balqa Applied University, Jordan represented Partner 24 the Jordanian Society for Desertification Control and Badia Development, Jordan. He reported on a project located in a semi arid region with an average rainfall of 150 mm/year dominated with lands derived from basalt rocks. Fourteen villages are included within the project area, which is about 60 km north from Mafraq City.

Objectives of the project:

1- Improve the socio-economic status of pastoral society in the Badia of Jordan;
2- Enhance water rainfall harvesting for forage irrigation;
3- Create job opportunities for the pastoral community;
4- Enhance organic agriculture;
5- Preserve the traditional production;
6- Create a cooperation society that acts as a centre for development and training of the local community.

To increase the income of the Badia population the project has invested in several components of production. They include sheep farm management, honey production, dry tomato production, water harvesting, and rangeland forage production. The project has considered also socio economic issues like gender and increased awareness of the local population. "*Involving local population in rural development projects is important but they need also financial incentives, technical and management support from the project leaders for at least two years after the national or international projects are handed over to local administration*"- concluded Dr. Atef Al-Kharabsheh.

Dr. Atef Al-Kharabsheh, Al-Balqa Applied University, Jordan

Discussions

Dr. Talal Darwish congratulated the speaker on the success of the project that was surely influenced by the strong link of the project management with the local Badia population. He then asked about the type of incentives that were given and the answer was that the project has provided storage capacities and administrative offices as well support for introduction of new technologies like organic farming. Prof. Gad wondered whether only water harvesting was enough to increase production in the Badia lands included in the project. He also was interested to know about possible conflicts with the local people included in the project, but apparently there are no problems so far.

The next speaker was **Drs. I. Lopez Alados**, (P33, CSIC, Spain). She spoke on Income-product generating activities in Spain and related her presentation to the new trends in agricultural production. Spain remains a large agricultural producer in Europe but the production is threatened by land degradation most notably from urbanisation, soil sealing and population increase that is occupying fertile lands surrounding big cities. Agricultural subsidies however still play an important role in the agricultural sector. They jumped from 2,3 % in 1980 up to 15,1 % in 1997.

To increase income farmers are looking for new opportunities. One of them is organic farming. Spain is the largest olive oil producer in Europe, but the trend recently is moving towards organic olive production, which means decreasing the quantity of production versus increasing the quality. Organic farming is now being practised also for rice production as done in Ebro River delta.

Drs. I. Lopez Alados, CSIC, Spain

Extensive grazing is another form of ecological production encouraged for increase income. Other types include controlled hunting and rural tourism that provides important revenues especially for isolated mountainous areas. Rural tourism in particular is important because provides job opportunities for women that are running most of the bussiness and preserve the cultural heritage.

Protection of areas with significant ecological value has several benefits, including economic, ecological, ethical and esthetical benefits. Drs. Alados concluded that the ecological value should be considered as economical value and subsidies should be directed towards this type of products and not to conventional products. "*Good marketing will open more opportunities for organic farming*"- said Drs. Alados.

Discussions

Dr. Hamrouni asked about the risk of salinity in Spain and its impact on agricultural production and also whether organic farming was receiving subsides in Spain and the answer was yes, but no data were reported on the amounts or percentages of subsidies. Dr. Darwish strongly supported the idea of introducing the ecological cost in the economic evaluation. In addition he proposed introducing also public health risk in these types of analyses. In regard to organic farming he expressed the frustration of farmers about this type of production that costs 2-3 times more than conventional farming making it difficult to compete in the market. Drs. Alados suggested decreasing costs by using natural practices.

Dr. Pottier commented also on the topic. He mentioned that 50 percent of the EC budget goes towards the agricultural sector but the European citizens are asking whether this should continue or not in the future. Therefore if some of these subsidies will go towards the organic farming than these products will be cheaper and find a better share in the market.

Dr. Selim Kapur (P11 University of Cukurova, Adana, Turkey) said that he was not very optimistic about organic farming but proposed to go towards eco-farming. Dr. Lahouati (P12, Ministry of Agriculture, Algeria) asked about the labelling of organic products.

After the break was the floor was given to **Prof. Fawzi Abdel Kader** (P3, Alexandria University, Egypt) who presented the paper: "Impact of rural development programmes on land productivity in rainfed areas of the northwest coast of Egypt". The NW coast of Egypt extends for about 350 km from west to Alexandria all the way to the Libyan border and is the habitat of more that 120,000 agropastoralists.

The physical and socio-economic indicators of the area show that spatial agricultural productivity is diverse throughout the region, as soil quality is affected by shallow soils, low moisture holding capacity and low fertility level. Average annual rainfall is about 150 mm. Over the last 50 years the area has experienced significant changes resulting from political, economical and environmental factors. There has been a significant increase in small ruminant populations with feeding of cereal grains/concentrates encouraged by government pricing policies and subsidies and an extension of low yielding minimal input barley cultivation into rangelands.

Prof. Fawzi Abdel Kader, Alexandria University, Egypt

Continuing his presentation, Prof. Kader analysed in detail physical factors of the area (soils, climate, and natural vegetation) and socio-economic indicators, including humans and livestock. The big question for the local people remains the feeding of their animals. Short-term solutions include introduction of fodder shrub in cereal fields, improvement of barley varieties, and improvement of animal production efficiency. Long-term solutions always require the availability of irrigation water to boost fodder production.

Certainly the main goal of inhabitants is to maximise the crop and livestock production under given conditions of each year. Several strategies have been developed for the area. They consider flexibility and diversity in crop and livestock choices depending on climate conditions and movement of herds in search for grazing capacities. Water harvesting and soil conservation remain the pillars of all the strategies. The national Government programmes attempt to impose on nomadic population a sedentary lifestyle. However increased human and livestock population have increased concerns that environmental degradation and poverty could be aggravated by the sedentarism, therefore more sustainable development plans should be implemented.

Finally the speaker concentrated in particular to the Qars Rural Development Project (QRDP) 1988-1998 (GTZ-QRDP) and the World Bank (WB-MRMP-I) that deals with the management of scarce land and water resources, rangeland and vegetative degradation cover and crop and livestock production systems. The objectives of the project are in the frame of the World Food Programme. The project overall has proved that it is possible to increase the income level of Bedouins of the area. Detailed data showed by the speaker demonstrated this conclusion.

Discussions

Dr. Al-Khrabsheh asked about water harvesting possibilities in the study area and whether livestock production was intended to expand in the southern areas of Egypt. Prof. Kader told that in the south rainfall is very low and is not possible to support production; therefore no plans are in place to extend livestock there. Prof. Khattabi was interested to know how the local population was involved in the project. This question was elaborated further by **Mr. Ibrahim Daoud** (P23, Halazen Association, Egypt) who is in charge of the QRDP project. He explained that from the inception of the project, local population was asked about their problems and what type of assistance they needed. Based on their inputs the project was designed and implemented accordingly.

The last speaker was **Drs. Sonya Sammut** (P6, Ministry for Rural Affairs and the Environment, MRAE, Malta). She presented the paper: "Incentives in soil conservation in the Maltese Islands: past experiences and future prospects". Drs. Sammut based her presentation on a number of assumptions starting from direct and indirect incentives and future prospects deepening on rural development measures and viticulture grants. A case study was also analysed for cost benefit analyses of land use conversion to viticulture from wheat forage.

The definition of conservation in economic terms implies the "greatest" use of a given resource. The situation in the Maltese Islands past and on-going efforts to conserve soil have been designed to meet the ancient necessity of stabilising an otherwise erodible landscape and translating the resource base into maximum use through terracing of "campi artificiali" and irrigation.

Drs. Sonya Sammut, MRAE, Malta

The question remains whether the incentives of the central government have motivated the farming community to adopt soil conservation management.

Drs. Sammut made thorough analyses of past experiences in land management policies (including legal aspects) starting from the time of Order of Knights of St. John, British rule, World War II and post War era.

