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ENVIRONMENTAL AND DEVELOPMENTAL ISSUES IN PROJECT DESIGN

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Introduction

This paper is intended to furnish guidance for project preparation and design. The exploration of environmental and developmental issues is essential for sound planning and project implementation. The issues to be examined vary from one field of action to another depending on the nature and philosophy of the programme to be implemented. This entails looking first into the possible objectives that may be served by the Regional Finance and Planning Project which we shall attempt through this workshop to give a scope of objectives, some working dimensions and a mechanism of implementation.

It is important also in relation to the set objectives to account for the current situation in the two regions by highlighting the main constraints to development. In the frame of objectives and constraints the developmental and environmental issues as related to project design shall be presented and discussed.

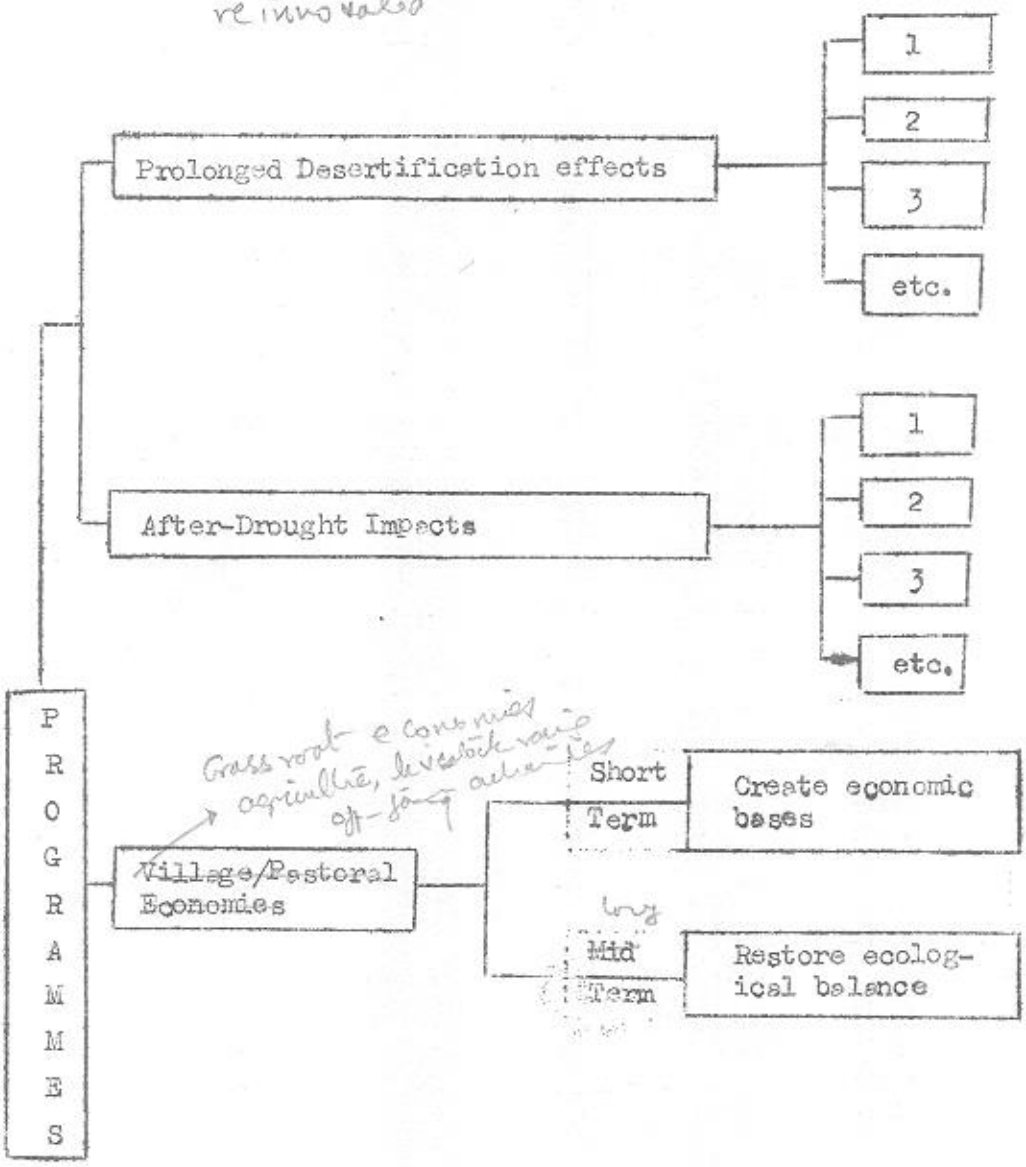
a conceptual gap void seems to exist, and could only be mended through building a new vision which is holistic integrated and operational.

