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COMMENTS ON MANDARA MOUNTAIN PROJECT

by

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The Mandara Mountain water project should not be built as planned because it may cause severe health problems and runs counter to the social analysis done for the project. There are good alternatives to the present plans that would not cause health risks and would be more in line with the way people in the area are accustomed to drawing water. The following comments are provided for your information in considering the future of the project. I realize this is late in the project cycle, but the strong health risks of the project as now authorized warrants further thinking now.

Health Aspects

There are a number of indications that there will be substantial health problems caused by the project. Some of these are:

1. Malaria is the sole or contributing cause of more than half the cases of child mortality in the area at present (project paper p. 66). The health team which studied the project believes that the dams alone will lead to an increase in malaria in the area (although the project paper states that it is not thought that it will be significant). The report states: "There is little that can be done to insure that there will not be an increase in malaria due to construction of the dams." (PP, p. 66) In addition, the follow-on project of reforestation will provide an additional increase in the potential for mosquito breeding and therefore malaria transmission.
2. Presently high levels of schistosomiasis are a concern of the project. To lessen the increased incidence a number of precautionary steps are advised. A recommendation is that there be no contact allowed with the reservoirs (PP, p. 68) A follow-on project, however, includes a fish cultivation project that will necessitate close contact (PP, p. 7).
3. Experience with a single dam already built in the area indicates a potential hazard from onchocerciasis. The present dam has increased the presence of black flies, vectors for onchocerciasis. A modification in the run-off pattern for the water over the face of the dam is planned that would reduce breeding habitats. Reliance on modification in dam design to eliminate the habitat for the fly seems too simple a solution for what may be a quite complex problem. Alteration in the stream regime as a result of the dam may cause downstream stream bed changes which might provide an ideal habitat for oncho. The consequences are potentially too severe to ignore.

4. The health report commissioned by the World Bank recommended a security zone of 150 meters (Footnote 3, Social Soundness, p. 26). The present project is recommending 30 meters on the basis that a larger security zone would have serious effects. In this case the security zone is being determined not on the basis of what is necessary or desirable, but on the basis of the maximum amount that can be used that will not cause unacceptable social disruption.
5. Only half the villages currently use a latrine for excreta disposal. Surface disposal of excreta will mean the human and animal fecal material will be washed into the reservoir during the rainy season.

Social Soundness

1. The number of persons served by the dam will be less than claimed in the economic analysis of the project. The Social Soundness Analysis (p. 33) points out that some of the population living within the 2.5 Km and 5 Km perimeters will not benefit from the dam because of the topography which would mean that they would have to climb and descend a mountain to reach the dam. "A significant portion of the population within the theoretical perimeters would not be able to get to the dam" (Social Soundness, p. 34).
2. The new source of water would require a change in the method of water collection. The villages "showed great misgivings" in changing the traditional method of water collection (Social Soundness, p. 35).
3. The loss of fields to be flooded are at present the primary farming area of several families in each village. While there is land available in the village area, it sometimes would be several kilometers away from the habitations (Social Soundness Survey 29, p. 24). This would be a negative benefit counted against the saving of time in collection of water.
4. A recommendation in the Social Soundness Analysis that states "The importance of studying each dam site separately and as an independent sociological unit is of utmost necessity." (out of 21 sites investigated, 9 required modification on the basis of social factors). This has not been done.

Alternatives to Dams

Although the granite structure of the Mandara Mountains does not in general provide extensive amounts of groundwater, there are two areas where wells should be successful: The first is in

valleys where trapped weathered and disintegrated rock material has accumulated. In some cases impervious structures may have to be installed to block natural outflow. This would, in fact, be forming underground reservoirs. Often, however, only wells are required to tap the stored water. A second source of water in the area would be the inevitable fractures in granite. These sites can be identified by using ERTs data and could also be tapped by wells.

One bit of evidence of the potential productivity of the groundwater is furnished by the presence of a year round assured supply found in a well dug to only 8 meters. To check my impressions of the potential of the area for groundwater, I consulted a physical geographer with a detailed knowledge of the area, Len Berry, who confirmed my impressions.

Summary

In summary I think that the project represents unnecessary risks not balanced out by projected benefits.

Daniel Dworkin