KUFRA DEPRESSION

A STUDY IN ECONOMIC DEVELOPMENT

Dr. Mohamed Ibrahim Hassan
Geography Department
Faculty of Arts,
University of Libya.

Precise recommendations and conclusions recorded here are based primarily on a fieldtrip study of the Department of Geography, University of Libya, during the period 19-24 March, 1970.

Agriculture in the Depression forms the principal source of wealth for the majority of the population. The utmost importance of agriculture and its economic and social aspects strengthen the fact that to develop agriculture means to improve the standard of living of the great majority of the population.

The soils of the depression are dominated by three factors of climatic regime, geomorphology, and parent material:

(A) The very high rate of surface evaporation due to the arid nature of climate, leads to a capillary gradient from the subsoil to the surface.

(B) The surface of the depression ground rises and falls to give an uneven relief. In these small basins, ground water collect by lateral seepage. Such water evaporates intensely from these seepage areas with result that salt accumulates at the soil surface and within the upper part of the

soil profiles, creating «Sebkhats» or salted soils in the lowest parts. These saline soils contrast with the non-saline soils which form the majority of the land of the oases.

(C) Parent rocks of the whole depression are sandstones of lower cretaceous age. These are predominantly continental sandstones, with some conglomerates, siltstones, quartzite, and silicified wood. This formation weathers to give soils of sandy texture.

The soils of the Kufra area are broadly of two main types :

(A) Small patches of Sebkhats or saline soils which require drainage works and further study for fertilisation and crop suitability.

(B) The majority of the Kufra soils are coarse textured desert soils which show no accumulation of salts in their profiles. This fact is very important for the behaviour of the soils through irrigation.

Due to low content of organic matter in the soils and the low contents of fine material like silt and clay, the structure of the soils is very weakly developed. The most efficient way to increase soil fertility and crop yields is to apply animal manures or green legume as berseem whose root can be ploughed into the soil. Agriculture in these oases is in great need of a well-planned programme of fertilizer application to the soil which is poor in potassium, phosphate and nitrogen.

The agriculture of the area is based on irrigation from machine or animal pumps. It is envisaged that this method of agriculture will increase in intensity in the future as more and more farmers install machine pumps. From the point of view of water supply, the Kufra area is well supplied for future developments. Fresh water is drawn from an aquifer within the Nubian Sandstone to depths up to 200 metres. Assuming that the present rates of water-extraction are increased even tenfold, the life of the aquifer should exceed 500 years.

To undertake organized measures for increasing the production of animal husbandry, primarily with the aim of meeting the local needs, the following steps should be taken:

(A) The increase of the number of livestock specially cattle, sheep, and poultry.

(B) The increase of productivity per head of animal by applying technical measures.

(C) The enlargement of areas under fodder crops which should ensure balanced feeding through the whole year.

(D) The establishing of an animal feed mixture industry in «Jauf Oasis».

(E) To ensure permanent animal food reserves for emergency use in the drought years.

(F) The organisation of a veterinary service which should cover local demands.

(G) Amelioration of local breeds of livestock with more productive breeds.

(H) The organisation of a livestock processing industry and cold storage facilities to improve production in future.

The radical problem which stands opposite to any development is the lack of good roads either in the depression or outside it. Resultant upon this road-situation, the oases of the depression are isolated from the rest of the country.

Therefore, the depression needs a new set of good roads to improve connection with the oases and to join the whole area with the other parts of the State, specially the northern plains which can absorb the surplus in production of the Kufra-depression oases.