AFRICAN WILDLIFE VS. PEOPLE, POLITICS, AND PLANS

Gordon Matzke

Department of Geography, Oklahoma State University, Stillwater, Oklahoma

The confrontation between black and white Africa has made developmental planning decisions in south central Africa inherently political. The decision to build the Tanzania-Zambia railway is one good example of planning within given political constraints. In particular, a specific situation is examined to ascertain the various alternatives available to wildlife planners trying to cope with the railroad's passage through the Selous Game Reserve. It is found that an unconsidered possibility might have been a more satisfactory planning decision than the one taken.

The conflict between independent black Africa and the white minority regimes of southern Africa has created a major reshuffling of traditional political and economic ties, especially in South and Central Africa. Nowhere has the shift been more marked than in Zambia.

Landlocked Zambia has been tied through its colonial heritage to the south. The accidents of recent history, however, have put Zambia on the frontline of the struggle to bring down the white minority governments that control her own lifelines. All of the direct rail routes essential to the export of her abundant copper resource pass through either colonial or minority rule territories (Figure 1). Nevertheless, she refuses to allow the country's geographical position to determine her policy, especially toward her white neighbors whose racial policies the Zambian government has condemned as immoral. (1, p. 148). Consequently, she has embarked on a political and economic policy bent on a disengagement from the constraints of the south in order to diversify the country's dependency relationships. The Italian-built pipeline, completed in 1968, to Dar es Salaam from the copper belt is a prime example of the implementation of this policy (1, p. 150).

The most ambitious project designed to sever ties with the south is the Tanzania-Zambia Railway. This undertaking was assured in 1967 when the People's Republic of China agreed to finance and construct this 1,000 mile link to the sea (Figure 1). The project was rejected by the International Bank for Reconstruction and Development and by several western governments. It was believed that the railway's economic prospects were very doubtful (1, p. 177). However, in spite of economic forecasts, the two African governments concerned leaped at the opportunity given them by China. They followed this course of action as the logical extension of their political and moral imperatives. After two years of preliminary study, the construction began in early 1970 and is expected to be completed in 1972 (1, p. 178).

Before the proposed railway could be constructed, a number of political decisions had to be made concerning the desirability of several technical alternatives. One was the decision to extend the use of the Zambian gauge of three feet and six inches all the way to Dar es Salaam. Consideration had been given to bringing the Zambian gauge only to the nearest Tanzanian railhead at Kidodi (Figure 2), or to the border, where an expensive and time-consuming transfer of goods would have been needed. From the viewpoint of Tanzanian self interest, it would have been desirable to maintain an interconnecting rail system of one gauge throughout the country. This additional mileage could have been connected to the 1,600 existing miles of track in the northern half of the country (2, p. 340). However, the political solidarity of these countries against the south kept Tanzania from acting in self-interest alone.

The decision to extend the Zambian gauge to Dar es Salaam necessitated approximately 140 miles of extra track to duplicate the present Dar es Salaam to Kidodi line (Figure 2). The route chosen by the Chinese survey team spawned a heated debate over its proper siting and resultant land use between several ministries in the Tanzanian government. An analysis of the issues involved is the goal of this paper.

THE GAME RESERVE

About 100 of the new route's 140 mile

Proc. Okla. Acad. Sci. 51: 120-126 (1971)