2. Development Objectives

Any development effort should be guided by the objectives it is set to fulfill. Objectives relate closely to priorities. The latter shall be presented in more detail in some later sessions by the two regions' representatives when the workshop moves to El Obeid and El Fasher. However, for the purpose of this paper some priorities need to be identified in the context of project development objectives.

The priorities should address prolonged desertification effects and after-drought impacts through programmes geared towards building village and traditional pastoral economies. Such programmes should have in time a multiplier effect in creating sound economic bases and restoring ecological balances.

Area plan continuously updated and reinvoked



A list of priorities for programme formulation could be readily furnished from current literature and the two regions' expressed needs. These can be summarized as:

i. Expanding the food production base through horizontal and vertical developments and diversification of production utilizing as much as possible the north/south zonal

variation and the complementarity between production systems and area economies.

ii. Increasing the production of cash crops to generate more income and raise the purchasing power of the rural population to meet basic household needs, through raising productivity levels and expanding acreage under cash crops.

iii. Commercialization of the livestock sector through providing the basic imputs required for its transformation into a market economy.

iv. Building a sound base of agro-industries to be founded on appropriate technologies and nested in village economies, so as to generate employment, additional incomes, fill in gaps in basic household needs and meet some of the requirements of the other sectors of production.

v. Providing consistent and sustainable access to water for drinking, agriculture, reforestation and other purposes. Water supply is a dynamic factor in the economies and life of the population of the two regions. It is needed for domestic uses, livestock supplies and agricultural and settlement growth. Development of water supplies entails

rehabilitation of existing sources, providing water for areas which are poorly served at present, and development of water harvesting projects for agricultural uses.

vi. Resettlement of displaced populations. Large populations in the northern belts of the two regions live under fragile ecosystem. Due to the drought many of them have become marginalized nomads. In addition, large village populations have also lost their means of sustenance. Both categories have to be rehabilitated, either within same zones or in ecologically richer areas to the south.

vii. Balancing economic prosperity with human well-being. The latter could be attained through provision of community services and organization of institutional infrastructure to serve both production and the promotion of community life. Efforts should be geared to rehabilitating existing services, and creating a network of central places to bridge between the village and the bigger centres of administration. Moreover, it is important to note that improved economic conditions can help finance social services that would otherwise be unaffordable and unsustainable.

viii. Provision of adequate infrastructure to serve both economic and social development. Viable rural economies need at least

a minimum infrastructural base. Roads are a priority in this regard. Communication networks, to link central places to district and regional towns, come next. Other infrastructural facilities could be developed as components of individual programmes.