Recent developments in Malta show that direct incentives are being used in the forms of grants and loans to modernise holdings, purchase equipments, compensation for storm damages and soil losses. The MRAE operates two types of loan schemes. They include fully funded loans without interest up to 28,000 Euro and subsidy loans with interest 4.5%. Indirect incentives include legislative measures made possible through a number of Acts like Soil Fertility Preservation Act, Agricultural Leases Act, Rubber Walls and Rural Structures, Motor Vehicle Regulations, and Structure Plan Policies (under revision).

A direct form of Government intervention is the grant introduced in 2001 provided for promotion of vine cultivation on abandoned and marginal lands to increase the area from 300 ha to 1,000 ha.

Government arrange for agreement between producers and vintners for guaranteed markets and free technical assistance. It is expected that such interventions will increase income for the farmers and will reduce soil erosion as explained for the case study of Ta' Brija l/o Siggiewi where the net profit for a period of 5 years is 60,000 Euro. A detailed cost benefit analyses was presented as well.
In conclusion was emphasised that the efficiency of incentives was very much linked to their continuity. As soon as they were removed land abandonment re-emerged and market trends influence farmer's decisions. "*If the rate of land degradation is faster than that of education and public awareness financial incentives are justified*"-concluded Drs. Sammut.

Discussions

Prof. A. Gad asked about crop rotations and if farmers in Malta were spoiled by so many incentives. The response was that crop rotations were necessary to protect soils from continuous potato cultivation in some areas and extensive use of pesticides. In regard to incentives the answer was no, as long as the incentives were used properly. Dr. H. Hamrouni was critical to land use change from cereal to vine production as this practise accelerate soil erosion. Sonya agreed that soil is better conserved under forage crops than vine. The change was justified to increase income.

SESSION 5 (15:00 – 17:50): COUNTRY SPECIFIC REPORTS

Chairman: Prof. Selim Kapur , University of Çukurova, Adana, Turkey
Co-chairman: Dr. George Attard University of Malta
Reporter: Prof. Franco Previtali Università degli Studi di Milano, Bicocca, Italy

Prof. S. Kapur (left), Dr. G. Attard (centre) and Prof. F. Previtali (right)

The session was opened with the presentation of **Dr. Avertano Role,** University of Malta speaking on behalf of partner P16. He presented the paper "The cost of soil replacement – A Maltese case study". Maltese islands are highly urbanised and possess some of the highest population densities in the world with up to 22,700 persons/km^2. Highly urbanised island states have particular problems since the rural environment is closely interdependent upon the urban and peri-urban environment. Conditions for soil erosion are such as they influence rural landscape itself and its degradation. Extensive terracing of slope lands was done historically to increase cultivated areas and prevent erosion. Soil conservation practices (the terraces and their retaining dry rubble walls) on Malta represent a national repository of sustainable wealth even though poorly accounted in national budgets. On the other hand imports of agricultural products and ageing of rural population makes soil conservation measures even more uneconomic.

Attracted by increased income from non-agricultural uses of land like bird hunting and trapping the craft of rubble walls construction is experiencing a sharp decline. Soil conservation legislation is somehow inadequate to cope with new realities in the country. One example is soil replacement that has to be trucked to rural areas.

Further on Dr. Role informed on storm damages of the period November/December 1999, which mount to thousands of Euros. Farmers and developers along with suburban gardeners compete for land that is so scarce in Malta. Soil replenishment is one possibility to increase cultivated areas. The price per truck varies depending on soil quality. Other sources include organic manure and mushroom compost as well as urban waste. The last is cheaper but brings problems like salinisation, glasses and contamination.

Remedial measures deal mainly with the reconstruction of rubble walls and a subsidy of 20 Euros/m^2 for breached rubble wall is offered. The conditions to qualify for such subsidy require that farmers be registered as such; rubble walls must be load-bearing walls with a minimum high of 1m and with a minimum of 25m^2. Maximum payment is for 10,000 Euros and the minimum is 527.67 Euros.

Dr. Avertano Role, University of Malta

In conclusion, preventive measures are necessary to address soil conservation. Alternative sources of funding in Malta are the Water Services Corporation, Maltese Tourist Sector, Malta Environment and Planning Authority, and the Roads Department.

Discussions

Dr. A. Arnoldussen asked about the use of compost for soil replacement and the risk associated with heavy metal pollution. The answer was that no data are available to show the exact extend, even though work in going on in this topic. Intensive discussions followed on the controversial issue of introduction of viticulture in large areas and the risks associated with soil erosion. Dr. Loulou asked about the work on UNCCD in Malta and the answer was that Malta has long since it signed the Convention and there is work in process to prepare the National Action Plan.

Dr. Hedi Hamrouni (P7, Ministry of Agriculture, Tunisia) presented the Tunisian efforts in combating land degradation and reducing its negative effects as well as on the local Agenda 21. Erosion in Tunisia threatens more than 3,5 million hectares. Almost 23,000 of them have been permanently lost, mainly because of soil erosion. To face the situation since 1990 the Ministry of

Agriculture, Environment and Water Resources has developed a National Strategy for the Conservation of Water and Land Resources. Work is continuing to implement this strategy.

Dr. Hamrouni reported also on a pilot project developed for the local Agenda 21 for a watershed of the Tunisian North-west, which take place according to the operation plan worked out by the Ministry of Agriculture, Environment and Water Resources. The project objective is to set up at participative and local planning process for the sustainable development of the area. The first phase of the project was devoted to the conceptualising the participatory approach and to prepare the necessary conditions for success. The second phase consisted in launching this process in the 38 districts of the Northwest. The process was implemented in five villages, four cities and one rural community spread over the four departments of the north-western region of the country.

Dr. Hedi Hamrouni Ministry of Agriculture, Tunisia

The project has even exceeded the expectations. As a matter of fact, five local Agenda 21 have been elaborated in stead of the four as initially expected by the operating plan of the project and 7 supplementary local committees 21 were constituted in the region, thus raising to 12 the number of local structures (local committees 21) created during the first period of the project.

The third phase consisted in spreading the knowledge on the regional and national scales.

Thus, three workshops were necessary for responding to the request of information and assistance expressed by several districts in different regions in the country. The fourth phase consisted in writing the final report of the project, and the preparation and organization of the final seminar for spreading the acquired knowledge.

Discussions

Mr. Kasim Abdo (P8 Ministry of Agriculture, Palestine) asked about the reuse of waste treated water and the risk of heavy metal contamination. Dr. Hamrouni replied that contamination is a problem but its extent is not clearly defined. Other participants (Dr. Al Kharabsheh and Prof. Khattabi) asked about the gender issue and the involvement of women in soil conservation projects. Many success stories point out that women play a very important role in these types of projects.

Mr. Ibrahim Waad (P9 Ministry of Agriculture and Agrarian Reform, Syria) reported on Syrian efforts in enhancing productivity and profitability of the agricultural sector. The majority of population in Syria works in agriculture; therefore this sector remains vital for the Syrian economy as it supplies the necessary food and fibber products for the national economy and employ over 30% of the country's labour force.

The agricultural sector has two major problems to face. The first is the misuse of lands (human induced) and the other is natural land degradation (especially wind and water erosion). The scarcity of limited fertile land resources has lead the Ministry (through it's plans) to promote new crops towards income increasing in parallel with soil conservation and land use management through implementation of good agricultural practices.

The government's revitalization efforts have cast a new light on this important sector, which has continued to provide the country with major food and industrial needs. In 1992, the agriculture sector captured 29.8% of the GDP; a 10% increase over 1970. Four consecutive bumper cereal harvests in 1991-1994 and a 10.2% annual increase in agricultural production between 1987-1992 illustrates the concentrated efforts that the Syrian government has made in the mid-eighties and early nineties to revitalize the agricultural sector.

Cotton, grown on irrigated land, is Syria's premier cash crop. In addition to providing employment and income in agriculture, it also has provided Syria with much needed hard currency. To promote wheat production (wheat and barley account for nearly two-third's of Syria's cultivated area), Syria is building the latest of its 140 dams. The dam's waters will feed over 125,000 acres of grain-lands and will help to stabilize wheat production by decreasing its dependence on rainfall. In 1995, Syria launched a five-year agricultural program that aims to boost production by 50% by the year 2000. As part of this plan, Syria increased olive production by approximately 30% to 570,000 tons in 1996 from 435,000 tons in 1995.