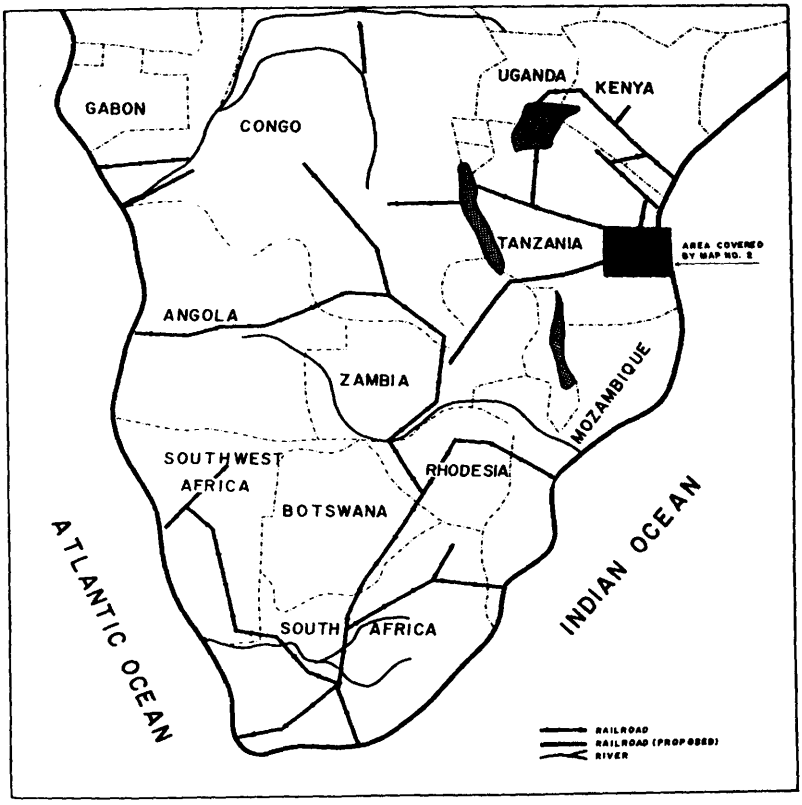

FIGURE 1. Rail routes of southern Africa.

will be within the boundaries of the Selous Game Reserve, and herein lies the difficulty. For decades both the colonial and independent governments have practiced, in Southern Tanzania, a policy of the separate development of human and wildlife areas. With this as policy, the government has regularly moved whole villages out of good game areas while simultaneously providing a large staff of armed game scouts to eradicate, or at least control, wild animal populations in areas specifically designated for agricultural development. The resultant land-use pattern shows a concentration of villages in certain areas, thus simplifying the administration of essential government services such as schools, health facilities, police and crop protection (Figure 2). At the same time, the large area provided for wildlife encompasses a complete ecological unit capable of maintaining a balanced animal population without disturbing the human activity in juxtaposition to the reserve. This policy has proved to be a sound one, but it is this same policy that is now being jeopardized by the proposed railway.

THE DANGERS

The incursion of the railroad into the game reserve will almost certainly be followed by demands for people to be given access and to participate in settlement along

the rail line. If this scenario is correct, a conflict is sure to arise to the detriment of both human and wildlife populations. The heretofore inviolate policy of separate development of human and wildlife resources will be dangerously eroded.

The problem can be most easily understood by an examination of the landforms and land use present along the proposed route. With this in mind, it might then be possible to suggest alternatives to the proposed route or safeguards to be implemented if the route remains unchanged.

The westernmost area, through which the rail line would travel for about forty miles, varies from gently undulating to mountainous terrain. It is almost universally covered with miombo (Brachystegia) forest in association with long perennial grasses. The animal population is significant, but scattered, and apparently subject only to minor movements reflecting local variances in the availability of desired grazing or browse. Water is plentiful at all times; there is never a need for the wildlife populations to concentrate in any one place. The area is heavily infested with tsetse flies which, along with the poor quality of soils, make it quite undesirable for human habitation. As evidence of this, one need only look at similar areas adjacent to the game reserve to the north where there has been no settlement even though no legal barriers prevent it (Figure 2).

The central section of the northern Selous is unique for southern Tanzania in that large areas are only lightly forested with a mixture of miombo (Brachystegia), tagalala (Terminalia), and mikambala (Acacia) and are carpeted with shorter annual grasses. The terrain is generally flat with one gentle ridge, Kinyanguru (Figure 2), running east-west for approximately twenty miles. This ridge is central to the problem at hand as shall be seen later. Water in the central area shows considerable seasonal variation ranging from scarcity to flooding with the season. This variation, together with the shift from areas of perennial to annual grasses, probably accounts for the large seasonal concentrations and subsequent migrations of ungulates that occur here (Figure 3), but are more characteristic of places such as the Serengeti in the north than of the Selous of southern Tanzania.

The ridge previously mentioned is important for several reasons. First of all, it is a dry refuge offering short nutritious grasses during the rainy season in what otherwise is a sea of mud, water, and long grasses which are unpalatable to many animals. A combination of these factors, not yet totally understood, results in large numbers of wildebeest, zebra, giraffe, impalla, *etc.* retreating to the sanctuary of the ridge with the onset of the rainy season.

Secondly, it is this high ground which has been chosen as the route to be followed by the railroad. It is, from an engineering point of view, an excellent rail site. The ridge provides dry unbroken passage for some thirty miles, while skirting the rainy season quagmires along the Mgeta River to the north (Figure 3).