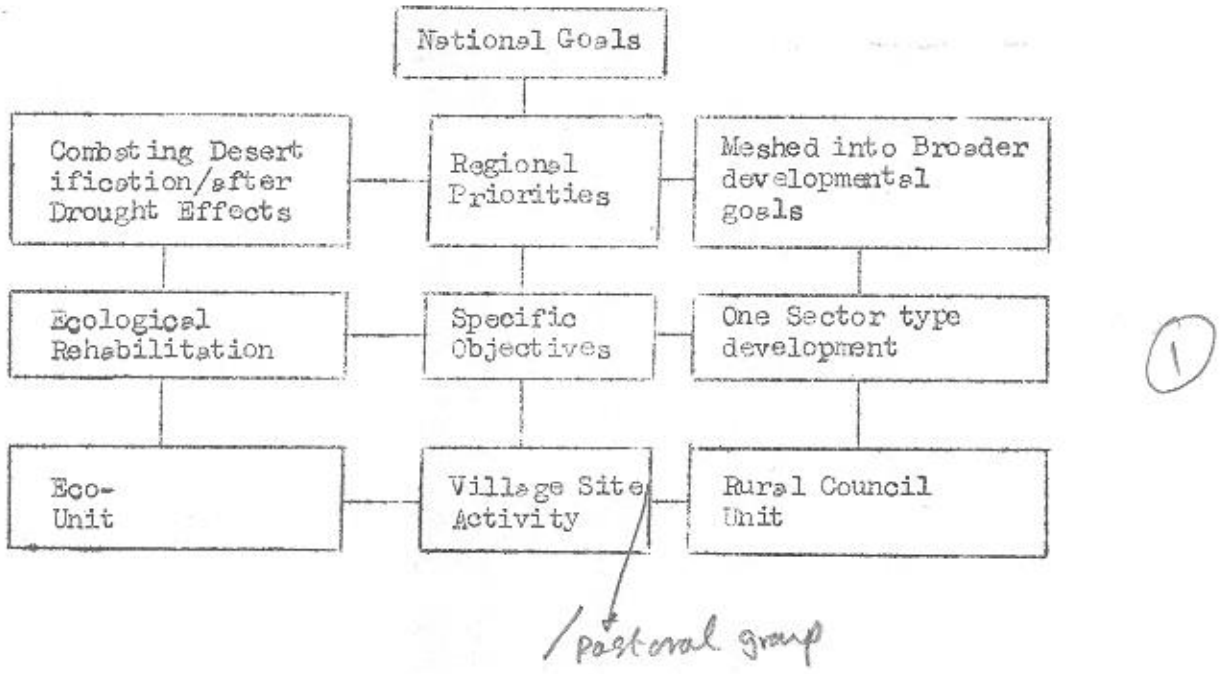
ix. Adequate renewable energy supply. Adequate energy affects many of the above development objectives. Some efforts have to be directed to expand and tap the indigenous sources of energy obtained from biomass. New sources should also be explored including solar and wind energy. Appropriate village technologies and innovated uses of energy should also be utilized.

3. Programme Philosophy and Approach

3.1. Many scales

The programme should rest on a philosophy which aims at rural reconstruction from the grassroots, to be founded on the economies and social structures of villages and nomadic camps. It should be guided by community priorities and should tap the existing and potential resources of eco-units, utilizing whenever feasible local community initiative and organizational

capabilities. The multiplier effect of individual projects should be closely monitored by those implementing the programme to assure the achievement of broader objectives at many scales: The village, the rural council, the district and the region. In this way regional priorities could be translated into site activities, and in the process of transmission national goals could also be attained.



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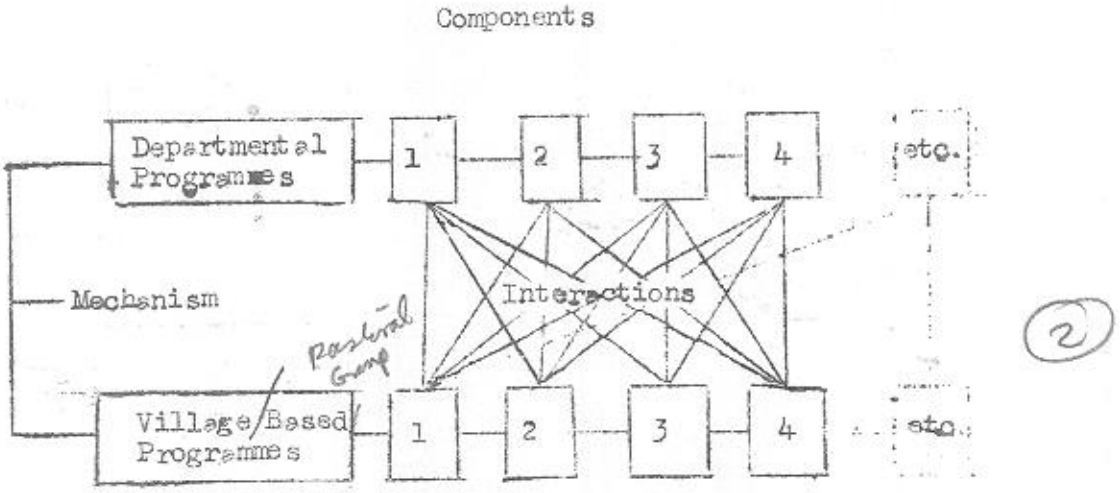
3.2. Defined but Fusing Roles