The Government therefore aims to increase cultivated areas through improved dissemination of technology and extension services, in addition to encouraging investment, enhancing product quality for export markets and promoting agro-industries. This strategy is based on production of traditional crops like cotton, tobacco, sugar beet, and on promising new ones including chestnut, coffee, kiwi, greenhouse vegetables like tomato, cucumber, pepper, eggplant, beans, as well as bananas and roses. Projects in the steppe lands try to revitalize the wild life through creating new grazing areas.

Mr. Ibrahim Waad, MAAR, Syria

Discussions

Dr. P. Zdruli asked about land ownership and extension service. Land is fragmented in Syria and Government support extension service. Dr. Arnoldussen asked about land suitability maps showing the possibilities of introduction of new crops and the answer was that such maps exist. Dr. Lahouati asked about the assistance the Government is offering to poor farmers with less than 3 ha of land. Dr. Bouabid was wondering how could Syria grow bananas that requires large amounts of water, but apparently they are cultivated in the coast that is much wetter than the rest of the country. Intensive discussions were devoted to cotton cultivation, as opposed by Prof. Kapur following Turkish experience. Dr. Loulou intervened by explaining that extension service agents inform continuously farmers on how to cultivate cotton and how to preserve the soil. Mr. K. Abdo and Prof. Benchekroun were very sceptical about the cultivation of tropical crops like coffee and kiwi in Syria.

Last speaker of this busy day of presentations was **Dr. Erhan Akça** (P11, University of Çukurova, Adana, Turkey) who spoke on Turkish Government-Farmer integrated income generating approach: Kapikoy, Ceyilanpinar, and Karapinar cases.

A shift of paradigm from large and small scale afforestation projects to stop the advancement of deserts and protect settlements to integrated resource management including participation and giving priority to urban land use indigenous knowledge and conservation management is proposed by the speaker. The approach is based on the strategy developed by the earlier German Cooperation and Development Program BMZ. This recent strategy has been developed to combat desertification at several countries of Africa and Asia.

Following, Dr. Akça explained the characteristics of the three study areas in Turkey. The stone pine dominates forest vegetation. The area of Kapikoy occupy 2,021.65 ha has a vegetation period of 320 days and the annual rainfall is around 500 mm. Income generating activities in the area focus on mitigating hazards of sand storms, establishing agro-forestry activities, prevention of sediment filling in the Akayatan lagoon, and creation of new recreation sites for tourism. The indigenous methodology is based on the creation of a new green belt with Acacia and Pinus Pinea.

Sand dune fixation is made through the establishment of wind vegetation barriers using local trees like Erianthus ravena, Arundo donax, Nerium oleander, Myrtus communis, and Juncus acutus. Detailed soil data including micromorphological analyses were also shown. Economical data show the high profitability of the stone pine cultivation for its seeds that varies in thousands of Euros with potentials for much larger income.

Dr. Erhan Akça, University of Çukurova, Adana, Turkey

Other success stories include the arid (Ceyilanpinar) and semi-arid (Karapinar) areas where the implementation of conservation measures has provided increased income for local population and improved the quality of natural resources especially soil quality. Currently the state farms on these areas are going to be privatised and their management will be handled by local administration.

In conclusion the participation of locally trained staff in the future management of private farms is very important. The primary concern of the farms however remains the sustainable use of local practices. The development of Indigenous Technical Knowledge requires the support of several disciplines including forestry, horticulture, forage crop science, conservation tillage and socio-economics.

Finally a sustainable land use policy is proposed for Turkey. This includes cultivation of carobs, almonds, vineyards, oaks, pistachio, cereals and grazing in the highlands of the Mediterranean zone (>800m). For the transition zones of the Mediterranean (300-800m) best land use options are for olives, vineyards, figs, pistachio, peach, cherries, cereals, Daphne, caper, and rosemary. For the coastal area of the Mediterranean (0-300m) citrus, cereal, cotton, corn, and Pinus pinea are recommended.

Discussions

Prof. Badraoui was very impressed by the improved soil quality characteristics presented for the three case study areas. Dr. Arnoldussen commented on acidification derived by pines in Northern Europe and wondered if this was a problem in Turkey as well. The answer was that Sahara dust continuously changes soil reaction in the northern part of the Mediterranean Sea. Dr. Loulou asked about the risks associated with tourism expansion in natural reserve areas. Dr. Akça informed that only minor activities in tourism are taking place, mainly by a limited number of hunters from western countries. Prof. Khattabi commented on conflicted economic interests in the management of wetlands and lagoons in Morocco and was interested to know how these problems were overcome in Turkey. “*The participatory approach is the only solution*”-replied Dr. Akça.

SUNDAY, 15 FEBRUARY 2004

SESSION 6 (8:30 – 13:00): COUNTRY REPORTS

Chairman**:** ***Dr. Abdul Rahim Loulou,ACSAD, League of Arab States***
Reporter**:** ***Prof. Dr. Abd-Alla Gad, NARSS, Cairo Egypt***

First speaker of the session was **Mr. Basim Dudeen**, (P18 Land Research Center, Palestine) who presented the paper "Some aspects of an Income-Product generating approach for soil conservation management in the West Bank and Gaza strip". The presentation dealt with four sections; project area sites specifications, GIS analysis, cost benefit analysis of a land reclamation site and conclusions.

The presenter showed a map revealing that the Palestine territory is located in two geographically separated area (*i.e.* Palestine West Bank, having an area of 6245 Km^2 and Gaza strip having an area of 365 Km^2). The land is subdivided into three parts.

The land use in the Palestine area includes 36.6% agriculture, 53.3% forests and 3.16% water. The majority of reclamation projects are implemented by the UNDP. They aim is to increase agricultural area and to create job opportunities for the overcrowded population.

Dr. Abdul Rahim Loulou (left) and Prof. Dr. Abd-Alla Gad

Geographic Information Systems (GIS) analysis of the reclamation sites at the national level reveals that the majority of reclamation projects are concentrated in the south, near to the urbanized areas. This trend put reclamation projects under threat of urbanization. The speaker showed different slides demonstrating the relation of reclamation versus climate, geomorphology and erosion risk. It is clear that reclamation sites are situated mostly in arid and semi arid areas, and at steep sloping and hilly landscapes that impose more costs for reclamation. The sites are subjected to high erosion risk, as they are situated in steeply sloping zones.

The socio-economic aspect of the reclamation was presented on the basis of one case study in Hebron district in the West Bank. Terracing steep slope is performed according to the traditional technology. It was found that 82 families out of 2,500 are practicing agriculture in Halhoul area. Trees plants occupy terraces and the horticulture production is 375 kg/dunum/year. It could be concluded that all land reclamation practices are profitable, however they are deeply influenced by the impact of market price variation.

Mr. Basim Dudeen, Land research Center, Palestine

Discussions

Dr. A. Role asked about land ownership of terraced land and Mr. Dudeen informed that land is privately owned but much of the rangelands are publicly owned. Given the limited natural resources of Palestine dominated by shallow soils Dr. Zdruli asked about income resources and food security in Palestine. The presenter revealed that agriculture represents only 10% of the national product, but the major source of income derives from the remittances of immigrants.

Second speaker was **Dr. Abdul Rahim Loulou** (P36 ACSAD, League of Arab States). His presentation dealt with soil conservation efforts in the Syrian steppe to increase income for local population. A major target of ACSAD is to monitor and combat desertification therefore it was worth to start applicating this strategy in the Syrian steppe.

The steppe occupies 55% of Syrian land and represents the main natural grazing resource. It supplies the livestock with 50 to 70% of animal forage demands. These areas are characterized by very erratic precipitation (100-150 mm/tear). The soil is classified as *Aridisols* (*Calcids* and *Gypcids*). The vegetation belongs to arid and semi-arid ecological conditions. The most significant degradation process in steppe lands of Syria is wind erosion observable with sand accumulation and sand sheet formation. Water erosion occurs during thunderstorms and accelerated runoff is evident in the forms of sheet, rill and gully erosion. The main causes of degradation are over and early grazing and uprooting of fodder shrubs (by collecting woody shrubs as energy source).