Kinyanguru Ridge would be an especially attractive site for agricultural settlement since its elevation and rocky soil would serve as a dry base from which to till the black cotton soils of the Mgeta Valley. Formerly, a number of villages were, in fact, removed from this area upon establishment of the game reserve.

The easternmost section of the railway route through the northern Selous is in essentially flat country. It grades from thick miombo forest eastward into the long grass plains of the Mkigura Mbuga that are flooded with water for six months of the year. The area suffers from heavy flooding during the rains and severe drought during the dry season. Consequently, it appears to have only sparse wildlife populations. However, very little attention has been given the area by Game Division personnel, and any ecological observations are cursory at best. The first Game Department track penetrated the area in November, 1969, and uncovered a game fence seven miles in length as well as other evidence of heavy poaching. This might have had a significant influence on the area's game population.

Settlement in this area would be an extremely unlikely possibility since the land is either parched or flooded for most of the year. Such settlement that does occur north of the reserve is possible only because of the permanent waters of the Ruvu River.

The Chinese proposal for a route through the game reserve met with strong opposi-

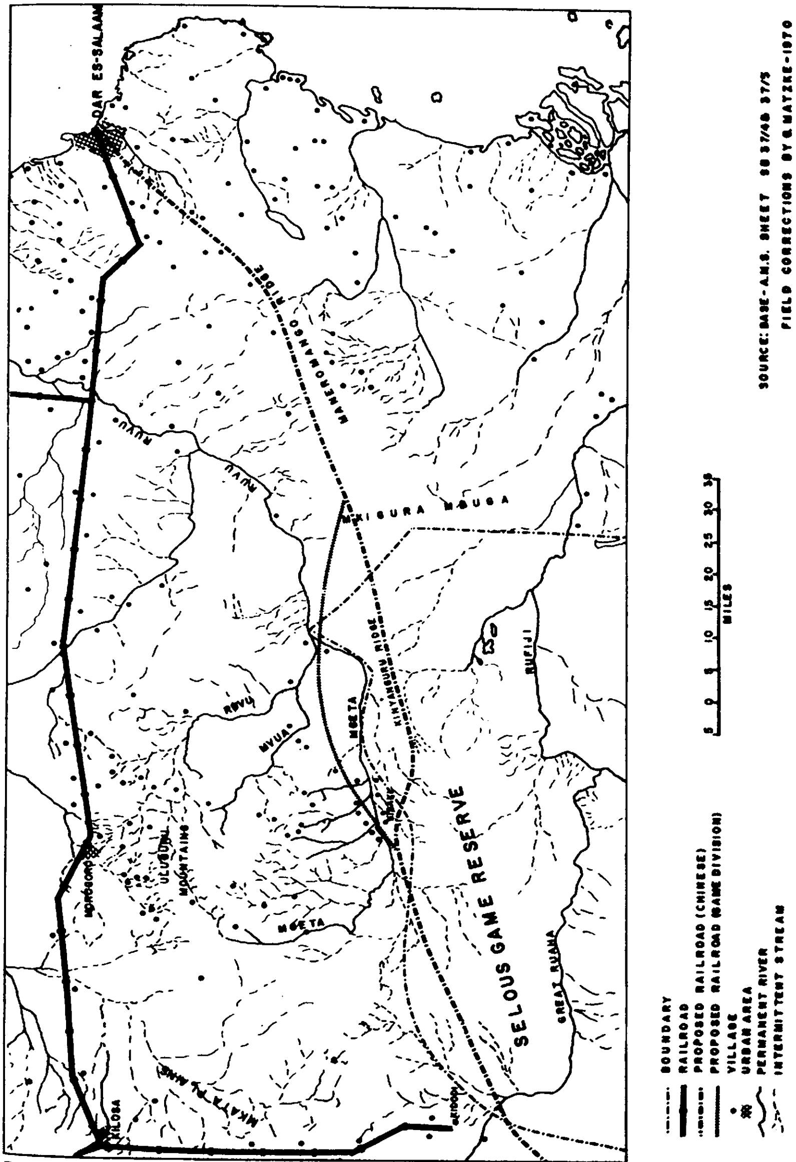

FIGURE 2. Railroad route proposals, Kidodi to Dar es Salaam.

tion from several quarters of the Tanzanian Government. The Division of Agriculture and the Division of Local Government argued that passage through the uninhabited game reserve would serve no useful developmental function for the region south of the Uluguru Mountains.