The second important principle is one of the divisions of responsibilities while still fusing the roles of different departments, annual programmes, and community-based programmes.

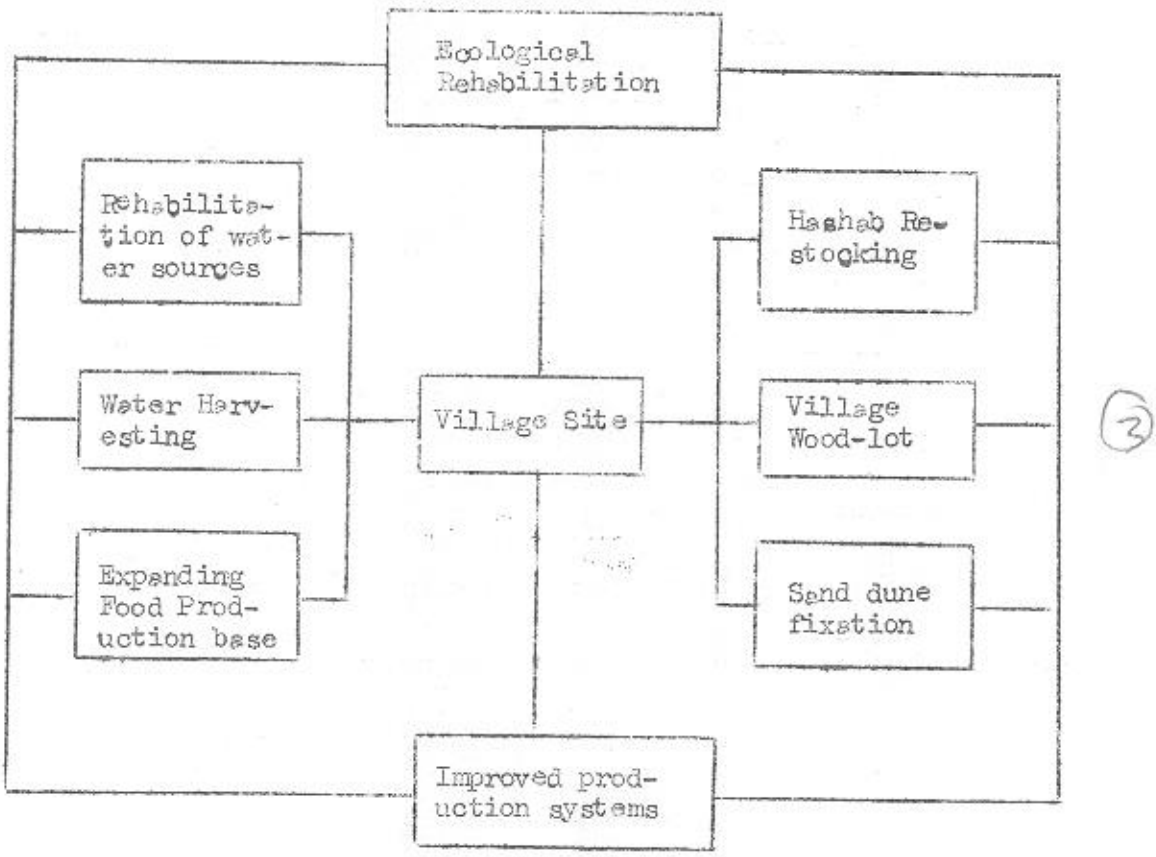
Strategically the two should complement each other. Operationwise they should draw some distinction. As both serve common objectives they have to mesh at one point. Thus a mechanism of interaction between the two has to be provided for in the organization and management of the project.