Dr. Abdul Rahim Loulou, ACSAD, League of Arab States

The speaker pointed out that the objective of this work is to apply soil and water conservation. It aims to rehabilitate the rangeland. It aims also to improve the productivity and income for local communities and to demonstrate transferable technologies for soil conservation and income generation. The applied methodology includes selection of an area in Beshry Mountain, as an area suitable for range improvement. A review of available information followed the site selection. Satellite images were used to draw the trend of degradation and physiography. Field measures for soil conservation and water harvesting were applied.

The results proved that vegetation have been rehabilitated besides shrubs striping and water harvesting. Multi temporal satellite images reveal regreening. It could be concluded that the increased income generating activities are possible in the steppe areas. The applied measures and technologies were proven to be transferable.

Discussions

Dr. T. Darwish commented that ACSAD should make all the efforts that this grazing technology could be transferred from Syria to other Arab States. Dr. Hamrouni was interested to know about public awareness and farmer participation in such projects. Dr. A. Arnoldussen asked about the availability of soil and climate data to make GIS analyses and the answer was that data are available. Finally Prof. Khattabi asked about the use of charcoal (meaning the environmental damage of deforestation) for cooking instead of using natural gas. The reason for this has to do with eating habits of local people and not with the associated costs or ecological losses.

Dr. Talal Darwish (P5, NCSR Lebanon) presented the paper: “Environmental and economic impacts of fertigation on sustainable potato production in Lebanon”. The focus of the presentation was put on technical and socio-economic aspects. Lebanese agriculture is suffering from low competitiveness due to higher input and lower output associated with elevated production costs. The traditional practices of irrigating potatoes (micro sprinkler) cover 15,000 hectare that represent 17% of irrigated land, 87% of them are in the Beka valley. Mismanagement of fertilization and irrigation brings increasing nitrate in well water (300 mg/L). Thus, fertigation experiments were run in 1977, 1998 and 1999. The experiments were conducted in Tel-Amara station, which is characterized by deep alluvial decarbonated soils with basic pH values.

The results showed that water and N use efficiency were improved by applying the localized irrigation technique. The return from a unit of applied N was significantly higher in fertigation, where application was done by using drip techniques. The cost of traditional sprinkler irrigation line/one raw allow money saving. Water saving resulted in an increase in net profit.

Dr. Talal Darwish, National Council for Scientific Research, Lebanon

It could be concluded that spring potatoes in central Bekaa valley demonstrate a significant saving in water and nutrients with introduction of appropriate management modern irrigation techniques. Fertigation proved to be an economic investment for saving water, reducing production costs and reducing risk values.

Discussions

The presentation was followed by one question (Prof. Khattabi) concerning the type of water resources used for irrigation and if there will be a follow up to continue with fertigation. The speaker replied that the sources of irrigation water were two main surface rivers, however not permanent ones. During the period of high water demand, farmers used well water. Water pumping resulted in decrease of groundwater level. Farmers didn't care if nitrate content in this water was high. Further on discussions were focused on economic benefits of potato, sugar beet, and horticulture crops as well as on Governmental subsidies for the agricultural sector.

Mr. Ramdane Lahouati, (P12 Ministry of Agriculture, Algeria) spoke on the management of marginal soils in Algeria and some examples of income generating activities. He explained the approach adapted to increase land productivity and overcoming problems of Algerian agriculture.

Mr. Lahouati highlighted that Algeria is a big country, but 3/4 of its territory is desert area, 12 million hectares are mountains and only 600,000 hectares are under irrigation.

The mountainous area is characterized by significant erosion, contributing to desertification. Unemployment represents 20% of the 3 million inhabitants of the area. Continuing Mr. Lahouati showed that almost 2,000 tons/Km^2 sediments are accumulated to the basins and lower areas of the landscape. Other problems are related to shortage of water, which necessitates the exploitation of groundwater resources. A type of agro-sylvo-pastoral land use dominates the region (50 %). Forests occupy about 30 percent of the territory and agriculture the rest.

The steppe area occupies 32 million ha, of which 12 million are in the presaharan zone and 7 million are threatened by desertification. Some of the major constraints for the development of the steppe area include aridity, strong anthropic pressure, forage deficit, worsening of living conditions, scarcity of water resources, reduced soil fertility, salinity, and expansion of weeds.

To confront these problems the Government has embarked on several plans involving adaptation of cropping systems, reforestation, improving soil quality by involving in the process local population, combating desertification, and decentralisation of power by giving local communities more rights and responsibilities in natural resources management.

Mr. Ramdane Lahouati, Ministry of Agriculture, Algeria

Mr. Lahouati explained in detail a number of projects funded by the national Government. He made economic analyses of the impact these projects are having on the ground.

Finally a considerable number of slides were shown for the mountainous, steppe, and Sahara areas. They demonstrate the abovementioned projects and their results. It is worth pointing that the participants appreciated the pictures, which were very well sorted out and made much clear and understandable the presentation.

Discussions

The presentation was followed by three questions concerning the reason for cultivating cereals instead of vineyards, compensating users to protect forests and whether the investments are cost effective. The speaker replied that with regard to developing vineyards, tourism and wine industry have to be also developed. "*Algeria had 1 million ha of vineyards but after France decided not purchase Algerian vine we uprooted grapes 600,000 ha and turned to cereals. This was disastrous for the soils as increased erosion drastically*"- ended Mr. Lahouati.

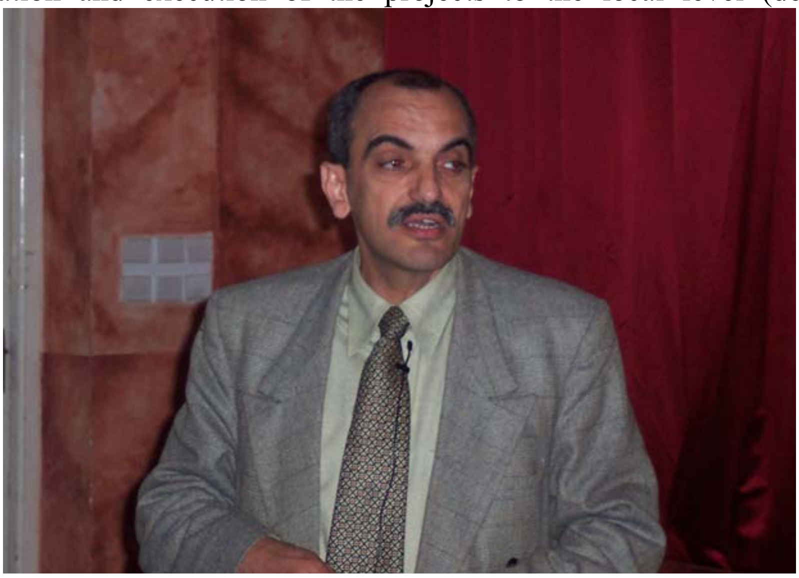
Mr. Mohamed Laklalech from the Ministry of Agriculture and Rural Development of Morocco, Land Management Directorate in Rabat (P20) presented the paper: Impacts of facilitating actions on sustainable development in rainfed agriculture management perimeters supported by UNDP in Morocco.

Being mostly arid and semi arid country, Morocco has devoted large investments to the development of irrigated agriculture since the sixties. However, most of the agricultural land (85 %) is under rainfed agriculture. In the eighties, particular efforts were driven towards the agricultural development in arid zones where irrigation was not possible. The first integrated agricultural development projects had limited success for many reasons such as: large scale project, very limited integration of actions, and almost no participation of the stakeholders.

At the beginning of the nineties, the Ministry of Agriculture and Rural Development (MARD) launched its new strategy for agricultural management and development in rainfed zones through the 33-94 laws, which allow the delimitation of rainfed agricultural development perimeters (PMVB). The new strategy aims to improve the living conditions for the poor rural population in unfavourable areas through crop yield increase, better valorisation of crop production which leads to additional income, promotion of natural resources conservation, and provide opportunities for employment.