The fertile lowlands stretching from Kisaki to Dutumi and beyond (Figure 3) have frustrated numerous development plans. Kisaki gained a measure of stature during German colonial times as an administrative center along a well-traveled inland trade route. However, after the railroad passed north of the Uluguru Mountains, Morogoro gained prominence and Kisaki is now just a sleepy bush village (Figure 2).

The government attempted to pump new life into the area by establishing a village settlement scheme at Bwakira Chini (Figure 3) in 1965. This scheme was to be the first in a series outlined by a report of the British Directorate of Overseas Surveys, Land Resources Division. The scheme proved unsuccessful and no small part of the blame can be laid to inadequate communication and transport links with the rest of the country.

The objections to the route proposed by the Chinese were valid. The people assigned the responsibility for this area's development did not want to see this new transport facility placed where it would do them no good.

The strongest objections to the Chinese proposal came from the newly formed Division of Natural Resources (formerly Fisheries, Forest and Game). This division of government was in the midst of the large Selous Development Project. The railway threatened to frustrate its plans by passing through the Game Reserve. Their objections were several. (a) The railway would take away from the "wilderness" concept, a prime attraction to tourists who visit the Selous. (b) The railway might encourage others to violate the policy of separate people *vs.* animals areas for southern Tanzania. (c) The attraction of the railway would lead to demands by farmers for access and settlement along its route. If these demands were taken up by some enterprising politicians, they might prove impossible to resist.

PLANNING ALTERNATIVES

In view of the many objections, the Division of Natural Resources made a counter proposal to the Chinese route. It stated that there were no serious complaints with the Kidodi to Kisaki section of the route, but that the section from Kisaki to a place south of the junction of the Ruvu and Mgeta Rivers could seriously disturb the ecology of the Kinyanguru Ridge. Because of the importance of this particular piece of real estate as a wet season "life raft" for large animal populations, preservation was essential. If it was seriously disturbed the wildlife carrying capacity of large areas to both the north and south would be greatly reduced. Consequently, the Division of Natural Resources proposed that the railroad be diverted across the Mgeta at Kisaki and pass through the agricultural lands south of the Uluguru Mountains and then cross back over the Mgeta River near the Ruvu-Mgeta Junction where it would once again join the original route (Figure 3).

This proposal met several objections previously discussed, *i.e.,* the railroad would pass through the settled areas while leaving the critical Kinyanguru Ridge undisturbed. However, the new route had its drawbacks. It required five additional bridges over permanently flowing streams (Figure 3). In addition, several miles of rainy season swamp had to be crossed at considerable expense.

The pros and cons of both routes were presented to the Chinese Survey team for consideration. In view of the additional time and expense involved in any route other than that following Kinyanguru Ridge, they dissented and suggested that the movement should be of the people to the railroad, not the railroad to the people.

The rejection of the alternate route should have been expected. Even in less politically charged situations, it probably would have been unrealistic to expect an abandonment of the ideal technical site for one less desirable and more expensive. However, in the political climate that gave birth to the Tan-Zam Railway, reasoned decisions took a back seat to politics and any delays were tantamount to sabotage.