3.3. Integrated Resource Use

Arising from the first principle of 'action at many scales', ecological rehabilitation should be a focus in individual project implementation. Sustained growth of ecosystems seems to be wishful thinking, since once a system is subjected to any degree of exploitation its inherent capabilities shall be diminished. Recovery through adaptive practices is short of

restoring the same capabilities. However, some balance should be maintained between use and sustenance of the resource. This could be attained through integrated packages whereby individual projects are visualized as integral components of a plan of rehabilitation of an eco-unit.



4. Development Constraints

A review of development constraints is essential for any planning situation. Although the two regions may eventually have adequate resources to support their populations and

contribute to national wealth, they currently face many development constraints. These are summarised under the following headings:

4.1. Environmental Constraints

i. Overuse of resources beyond ecosystem capabilities due to absence of planned development, and a strong interplay of traditional forces of growth.

ii. Accelerating decay of the resource base, more pronounced in the northern parts of the two regions.

iii. Collapse of the economic bases engulfing both crop and livestock production systems, more pronounced in the central and northern belts..

iv. A steady trend of population migration from the northern belts mostly attracted to the southern parts of the two regions, affecting both deserted and recipient areas.

4.2. Planning Constraints

i. Inadequate budgets.

ii. Limited technical staff and concentration of the available cadre in the capitals of the two regions.

iii. Lack of comprehensive planning, with a tendency for adopting fragmented approaches to development.

iv. Dependency on inherited philosophies and acquired experiences with limited innovation.

v. Lack of statistical and other data (social statistics, agro-statistics, agro-meteorological data, etc.) which are essential for sound planning.

vi. Limited involvement at the grassroots level, often resulting in emphasis on physical/biological and administrative remedies, divorced from societal benefits.

vii. Weak linkages between the higher and lower tiers of the administrative and technical hierarchies causing inadequacies in development programming and poor project design.

viii. Negligence of the female sector in the processes of production, development and social change.

4.3. Production Systems Constraints

i. Limited investment in agriculture, with nearly all crop production and livestock raising activities carried out by the traditional producer.

ii. Focus on large-scale development (e.g. mechanized farming) rather than the small producer (crop/livestock raiser) which dominates production in the west.

iii. Scarcity of successful dry land farming models which invite replication.

iv. Inadequacy of farm produce in meeting household food and cash needs.

v. Instability of livestock raising economies due to irregularity of fodder supplies and scarcity of drinking water.

vi. Poor agricultural services.

vii. Inadequacy of pricing policies.

viii. Seasonality of employment with low levels of income.

ix. Limited savings coupled with lack of credit facilities.

x. High rates of inflation with escalating commodity prices.

xi. Decimation of most cash crops (groundnuts and sesame) and livestock herds during the drought, leaving producers few cash-earning alternatives to food crops.

xii. Increased male migration which has left the bulk of agricultural activities, as well as care for the family, to already overburdened women.

4.4. Organizational Constraints

i. Conflicts of interests, such as between nomads and other nomads, nomads/cultivators, mechanized farming/traditional users, migrants from north/indigenous populations in the south, etc.

ii. Absence of land use planning and lack of strict land tenure laws and regulations.

iii. Limited building of capabilities in existing institutions.

iv. Inefficient taxation system.