To achieve the above mentioned objectives the PMVB strategy is based on 5 principles: i) Spatial focalisation of actions, ii) Integration of the agricultural and social components of the programs, iii) Participation of all partners and stakeholders in the preparation and execution of the projects, iv) Transferring the process of preparation and execution of the projects to the local level (de-concentration), and v) Contracting the implementation of the actions with various partners including local population, local development NGOs, and private companies.

Since 1996, date at which the PMVB program started, 48 projects were implemented and 200 other projects which are prepared for different agro-ecological zones, are ready for execution when funds become available.



Mr. Mohamed Laklalech, MARD, Morocco

Seventeen of the first PMVB projects (1996-97) got support from UNDP through the Environmental support program, especially for two sub programs: “sustainable agriculture” and “partnership”. This horizontal program came to facilitate the actions planned to be performed in the framework of the PMVBs. The program responds to two needs expressed by the administration responsible for the implementation of the projects:

- The strengthening of the capacities to perform an effective execution of the participatory approach at the local level. The administration of the budget through UNDP office facilitates the procedures;
- The improvement of the basic technical knowledge in the field of sustainable agricultural development through continuing education and field training.

Discussions

Discussions followed a comment from Mr. Lahouati that developing too many projects and funds make difficult their management, even though it was opposed by the speaker that reaffirmed the intention of Moroccan Government to continue investing in rural development. Dr. Hamrouni asked about the marketing of agricultural products that apparently was over passed previously but is being addressed in the new development plans. Appreciating the participatory approach presented Prof. Kader asked the speaker and all the rest of the participants to bring these experiences in the next MEDCOASTLAND workshop in Alexandria. Mr. Lhacen who said that the protection of natural resources is a long process and requires incessant attention did the final comment.

Dr. Hedi Daghari (P17, Institut National Agronomique, Tunisia) presented a joint paper with **Mr. Lassaad El Abidi** (P27 Parcelle El Oueslati). He elaborated the EU funded projects in Tunisia in the field of soil and water conservation. Overall these projects are aiming the conservation of natural resources and improving living conditions of rural populations. In total 108 small mountain lakes and 114 sites of aquifer feeding were managed, as well as 100 Majels or festkia (small reservoirs used to collect rainwater for later use) were constructed. In addition 55 mobile units of pumps were established, 9,700 ha were protected from erosion, and 208,000 fruit trees were planted. All these projects have encouraged the return of people to previously abandoned lands.

In small-irrigated areas work has been concentrated in the management of irrigation and sub-drainage systems, and improvements of infrastructure. Salinity control is another important aspect of land management. Following Dr. Daghari provided some real data on economic indicators and economic profitability of a project in the Kalaat Landalous area. Tomato production seems to be very profitable with an income of 7,000$US per ha, for a production of 80 tons/ha. This figure is followed by milk, meat, and olive oil production with about 4,000$US. In the case of land use distribution with 40% forage, 40% cereal and 20% vegetable crops the net benefit of the farm is about 5,500 US$/ha.

Dr. Hedi Daghari Institut National Agronomique, Tunisia

However, to keep this income level is of paramount importance to keep salinity under control, practise fertigation, maintain the rate intensification and inputs, sustain irrigation and drainage systems, and practise rotations. At the end of his presentation Dr. Daghari showed the case of Abidi family farm and its sustainable indigenous agricultural practises.

The presentation was followed by a question and a comment concerning the ways of reuse of the irrigation water and water harvesting through the establishment of small dams. Dr. T. Darwish appreciated the fact that people are returning to abandoned areas.

Mr. Ahmida Harhouri, from the Provincial Agricultural Directorate Safi, Morocco did the last presentation. His paper on caper production as an income generating and soil conservation crop in arid regions of Morocco was followed with much interest.

The city of Safi is situated on the Atlantic coast in the arid region of Morocco. Caper was cultivated in Morocco since 1920 and was grown mainly on the sandy coastal area. The area cropped by caper in the Safi region has increased from 20 to 4,812 hectares in the last 15 years. The annual production increased from 20 tons to 7,580 tons over the last fifteen years.

The benefit generated by one hectare of caper is evaluated to 2000 euros/ year. The economic value of one hectare of caper in Safi region is equivalent to 8 hectares of cereals. A project was started in April 2003 with 800 to 1,000 organic plants cultivated in areas with scarcity of water (but irrigated) without using any fertilizers. Harvesting is extended over long period of time. In 2003 a percentage of 30-40% of the production was set for export. It could be concluded that caper is better suited to the area of Safi, and provides a good source of income for local farmers, thanks also to favourable prices, marketing and conservation of soils.

Mr. Ahmida Harhouri, Provincial Agricultural Directorate Safi, Morocco

The speakers showed also a film on the actions implemented in caper cultivation and marketing.

The presentation was followed by two questions concerning the suitable temperature conditions and weather the worker income (3$ per day) is satisfactory. The speakers revealed that the plant is adapted to the coastal sandy area with accessibility to grow in different ecological conditions. The plant is resistant to frost and is not preferable by animals.

Other country competing with Morocco in caper production is Tunisia. Concerning the worker profits, the crop is a family type crop. An amount of 3$ doesn't mean working the whole day, but is only for 2 hours in the morning and other two hours in afternoon.

SESSION 7 (14:30 – 18:20): COUNTRY SPECIFIC REPORTS

***Chairman:** Prof. Fawzi Abdel Kader, Alexandria University, Egypt*
***Co-chairman:** Drs. Leila Habib, Tishreen University, Lattakia, Syria*
***Reporter:** Drs. Imna Alados Lopez, CSIC, Spain*

The afternoon Session 7 was opened with the presentation of **Drs. Leila Habib** (P19, University of Tishreen, Syria) "Coastal/Midland agricultural development project: Example for income-product generating soil conservation management in Syria". She reported first on the situation of Syrian agriculture that represent a very important economic sector for the country since employs more than 25 percent of the nation's labour force. Agriculture development however is constrained by limited arable land (only 30 % of the total territory). The rest is made of shallow soils and massive presence of rocks throughout.

Among international funding agencies operating in Syria, the International Fund for Agricultural Development (IFAD) had been particularly active by funding several projects totalling more than 200 Million $US. Among them was the Coastal/Midland agricultural development project, which started in 1995 and was designed to assist 580,000 inhabitant farmers spread in 511 villages situated in Lattakia, Tartous, Homs and Hama provinces and covering an area of 2,300 Km^2. The total cost of the project was 117, 2$US. Three institutions funded the project: Arabic Bank for Economic and Social Development (50 %), Syrian Government (33 %) and IFAD the remaining 17 %.

The objective of the project was to improve the living conditions of small farmers and particularly women in rural areas. Three are the ways to achieve the objectives:

1. Remove sub-surface and surface rock to increase arable land;
2. Strengthen existing extension service;
3. Improve water use efficiency through drilling and harvesting.

Climate in the project is typical Mediterranean with rainfall varying between 350 mm to 1,100 mm but with the rainy season distribution from October to April. Snow occurs above 900 m altitude. Temperature is hot in summer and cool to very cold in winter depending on location and altitude. Projects activities are covering the areas above 600 m.

De-rocking is the main activity of the project and the Cooperative Agricultural Bank provides farmers with loans for ten years. In Lattakia province alone during the period 2002-June 2003 more than 206 ha have been reclaimed and made ready for cultivation. In addition the project provides assistance for planting trees. The overall objective of the project is to plant 17 million of olive and apple trees in an area of 60,000 ha.

Drs. Leila Habib University of Tishreen, Syria

In regard to extension service, the extension agents in a number of activities assist farmers. These include soil and water conservation and water harvesting. A very important aspect of the project is the gender issue that intend to improve the conditions of women as the most disadvantageous layer of the rural family.

In agriculture they play a very important role. Livestock production is entirely operated by women. Particular attention therefore is given to literacy training, health awareness, and improving skills that provide increased income for the family. The presentation of Drs. Habib was very well illustrated with e number of videos.

Discussions

Prof. F. Kader thanked the speaker especially for the multimedia presentation. He emphasised the fact that the link between scientific research and rural development projects is still missing. Dr. R. Lahouati asked about the economic cost of de-rocking and whether was worthy the removal of such large quantities of rocks. Leila responded that farmers have no other possibilities for their living therefore this is the only way to provide them the start for farming and obviously income for their families. Dr. Dudeen asked about the effect of de-rocking on biodiversity, but apparently no attention was paid to this aspect. Dr. Zdruli asked about the potentials of olive production in Syria. Dr. Arnoldussen proposed to include the aspect of environmental impact assessments in the MEDCOASTLAND and SCAPE project goals.

