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Nomadism and Desertification:

A Case Study of Northern Kordofan, Sudan*

by

Erkki Viitanen

On many occasions nomads have been blamed for being the cause of desertification. The latest example of this was the Sahel catastrophe in the 1970's. However, there were differing opinions about the causes of desertification. I took the accusation as my working hypothesis, with the alternative hypothesis that different kinds of pressures beyond the nomads' control (such as the spread of agriculture to areas formerly used by nomads or administrative policy towards nomadism) are the actual causes of desertification. The reason for choosing Sudan as an example is that Sudan, although belonging to the Sahel countries, managed better during the drought which in other Sahel countries was catastrophic.

I chose the area of Northern Kordofan as an example of the relationship between nomadism and desertification for three reasons. First, most of the area is semi-desert which becomes true desert in the north and savanna in the south. Secondly, the area is occupied by both agriculturalists and nomads, the latter being mainly blamed for desertification. Finally, the area is a good example because desertification has occurred there, although not as severely as in other parts of Sahel. The mean annual rainfall varies between 100 and 400 millimetres, but the amount of rain varies both in time and space; rainfall being concentrated in the months of July and August. This kind of irregular rainfall pattern implies a very special kind of vegetation. In the northern part of the area where the rainfall figures are lowest, there is only sparse vegetation consisting mainly of grasses and herbs, but also of some trees or scrub bushes. When moving southwards the vegetation becomes denser with more and taller trees. The soils vary from nil in the north to stabilized sand soils (Qoz) in the south with mainly immature semi-desert soils in between. Even the stabilized soils are very sensitive to over-grazing and excessive cultivation, which may cause the sand to become mobile. The whole ecological system is very fragile and sensitive. Due to the very small amount of rainfall and the poor quality of the soils, the production potential is very low and the carrying capacity quite small. The misuse of this kind of land will cause deterioration of the soils and, in the worst case, desertification.

According to the 1958 population census the number of pastoral nomads in the area was estimated to be 113,000 and the number of sedentary cultivators 22,000. The largest tribe of nomads were the Kababish, who numbered about 68,000. (First Population Census, 1958). The sedentary

*For further details, see *Nomadism and Desertification*, 88 pp., Pro gradu thesis, 1981, Department of Geography, University of Helsinki.

cultivators live mainly in the south. Since the Kababish are the largest tribe and have been well studied by Asad (1964), I used them as an example. In general, the Kababish migrate in a north-south direction. Most of the year the household and the main herds are separated. When the rains start from the south (July) they move together northwards until they separate when the rains are over (October). During the dry season the main herds move farther northwest to exploit winter grazing in the desert, while the households start moving back to the dry season well centres in the south (November to January). During the remainder of the dry season (February to June) the households remain nearby the wells with the main herds around them. The main herds move southwards to meet the rains in the end of this period. However, the migration pattern may vary according to the distribution and amount of rain. The variability in length of migration of different groups of animals and people is spread over a vast area by the nomads choosing the right kind of herd composition according to the mobility of different species and taking into consideration their abilities to adapt to different natural conditions.

The traditional system of ecological adaptation has been threatened by modernization. Modernization has led to a breakdown of the traditional administrative system and it has made it possible for the agriculturalists to exploit new areas farther north which were previously the reserve grazing area of the nomads. Perhaps the most important factor in the old system was that the administrative regions correlated well with the cultural regions. The new system, with its new regional boundaries, divides the spatial extent of the rural problems. With modernization the nomads have lost much of their power to decide their own affairs in their own land. With the agriculture pushing from the south, the desert from the north, other tribes from the east and west and finally the administration from above, the nomads are in a situation where they have very little control and their traditional methods of handling natural hazards such as drought have been restricted. At the same time, planners in the administrative centre are very often lacking the information required for a steady development plan.

The question of whether nomads are responsible for desertification cannot be answered simply. The field of nomadism is too heterogenous for that. Differences in ecological setting, cultural background, animals used and the role of agriculture in the nomads' economy make it impossible to generalize about the direct relationship of the nomads to desertification. However, if the problem is considered within a system consisting of nomadism, agriculture, administration and land-use, some common features can be found. The most important of these is the increased pressure on the nomads' grazing lands by agriculturalists. Very often these grazing lands are of the best quality and therefore the loss of them causes a severe increase in the pressure on the land left for the nomads. In many cases, these areas are reservoirs used only during a period of drought. The second important feature is the break-down of the traditional administrative system. Traditionally nomads have fought for the reserve grazing areas, but under the strongly centralized administration this has been prevented by the national army. If the increase in the pressure on land left for the nomads is accompanied by an animal population which is close to the carrying capacity and a period of drought, desertification is likely to occur.

If the nomads of Northern Kordofan (mainly Kababish) are taken as an example, it can be said that nomadism in itself is not the cause of desertification. The overgrazing, which is one cause of desertification, is a result of a process which is beyond the nomads' control. The process is administered from the capital, Khartoum, and it can be described as a process of modernization. In this case modernization implies intensification of land-use. Nomadism is very often considered to be primitive and backward in it's economic thinking. If money is invested in developing nomadism, the project is likely to attempt to settle the nomads and either make them agriculturalists or sedentary ranchers. However, most often the money is invested in the agricultural sector. In Northern Kordofan the spread of agriculture to the areas with little and uncertain rainfall can be considered to be the main cause of desertification. There are two reasons for this. First, the agriculturalists cannot adjust to the sudden decline in rainfall, and they plough the soil even in periods of drought. The ploughed topsoil is prey to the wind and in that way the area may be desertified in one season. The second reason is that these lands taken over by the agriculturalists were the reservoirs of the Kababish and other nomads living in the area. When the drought hit the area, these nomads were not able to migrate southwards to their reserve grazing, or, if they were, they found their former grassland barren. Therefore, the nomads were forced to overuse their lands. The central government is investing in the spread of agriculture and can in that way be held responsible for desertification. The central government administrators are making decisions concerning the use of the case-study area with inadequate knowledge of the prevailing system of land-use there.

When studying desertification or planning a development project for these areas, it must be done in a wider context than what has been done so far. Knowledge of the land-use systems of both agriculture and nomadism must be the basis of the study. Attention should be paid especially to the response mechanisms to natural disasters like drought. The administration should adjust itself to the prevailing situation, and not vice versa.

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