4.5. Infrastructural and Technological Constraints

i. Low performance of most community services, e.g. health, education, veterinary, marketing, security, water supply, etc.

ii. Mal-distribution of water sources with many areas not adequately served, coupled with a poor performance of existing sources.

iii. A decline in the growth of intermediate centres, thus overtaxing the services available in larger cities that attract migrants.

iv. Inadequate road communication with most of the southern areas completely inaccessible during the rainy season.

v. Lack of appropriate technologies in the production and service spheres.

vi. Shortages in meeting basic household energy requirements, (e.g. fuelwood and charcoal), especially so in some parts of the northern and central zones.

vii. High cost of imported energy with no exploration of alternative sources.

5. Issues in Project Design

Community based development is a science of its own. In implementing its principles we need to draw from a wide field of related philosophies such as Community Development, Adult Education, Agriculture Extension, Agriculture Credit, Co-operative Organization, Rural Animation, etc. With this approach at the back of our minds, project design should cater to the following issues.

5.1. Realization of Regional Priorities

Individual projects should translate regional priorities into action programmes. In a nutshell the priorities are:

i. Expanding the food production base;

ii. Increase and diversification of cash crop production;

iii. Commercialization of livestock raising;

iv. Building an agro-industrial base;

v. Provision of water supplies;

vi. Resettlement of displaced populations;

vii. Improvement of community services;

viii. Provision of adequate infrastructure;

ix. Development of biomass energy supplies and exploration of alternative energy sources; and

x. Application of appropriate technologies;

5.2. Observation of Certain Planning Principles

In context of the above, project design should observe the following planning principles:

i. Address community priorities;

ii. Utilize available resources and join them with outside inputs to achieve attainable results;

iii. Explore new potentials;

iv. Satisfy the interests of different groups in community, through maximizing selection from many project ideas;

v. Communities should clearly see the immediate and long-term benefits from projects;

vi. Projects should be ecologically sound and integrated with other packages;

vii. Activities must be economically feasible;

viii. Whenever possible projects should generate income and resources to be used in other projects;

ix. Build on acquired scientific experiences and previous experimental work carried out in the region;

x. Integrate people's technology with other imported technologies;

xi. Should not be based on statistical averages but on actual capabilities;

xii. Should have a written plan for accountability, and

xiii. Should be able to continue after the implementation phase is over.

5.3. Organizational Considerations

i. Should not yield to political pressure, or favouratism to avoid top down planning;

ii. Link departmental capabilities and agency expertise;

iii. Allow involvement of different forms of institutions and leadership;

iv. Project budgets and department and agency involvement should be revealed to community;

v. Should have a simple accounts system, with accounts readily available any time to answer queries by the community;

vi. Should be easily monitored;

vii. Finally, the project may require food and other forms of support especially during its early phase of implementation, which have to be catered for.

5.4. Educational and Learning Possibilities

i. Envisage training and educational roles in building departmental capabilities and community organizational skills;

ii. Communities may be encouraged to write project proposals which could then be technically enhanced;

iii. Should provide models for replication;

iv. May be used to provide research data in fields that need further exploration such as the economics of ground water for irrigation, the use of alternative sources of energy, etc.;

v. Should support and facilitate the role of women in agriculture with transmission of new skills, access to resources, and organization of productive women's groups, and

vi. Successful projects may be used as demonstration sites for extension of results.

6. Conclusion

This paper attempts to outline the issues involved in project design and implementation. The principles explored are not as easily applied as they are presented. The project assignment is to draw on community resources and initiative to construct new organizational structures for development

based at the village level. By virtue of its nature it involves many complexities. There are no blue prints that could be applied to every case, and each project is a new learning experience by itself.

In social engineering situations such as the ones we are explaining we can only be optimistic. The agencies drawn into the exercise must co-operate closely with local and reginal departments and approach both local communities and the issues involved with open minds. Definitely this is a rolling exercise in planning which entails competence, honesty and a will to achieve. It calls for the physical presence of the planner in the community, the trial of many solutions, the close monitoring of situations, and the immediate correction of actions. Here lies the real challenge to implementing this programme.