The second speaker was **Dr. Rachid Bouabid** (P29, Agricultural School of Meknes, Morocco) who spoke in the name of MEDCOASTLAND Moroccan team and titled his presentation: “The importance of income generating activities for the success of land conservation projects”. Dr. Bouabid challenged the participants with a number of questions dealing with the objectives of the workshop. “*What is the definition of Income Generating Activities (IGA)?*”-asked Dr. Bouabid. Then he continued: Could it be “*Activities / interventions / actions aiming at supporting land conservation measures (projects) by improving the income of the farmers*”. If yes, then what is the relation between IGA and Agricultural Reforms, Subsides, and Conservation Measures?

Past experience shows that focus has been given to direct measures and less attention to the limited participation of population in rural development projects. This has been corrected by the recent projects that intend to apply a multipurpose integrated and participatory approach. He used the example of Nakhla Watershed Development Project realised in north-western part of Morocco. Here the IGA were associated with direct soil conservation measures (like terracing and planting of olives to control soil erosion), and water harvesting techniques. The introduction of alternative crops like cactus provided additional income for the farmers.

Dr. Rachid Bouabid Agricultural School of Meknes, Morocco

IGA associated to indirect measures included adaptation of new breeds of highly productive goat, honey hives, esthetical and aromatic crops, improved cook stoves that reduce the workload of women, rabbit for meat production, caper, and carob. All these activities were based on a participatory approach that proved to be very beneficial for both farmers and the project. A video was also shown for the Nakhla Project.

Discussions

Dr. Daghari stressed the fact that planting olives in the dry regions has double benefits related to long-term production and soil conservation. Moreover, olives resist to drought better than other trees. Dr. Zdruli congratulated Dr. Bouabid for his presentation and invited the Leader WP3 to lead the debate in the subject of income generating by using the FORUM on Land Degradation available in the MEDCOASTLAND web page. In regard to the question what is IGA, Dr. Zdruli pointed out that often funding is not a problem to develop a project but its impacts on the ground could be weak. This means that subsides and conservation measures were not addressed properly. "*On the other side even if you do not increase directly the income of the farmer but improve for instance soil fertility level or sequester more carbon into the soil through soil conservation you have operated an IGA because less fertiliser are needed to produce the crops*"-concluded Dr. Zdruli.

Prof. Khattabi agreed that a definition of IGA was necessary. Dr. Darwish appreciated the presentation and gave his opinion on IGA. According to him this was related to three levels including Policy, Community, and the Farmer. Dr. Arnoldussen was optimistic about the discussion and in his opinion IGA is in close relation with soil protection and should definitely reduce land degradation.

Mr. Safi Raad (P25 Agricultural Cooperative Association, Jieh, Lebanon) reported on the economical profit of new environmentally friendly techniques of the greenhouse production in the Lebanese coast. Production in the greenhouses is compromised by the overuse of chemical fertilisers and pesticides as well as by the nematodes. Moreover farmers complain for the lack of extension service.

The association he represents was formed in 1995, is based 20 km south of Beirut, includes 200 farmers and operates in 300 ha. Problems of farm management include soil sterilisation of the greenhouses and the costs associated to it. One solution to lower the cost is the use of solar energy instead of chemical methods. The sterilised surface area in Jieh is estimated to about 40 ha.

Mr. Safi Raad Agricultural Cooperative Association, Jieh, Lebanon

Following, Mr. Raad compared the costs of producing tomato with traditional and modern methods. The last appear more economical. It was concluded that for the farms to be profitable is necessary to lower production costs. In addition market plays a very important role for the income of the farmer. Therefore the farmers itself has to be flexible and ready to respond to the requests of the market in terms of quality and diversity of the products. Farmers need assistance from Governmental agencies to adjust to new technologies especially in regard to chemical use of fertilisers and other inputs.

Dr. Daghari commented that excessive use of fertilisers is dangerous and increase costs unnecessarily. In Tunisia was reported that farmers sometimes use more fertilisers than what they need. Prof. Gad asked about the differences in biological and chemical sterilisation of the greenhouses. Mr. Raad informed that farmers use pesticides for weed control and soil sterilisation.

Last speaker of the day was **Mr. Kasim Abdo** (P8, Ministry of Agriculture, Palestine). He reported on human-induced soil degradation in Palestine and its socio-economic impacts. In particular Mr. Abdo concentrated on the impacts of the Israeli wall currently under construction on the Palestinian Territories of the West Bank. In total the land affected by the wall will be 94,800 ha or 16.8 percent of the West Bank land. The wall is expected to have an impact on population also, as about 875,000 people (or 38% of the population in the West Bank) will be affected.

The contribution of agricultural sector in the economy of Palestinian territories has been dropping continuously from 52 % in 1960s until less than 10% in 2000. Only 5 percent of agricultural land in the West Bank (located in the semi-coastal and Jordan valley) is irrigated but this provides about 52 percent of total agriculture product. Olive production instead provides 25 percent of the total income. Agriculture in the semi-coastal region occupies between 46 and 59 percent of the territory while for the West Bank this figure is 24.5 percent. Agricultural production per unit in the semi-coastal region is higher than in other districts and the average net profit per ha on year basis is 4,420 US$; while the average value is 3,500 US$/ha/year for the rest of the West Bank.

Mr. Abdo reported that thousands of trees including olives and citrus have been uprooted for the construction of the wall. Water resources and the irrigation system will be affected as well. Other aspects include the impact on biodiversity, loss in agricultural production, aggravation of socio-economic indicators, reduction in pasture and rangelands, agricultural infrastructure and marketing, livestock production and finally in increased unemployment, food insecurity and poverty.

Mr. Kasim Abdo Ministry of Agriculture, Palestine

The overall conclusion was that political and social instability accelerates land degradation and drastically augments its negative effects.

Discussions

Participants appreciated the presentation of Mr. Abdo and expressed sympathy for the Palestinian people. Dr. Zdruli pointed out however that MEDCOASTLAND Thematic Network is not a political gathering but a network of specialists whose only goal is to combat land degradation and assist in the sustainable use and management of natural resources in the Mediterranean region. Therefore he invited all partner to respect the goals and objectives of the project. Prof. Badraoui agreed with these statements and added that land degradation and political instability has been proven also in other parts of world to be linked closely together.

MONDAY, 16 FEBRUARY 2004

SESSION 8 (9 – 13:00): CONCLUSIONS AND RECOMMENDATIONS

Chairman:* *Dr. Pandi Zdruli CIHEAM-Mediterranean Agronomic Institute, Bari, Italy
Co-chairman:* *Prof. Mohamed Badraoui, IAV Hassan II, Rabat, Morocco
Co-chairman:* *Prof. Fawzi Abdel Kader, University of Alexandria, Egypt
Reporter:* *Drs. Sonya Sammut, Ministry for Rural Affairs and the Environment, MRAE, Malta

From left to right: Drs. S. Sammut, Prof. M. Badraoui, Dr. P. Zdruli, and Prof. F.A. Kader

The last day of the workshop was opened with the presentation of **Dr. Pandi Zdruli**, MEDCOASTLAND Project Manager. He made a thorough analyses of the partner's performance and compared the results in information retrieval since the start of the project and more in detail from the last workshop held in Adana, Turkey in June 2003.

Dr Zdruli explained the difficult situation that has been created in the project due to 5 inactive partners. P2 (Institut National Agronomique, Algeria) is one of the most problematic partners since the beginning; others include P4 (Ministry of Agriculture, Jordan), P15 (Ministry of Environment, Lebanon), P22 (Farmer Association, Algeria) and P30 (Farmer Association, Morocco). The problem is aggravated by the fact that these partners have not spent any of the budget allocation and have not completed their cost statement for the 1st year of the project. Unless the situation is resolved, the project may experience a financial crisis. The options to overcome the situation are two, either the problematic partners sign a declaration of resignation from the project, or other partners replace them.

