

ANNEX III

STAP Roster Technical Review

Introduction

1. The importance and relevance of this project have, if anything, been understated. The current situation in which the within-species diversity of the date palm (*Phoenix dactylifera*) is being reduced by pressures towards higher productivity and concentration of the market on a single variety is wholly unsustainable. The conventional agricultural response to the threat of the principal pathogen (*Fusarium oxysporum*) in both Morocco and Algeria of selecting an even smaller number of resistant strains is a further threat to the diversity of the species. This response may be particularly damaging if the resistance proves to be short lived because of changing climatic conditions or through a change in the infectivity of the pathogen. Clearly, the proposed project meets existing institutional needs to complement the efforts made by the three countries concerned to cope with their national priorities.

Objectives and technical specification

2. While the conservation of the within-species diversity of the date palm is necessarily and correctly set within the context of the oasis ecosystem and its management, the concept of resilience is not sufficiently stressed in the project proposal. The aim, surely, must be to ensure that the oasis ecosystems in the Maghreb are sustainable by being resilient to future changes in global climate, markets, and other social and economic pressures. The genetic diversity of the date palm, and of other oasis crops, is an important component of that resilience and needs to be enhanced by ensuring that the wide range of existing varieties is not further reduced. Working with farmers and national programmes, therefore, to encourage the multiplication of a wider number of varieties of date palm and other species, in addition to the resistant and highly productive, but genetically constrained, varieties will be an urgent priority. Farmers will need to be encouraged to look for and report individual specimens of any variety that show resistance to pests and pathogens as a basis for future crops, emphasising the need to anticipate possible changes in environments or markets. Guaranteeing the farmer's genetic property rights as custodians of these genetic resources is also an essential part of the process (Outputs 1, 2 and 3).

3. Also in pursuit of greater resilience of the oasis ecosystem, it will be important not to allow conventional market forces to dominate the selection of the varieties grown or favoured in the future. The development of alternative and diversified markets rather than merely increasing market demand is rightly stressed in the project proposal. The feasibility study has already identified a number of potential different uses for date palm products, and, almost certainly, many other products could be developed from other oasis species. Alternative market developing and building the capacity to exploit different varieties and species locally and regionally, together with the encouragement of rural enterprises involving local people, as in other parts of Africa and in Asia, will be needed to combat the dominance of largely multi-national companies in the purchase and marketing of foods and other resources (Output 4).

4. The effects of a wide range of factors other than pathogens on the health and the productivity of the oasis ecosystem is discussed in the project proposal, including water resources and irrigation, sand dune instability, grazing by animals, poor management, etc. The appeal to a sustainable ecosystem approach in coordinating industrial, agricultural and planning policy is therefore an essential adjuvant in achieving the other components of the proposed project, at all levels, from the local stakeholders to national governments. Achieving an integrated approach to the sustainable management of oasis and agro-ecosystems, however, requires much more than a state of intent. In particular, it requires adequate knowledge of the ecosystems concerned to be able to predict how they will behave in response to changes occurring in their environment, and in their interaction with the political, social and economic systems within which they are embedded. A research component is therefore almost certainly necessary if a sustainable ecosystem approach is to be adopted and it is, I suspect, unlikely that the three countries concerned can provide the necessary expertise or resources to underpin the kind of multi-disciplinary research that is necessary. This problem should be addressed in the further development of the proposal (Output 5).

5. Monitoring and evaluation of the project, and replication of the project demonstration activities are clearly essential components of a project of this kind, and appear to be well provided for in the proposals (Outputs 6 and 7).

6. The logical sequence for the proposed activities is relatively straightforward. The first priorities should be given to the propagation of a more extended range of varieties and cultivars, including (but not confined to) those resistant to Bayoud, and to the development of alternative markets and products, together with the emphasis on genetic property rights for stakeholders. The development of a sustainable ecosystem approach through education and dialogue with government departments is a longer term exercise, and will itself depend on the availability of information about the essential factors of ecosystem function in oases. Monitoring and replication will form the basis for the reporting and adjustment of the project to changes which are inevitable, but unpredictable at the present time.

Participatory aspects

7. The project is essentially dependent on stakeholder and community participation, and these elements have been built into the proposal as far as they can be in anticipation. It will be important to be sure that social and cultural attitudes in the countries concerned do not subvert the required level of participation, particularly away from women in the community, who will probably do most of the real work. We need to be sure that the three governments understand the importance of this participatory component. Nothing will be achieved by grand declaration that have little or no effect on what is done in individual oasis and farms.

Global benefits

8. The global benefits are fully identified in the project brief. The project also appears to fit well within the context of the GEF, and the GEF Operational Strategies and programme priorities, as well as the provisions of the Biodiversity Convention. However, it is important to stress that maintenance of genetic diversity is only one part of the necessary stages in creating *sustainable* and *resilient* oasis ecosystems. Careful attention to the essential life support systems of the ecosystems and the sustainable use of their resources through development of alternative markets which do not result in unbalanced demands are equally essential components.

Replicability

9. This project has many features which might be equally applicable to a wide range other crops, and particularly those which involve the cultivation of trees for fruit and/or fibre in combination with cereal or vegetable crops. They occur in other parts of Africa, in India and south-east Asia, and in Central South America. In all of them the problem of either creating or maintaining a sustainable and resilient ecosystem is compounded by reductions in genetic diversity through selection of varieties which give the greatest productivity, but often only with the use of excessive amounts of water or fertilizers, and by market forces which are driven by profit-oriented demands of wealthy developed countries. If this project can, as is planned, integrate the seven outputs successfully, it may well serve as a useful example for ecosystems.

Capacity building

10. The project is intended to strengthen capacity in the three countries to handle the problem in the future, and every effort must obviously be made to see that this happens. It is likely, however, that there will be cultural, social and perhaps even religious conflicts with some of the concepts that lie behind this project, and those conflicts will need to be confronted openly but with tact.

Project funding and time frame

11. The funding for the project seems about right, but the time frame is perhaps a little short for the task of selecting, propagating and bringing into production the necessary genetic diversity of a tree species. Five years is more appropriate for cereal and vegetable crops, and it may be necessary to extend the life of this project if it is to achieve its full potential.

Additional comment

12. My principal uneasiness about this very worth-while project is a possible lack of hard information about the dynamics of oasis ecosystems, comparable to that for crop ecosystems in temperate, tropical and less arid parts of the world. While it is not too difficult to define the conditions for achieving a sustainable and resilient ecosystem, actually managing such a system requires understanding of ecosystem function in

changing environmental, social and economic conditions. Crucial aspects of that ecosystem function may depend on organisms, including micro-organisms, that have not previously been studied in sufficient detail, and are not included in this project.

13. While I understand that the GEF is not a funding agency for scientific research, it may be worth discussing with another agency, for example Unesco's Man and the Biosphere programme in Paris or the Centre for International Forestry Research in Bogor (Indonesia), the feasibility of a study of oasis ecosystems in the Maghreb.