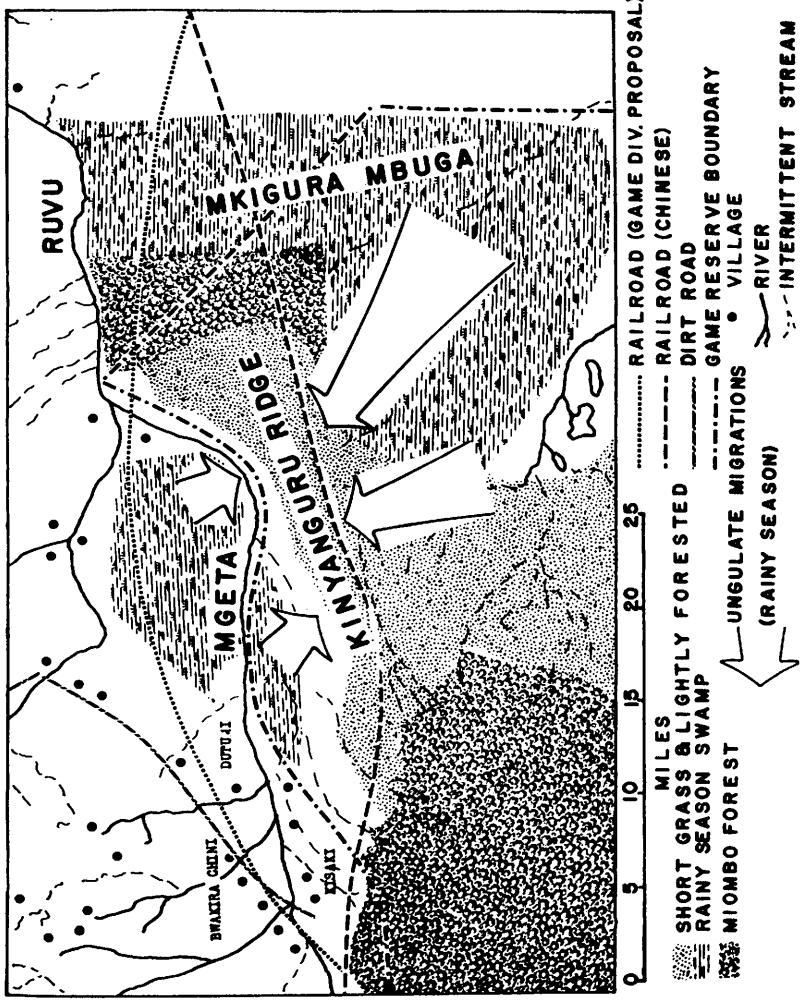

FIGURE 3. The biogeography of the northeast Selous.

SUGGESTION FOR A SATISFACTORY DECISION

It is here suggested that there was another possibility, a plan that could have met many of the objections and stood a good chance of being accepted by all parties concerned. The first step might have been to accept the Chinese proposal, in light of the political and engineering realities, as being the only route available. The second step needed was to assess, in a realistic way, the ecological consequences of the projected railway. Such an assessment would have shown that the railway by itself would not be a disaster to the wildlife populations of Kinyanguru Ridge. Railways presently pass through two different national parks in East Africa (Tsavo and Mikumi), and the damage has been no greater than an occasional dead animal. Real danger to the ecology of the area would result if human settlement, in association with the railway, took place. The limited space, competition for resources, and demand for protection would create serious problems to the sustained maintenance of the wildlife populations in the northern Selous, especially along Kinyanguru Ridge, which is where settlement would most likely occur. Because the dangers are inherent to settlement, and not the railway, the focus for remedial action should be toward securing guarantees from the highest level of government that the game reserve's uninhabited status will remain inviolate. To ensure this, the only place a station should be built and a stop allowed is near Kisaki, at the one point where the railway leaves the Selous.

The objection that the people of the Mgeta Valley would not have access to the railway could have been met by an upgrading to all weather status of the road from Kisaki eastward. With this in good condition, it would be possible for their needs to be met by one station, at Kisaki. It would be unrealistic to assume that each village would have had its own station, even if located on the rail line. While this station would be constructed to meet the needs of the agricultural population, it also would give the Selous Development Project an all-weather means of supply, which it currently lacks.

Development planners in Africa are continually torn between their planning ideals and the planning realities. A plan is of no value unless it can gain approval and be implemented. The possibility of rejection increases as one narrows the parameters considered in the construction of a plan design. This was illustrated by the planning alternative proposed by the Tanzanian Game Division and analyzed above. It failed to give sufficient weight to political and engineering considerations while only using the argument of access to the railway insofar as it supported Game Division desires. Only when East African wildlife planners look beyond the confines of their bailiwick will the wildlife resource begin to assume its true potential for making substantial developmental contributions.

ACKNOWLEDGMENTS

Acknowledgment should be made to those who were so helpful in providing the previously unreported information on details of the incident which is anaylzed in this paper. In particular, Brian Nicholson and Constantias Mley of the Tanzanian Division of Natural Resources should be mentioned for their help as colleagues concerned with the Selous Development Project.

REFERENCES

1. B. V. MTSHALI, *Zambia's Foreign Policy*, Current History, March, 1970.
2. U. S. Department of the Army, *Area Handbook for Tanzania*, D. A. Pam. No. 550-62, Oct., 1968.