Dr Zdruli complimented the active participation of P3, P5, P6, P10, P11, P14, P19, P21, and P33 and was critical with the rest of the partners (especially with the European ones) that have not provided any information until now. He also welcomed new representatives who have replaced other partners into the network.

Continuing, he analysed the work done for each Work Package (WP) of the project.

In regard to WP1 – "*Internet based Dissemination and Share of Information*" major achievements include:

- Establishment of a functional web page (as of January 2004 more than 4,200 people around the world have visited the site);
- •Activation of the Internet FORUM on land degradation (even though few partners have used this facility);
- Establishment and implementation of the knowledge database (Information Retrieval of more than 1,700 files downloaded);
- Preparation and dissemination of two Newsletters;
- Preparation of the Minutes of the Steering Committee meetings;Preparation and distribution of the project's brochure.

In regard to WP2 "*Ecosystem Based Assessment of Soil Degradation*" the following are some of the most important results:

- Successful organisation of the Adana workshop, (proceedings are in print);
- Information retrieval related to WP2 has increased by 42% since June 2003;

HOWEVER …!!!!!!!!!

- Identification of common indicators to assess land degradation on the basis of available data and knowledge at local, national and regional scale **is not completed**;
- Formulation of an eco-system based assistance methodology to prompt co-ordinated actions by land users, decision makers and researchers involved in land management **is far from over**

Dr. Pandi Zdruli, MEDCOASTLAND Project Manager

In regard to WP3 "*Income Product generating Soil Conservation Management*" these are the main achievements and what remain to be done:

- Review – abstract of research results and identification of relevant socio-economic indicators (since June 2003 the number of files has increased by 61 %);
- Formulation of a conceptual scheme in which Income Product generating Soil Conservation Management could be used to assess soil conservation management **is still in progress**;Preparation and organisation of the Workshop and site visit in pilot area. (Full papers are due 31 March 2004)Dedicated thematic CD Roms and video from demonstration projects (in progress);
- Determining an income-product generating approach for soil conservation management in relation to economic and production aspects generated by the sustainable land management practices. **MUCH TO BE DONE**

In regard to WP4 "*Participatory Soil Conservation Management*" these are some of the key points to be addressed for the organisation of the next workshop.

Workshop 3 Alexandria, Egypt (9-13 October 2004)
Workshop theme
"*Promoting participatory management of the land system to enhance soil conservation*"

Brainstorming Topics:

- What we mean by participatory land management in the Mediterranean?
- Can bottom level farmers and land users alone perform management functions necessary to sustain appropriate land management?
- What type of decision making to choose (bottom up or top down)?
- Is participation of all levels always necessary?
- Does participation interfere with efficient land management?
- Is decentralisation needed to promote sustainable land management?
- Do we have to allow farmers to come into decision makers' offices and advise them on how to do their job? If yes, at what extent?
- Are there some natural limits to what soil professionals (but not only) should be responsible for and what farmers should become more involved in?

In his final conclusions Dr. Zdruli pointed out that extensive research has been going on in the Mediterranean, as can be evidenced by the large number of files already downloaded in the web page of the project. One reflection is the great number of highly qualified researchers working in the Middle East and North Africa. However, the dissemination of such information is still weak, as we still have gaps in dissemination of information. Often farmers are not aware of what scientists are doing, and scientists isolated from the real world are useless. Rural communities cannot afford alone the price of land degradation. MEDCOASTLAND overall is progressing well thanks to the efforts and support of the majority of the partners. The Coordinating team in Bari will continue to lead the project until the successful completion.

Plenary discussions

Prof. Badraoui intervened to thank Dr Zdruli for his continuous efforts as he not only manage the project but also stimulates the debate with relevant reflections. In addition Prof. Badraoui in the quality of Chairman of the Steering Committee revisited two major points: the fact that certain partners are not contributing sufficiently to the network and appointing national coordinators for each country (as in the case of Morocc).

He stated that indifferentism is a negative aspect of the network, and urged partners (such as France, Italy, and ACSAD) to contribute with information retrieval. The other point regarded the participation in the forum. He also suggested that countries should follow the example of Morocco and appoint a national co-ordinator who receives and channels information to the network Co-ordinator.

Prof. Badraoui stressed that the most important product of this network is to pool the beneficial experiences of the different countries so that we can continue in our efforts to improve the quality of life of the rural communities and the quality of the land and the rural environment. We should learn from our past mistakes and share successful experiences. "*It is the friendship that permits us to work together, not only in this project but in other circles of scientific cooperation as well*"-concluded Prof. Badraoui.

Dr. R. Lahouati appreciated the fact that in this workshop simultaneous translation was made from English to French and vice versa. He was very disappointed that two Algerian partners are not collaborating with the project and promised to help in resolving this problem. He asked also about the possibility of providing information retrieval in French and the answer was positive.

Dr. Bouabid suggested designating a national focal point for each country. He was disappointed that some partners were excused for being busy or have not given information and appealed to partners not to deliver irrelevant presentations for the next workshop. He pointed out that he would like to have a copy of the MEDCOASTLAND knowledge database when it is finished.

Dr. A. Arnoldussen urged the project leadership to extend the link with other projects. He also suggested using students to retrieve information. He agreed that information should be collected both in English and French because such information is needed not only for the MEDCOASTLAND network, but also for the international community. He proposed for the next workshop to invite the participation of the European Society for Conservation Tillage.

Prof. Khattabi asked whether the project has the right to reproduce the abstract as the author produced it originally. He also wondered whether the general public could have access to the web-based forum. Dr. Zdruli informed that in Adana it was decided to include and accept French abstracts as well. With reference to focal points, the contract was signed with the partners in agreement with EC. Countries however, can co-ordinate internally and designate a focal point for logistics purposes. He agreed to establish the link between MEDCOASTLAND and local MEDCOASTLAND web page for Morocco. "*We should however have only one database*"- emphasised Dr. Zdruli.

Equality of all the partners versus their duties was also stressed as no one form the partners could be justified for not providing information retrieval. In fact 50% of the partners have not submitted any information at all yet. In regard to property rights Dr. Zdruli said that we are collecting only information that has been published, so there is no copyright issue. A wider dissemination of the work is also in the advantage of the author. Drs. I. Alados agreed that if the abstracts relate work that is already published, could be opened to public.

Prof. Badraoui raised the problem of unpublished government reports as government ministries have done a lot of work. This contains a wealth of experiences that have not been published and shared. In this case the local partner should decide whether the owner of such information is willing to share it, then this is encouraged and valorised. If not, then it should not to be sent to the network database.

An important issue of discussion was the future of the Network and what could be some forms of funding. Drs. Alados suggested that the strategy to receive funding should be set up for a concerted action, with selected study areas, and not necessarily covering all the countries.

Dr. Murat Ozden said that opening the Reserved Area to the worldwide public is an important issue. As matter of fact he proposed such action at the Adana workshop in June 2003. But he said he is reflecting about this as if we open forum for instance we may have unwanted comments. Therefore he proposed that participation should be regulated by a membership password provided by the Coordinator. In regard to Information Retrieval he proposed to open it but outside visitors should be allowed only to read or download the information but not to upload what they want.

Dr. Zdruli agreed that the forum should be restricted to authorised access only. In regard to uploading this is only done by the Webmaster in Bari, after a careful examination from the Project Manager for every uploaded file. Only edited and filtered information is allowed into the database and irrelevant material is eliminated.

Dr. R. Bouabid gave a brief presentation of the Moroccan MEDCOASTLAND website. This site is hosted at the Agricultural School of Meknes server and has several links. It provides a general presentation of Morocco, links to sources information, desertification, UNCCD, state of land degradation in Morocco, erosion information, and programmes conducted by Morocco as for example the National Action Plan to combat Desertification. This is a good example of how the MEDCOASTLAND network is being extended on a national level, in order to achieve a wider dissemination of information. Dr. Rachid will send the link and address of Morocco MEDCOASTLAND web page to Pandi to distribute to all partners.

