

ARID AND SEMI-ARID ZONES

1. The West Africa arid zone is a natural environment with low productivity, the main factor limiting biological production in general is the lack of water. If we can overcome this limiting factor - technical and economic point of view - they can become quite productive. By saying that, the intensive production modes require careful management of these subject areas to salinization, alkalization, waterlogging, and wind and water erosion. Pests such as locusts, grasshoppers and aphids are a scourge for agricultural production, especially if the project diminishes the importance of natural pest control during the dry season.

2. The degradation of these areas and the poverty and famine that its people are victims, combined with frequent economic, physical and health problems, show how difficult it is to develop appropriate operating modes and these are proof that we should go for concerted actions. Yet and in spite of everything, arid zones have, over the centuries, showed an extraordinary resilience and resulted in great human civilizations, but also, unfortunately, unspeakable human misery. Recent observations suggest that the increase in population and demand for food, energy and water may be more in the most productive regions in those prone to extreme aridity.

3. A feeling of uncertainty is developed in the lending institutions and the donor community in general about the best way to develop arid regions. Some believe that investing in these regions is less profitable; it represents an unacceptable economic risk and may increase the burden of the debt of borrowers, while others, on the contrary insist on the need to respond to recent famines. It is important to consider the consequences of economic costs (opportunity) which involved the solution of doing nothing.

Principles, procedures and the Bank directives

4. Although there is no policy or operational procedure of BOAD on projects that can be undertaken in the West Africa arid zone, the measures relating to good number of sectors such agriculture, forestry, livestock, energy, transport, displacement and resettlement are depend. The various policies and directives governing a project of a sector will affect any intervention in the arid zone and should be implemented in a general framework rather than in the limited context of a particular sector.

Relevance in relation to BOAD investment

5. In recent years, the BOAD conducted and evaluated a number of projects for the resources preservation and the improvement of agricultural productivity in the arid zones.

6. The two following aspects proved of fundamental importance when it comes to investments in arid zones:

- greater emphasis on human and ecological impacts of individual projects;
- integration of environmental issues into the economic policy at all levels.

7. A wide variety of projects may affect arid zone notably,

- projects that affect the productivity of irrigation methods used on these areas, projects against floods, development of agriculture and energy projects, conservation of water and soil, and forestry and livestock management;

- projects that have an indirect effect by carrying out the resettlement of population or building roads or high dams;
- influencing policy at the macroeconomic level (pricing, subsidy, taxation and land use bylaws).

Environmental assessment guidelines

8. Guidelines related the arid zones management show the limits imposed by the sectorial and macro-economic policy to sustainability of each particular project. Individual interventions remain ephemeral as issues related to incentives that may cause degradation of the environment (eg policy. Prices on resources such as charcoal, policy-efficient consumption patterns) have not been resolved.

9. The concerned guidelines focus on three aspects of the environmental assessment: an overview of the development objectives; key indicators that should be studied when considering a project; and an overview of key policy issues raised by the project. The following paragraphs present an overview of key issues.

General objectives of intervention

10. Ongoing projects and potential one's should be assessed which, because of the active participation of the beneficiaries, will determine whether they provide physical, social and cultural well-being improvement. This approach assumes that we have a long-term vision where resources are judiciously used and conserved for future generations.

11. Environmental, equity and economic efficiency issues must be taken into consideration when designing other possible actions. That is why they should

be based on, human, economic, technical and solid scientific principles. These activities, once completed, should be able to develop by it own and with little recourse from outside assistance or funding that would not justify the profitability of the project. This company should be accomplished without the basic physical resource which makes it possible is grossly deteriorated.

12. **Relevance to socio-economic established systems.** It is important to use traditional knowledge and strengthen the cultural identity of communities. The project is to discover and promote the well-being and cultural identity of indigenous peoples.

13. The project must be compatible with national and local applicable natural resource management systems. If the socio-economic analysis shows that these management systems are in a period of transition, there must be significant resources for monitoring and evaluation that are an integral part of activities to mitigate the effects likely to affect communities and natural resources. For the big projects, it would be appropriate to undertake research work in the long term. The design of a monitoring program should be defined in relation to the findings of such research or draw on lessons learned from a pilot project.

14. **Regenerative capacity of natural resources Management.** The arid zone ecosystems that are naturally dynamic, their productivity will change regardless of the project. The important thing is to ensure that the land will return to its original productivity, regardless of the operating mode. It may be, however, demonstrated that short-term studies (1-3 years) or long term studies (5-30 years) revealed deterioration in this respect. The results obtained by the formers should be taken into account in project planning, especially if they are high-risk areas. As for the latter, they should underpin resettlement projects

and long-term investments. Sustainable interventions must be part of a long-term (15 years) and develop incentives that are adapted to beneficiaries.

Operational indicators in the design and review of a project

15. The objectives should be based on a non- sectorial approach. Options with regard to the region and the project itself require the selection of key indicators and analysis must remain flexible. By saying that, it remains essential to define the relative importance of each indicator. A systemic approach has proven to be effective in this regard. The rural appraisal techniques can also be used to select a method that best reflect the concerns of beneficiaries. Guidelines on the arid soil management provide a set of indicators (and subsets) to take into account at the beginning of the project cycle:

- o climate
- o population development
- o Health and Nutrition
- o energy
- o economic factors
- o access to land , goods and services
- o Natural area condition
- o production systems and level of risk
- o livestock management / breeding
- o adopted technical means

Remediation measures and intervention policy

16. Selection of key indicators will enable to analyze the constraints or the possibilities should correspond to the project objectives. Elaboration of strategies and mitigation measures to achieve these objectives should follow. The establishment of a single strategy being impossible, looking at the complexity of issues and looking at the variety of locations and projects, it is necessary to determine the general principles that can be applied to its design and to the review of projects. The following aspects should be addressed

- o Non irrigated agriculture and recession cultivation
 - Collection and water conservation
 - Techniques of soil fertilization
 - dunes consolidation
- o Pasture Management and Pastoral Association
- o Forestry and Agroforestry
- o Energy
- o Institutional issues
 - Role of central government
 - Institutional Reforms
 - Local Involvement
- o land policy
- o Pricing and Subsidies
- o Migration and off-farm income
- o Infrastructure
- o Inventory of natural resources, geographic information systems and monitoring
- o fauna and flora protection services
- o Women and Development