At the end of the session Prof. Mohamed Badraoui handed over the chairmanship of the Steering Committee to Prof. Fawzi Abdel Kader with the transfer of the renowned Chairman's Pen: This tradition was started in Adana and will continue on a rotation basis until the end of the project.

Prof. Kader spoke on preparations for the next workshop in Alexandria, Egypt that was set up by the plenary session for 9-13 October 2004.

Prof. Badraoui passing on the Chairman's Pen to Prof. Kader

Continuing Prof. Kader stated that the objectives of the workshop in Marrakech and that of Alexandria are interrelated.

He cited for instance the work presented by the Moroccan team as a good example of the approach that needs to be adopted in the next workshop. The methodology for a participatory approach is well known.

He promised that preparations for Alexandria workshop will be finalised by June - July 2004 before the summer break. He also informed on the logistics and travel connections between Cairo and Alexandria. We will provide accommodation in motels in the coast of Alexandria in a very friendly environment and will offer the facilities of the University for the meeting hall. Regarding the field trip, it was proposed to visit the IFAD rural development participatory project in West Nubaria, about 60km from Alexandria.

Dr. Zdruli thanked the Prof. Badraoui and the rest of the Moroccan team for the excellent organisation of the workshop. Prof. Badraoui made the final comments before declaring the workshop closed. First and foremost he was grateful to the European Commission for funding the project. He thanked the partners that came from afar, and for preparing their reports. Thanked the reporters and the invited speakers who contributed actively in the discussion as well as for with their high quality papers. He also thanked Dr. A. Arnoldussen for attending this workshop and representing SCAPE project.

Special thanks were delivered to the translators who facilitated communication, thereby enabling the objective of networking to be achieved. In particular Prof. Badraoui thanked the IAMB Coordinating team, especially Dr. Zdruli for his efforts since December 1999 when much of the partners of this project meet for the first time. He also thanked Dr. Cosimo Lacirignola, Director of IAMB, Prof. Atef Hamdy, Director of Research at IAMB, the new MEDCOASTLAND Coordinator, Prof. Giuliana Trisorio Liuzzi, and the rest of coordination team at Bari Institute. Dr. Pasquale Steduto, Dr. Claudio Bogliotti, Mr. Saverio De Santis and Mr. Enrico Nerilli were thanked as well for their important contributions in the project.

Annex 1

Field Trip
FRIDAY 13 March 2004

Field trip included visits in the Province of Al-Haouz of the Marrakech region. The purpose was to observe soil conservation projects implemented through rangeland improvement actions. The Provincial Agricultural Directorate of Marrakech made all the arrangements for these very successful visits. Rangeland covers an area of 193,906 ha, which represent 30% of the total surface area under the supervision of Marrakech agricultural directorate. The field trip was made in the Sidi Youssef Ben Ali province, located in an arid area north of the Tensift region. Rangelands here cover 89,236 ha and provide grazing for a total number of 117,321 sheep, 6,018 cows and 14,692 goats.

Artiplex and cactus cultivation in the Abda Skarna pilot area

Rangelands are in an advanced state of degradation due to an overuse of pastures and an irrational exploitation of the available biomass. Moreover, this situation is getting worse due to successive years of drought during this last decade. This was in favour of the extinction of an important number of plant species with high pastoral value, which constituted, in the past, a principal resource of fodder for the livestock.

In 1995, a pilot range development project started in Abda Skarna area. In this site 680 ha of *Atriplex Nummularia* were planted. This species is known for its adaptation to arid climate and marginal lands. It can be used during the drought period when deficiency in fodder is more pronounced.

The obtained results in this area have encouraged the managers to extend this operation to other pastoral sites, which belong to the Ouled Dlim rural community located north of the Tensift region. Moreover, this decision was taken not only because the management of Abda Skarna site was a success in terms of the technical actions, but also because of the breeders organizational. The Abda Skarna pilot action permitted to organize the population in a local cooperative of the pastors, named **Nour**, which takes care of the planned rangeland managed.

The project activities include:

- Plantation of 2,000 ha of fodder shrubs on privately owned land with the participation of the beneficiary breeders;
- Supervision and training of breeders in the field of pastoral management and desertification control;
- Circulation and communication of information and results through the implementation of pastoral improvement activities and desertification control actions.

Local extension service agent explaining the Abda Skarna pilot area

After the contract signature in February 2003 by the European Commission and the Ministry of Agriculture of Morocco, the team, which will carry out the project, has proceeded to the site identification for planting 600 ha during the year 2003-2004.

In parallel, sensibilization and information meetings have been organized for the concerned breeders about the benefits of fodder shrubs as a mean to reduce both water and wind erosion.

Moreover, to strengthen the relationship and promote information exchange between breeders and technicians, the project organized a trip to the Oujda region in the Northeastern rangelands of Morocco, where a very successful range management project (Taourirt Taforalt project) was implemented. Mr. Lalkalech informed on the work the Ministry of Agriculture is doing in the area. He emphasised three important topics that have influenced the success of the project. They include integration, participation, and responsibility. "*Income generating activities should increase the income for local people, otherwise no one is interested to participate in a conservation project just for the sake of preserving the soil*"-concluded Mr. Laklalech.

Visiting the Royal Natural Reserve of Msabih Talaa

The second visit was devoted to the Royal Natural Reserve of Msabih Talaa whose aim is the reconciliation of conservation and development in protected areas.

Mr. Larbi Didouqen Director of the National Toubkal Park, DREF/HA made an overview of the activities of the Park. Natural conservation of the gazelles is the main goal of this unique location. Gazelles here represent a special local breed that was almost under extinction therefore it was decided to create this park to protect them.

The field trip ended with a visit in a hilly sloping area cultivated with cactus. The plant appears to have been adapted very well to this dry area. Moreover it provides a good source of income for the local population. It was reported that the income could vary between 2,000 and 4,000 $US per ha/year. Cactus is cultivated for its nutritious fruits (high in vitamin C) that are sold in the local market or exported. The plant does not need fertilisers and is highly resistant to drought. Additionally cactus serves as erosion control plant.

Participants at the end of the field trip

Annex 2

Minutes of the Steering Committee meeting

The Steering Committee meeting was held during the workshop. Dr. Pottier attended also the Meeting. All members of the Steering Committee were present. Detailed information on discussions will be provided in the final report of Marrakech workshop. In particular in the Steering Committee were discussed the following issues:

- **Problematic partners**. They include: P2 Institut National Agronomique of Algeria, P4 Ministry of Agriculture Jordan, P15 Ministry of Environment Lebanon, P22 Farmer Association Algeria, P30 Farmer Association Morocco. It was decided to ask the abovementioned partners to submit in writing their intention to withdraw from the project. Once these letters arrive, the Coordinator will ask the EC for expulsion or replacement with other potential partners.
- **Financial difficulties and problems**. The EC is blocking payments until the situation with abovementioned partners is clarified. If letters for withdrawal are not sent to the Coordinator in the short coming future, a possible solution to the problem was proposed by Dr. Pottier who suggested that *the Coordinator should write a letter confirming that problematic partners are not essential for the completion of the project and that major objectives of MEDCOASTLAND will be achieved even without their participation in the project*;
- **The future of the MEDCOASTLAND Thematic Network**. Great concerns were raised for the future of the Network if no additional funding will be provided. The risk is that all could collapse after the end of the project in September 2006 including the web page. It was proposed to seek for proposals, including calls from the EC, other international donors as well as local governments;
- **Opening of the Reserved Area of Information Retrieval.** The opinion of the Steering Committee is that the Reserved Area should be opened to the worldwide public, however external people should only be allowed to download or read the information but not upload. In regard to the WEB FORUM was decided to provide username and passwords to external people interested to participate in this discussion group; It was decided also to ask the webmaster to monitor the number of visitors entering into the Information Retrieval Database as well as to trace the countries of their origin;
- **Preparation for Alexandria Workshop.** Prof. F.A. Kader provided information on the topics of the next workshop and on the logistics of workshop site, field visit and organisation;
- **It was decided to expand the cooperation with other Networks** especially with the Soil conservation and protection strategies for Europe (SCAPE project) that was represented in Marrakech by Dr. Arnold Arnoldussen.

Annex 3

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