

THE SOCIAL ENVIRONMENT AND POTENTIAL IMPACTS

Land uses and tenure

The proposed NAR project lies more or less in the centre of eastern Caprivi, and midway between the Trans-Caprivi Highway from Kongola to Katima Mulilo and the gravel road running south-west to Chinchimane and onwards. Most people in this area of Caprivi live in villages comprised of tens or hundreds of homes which lie along the main roads. Thus, few people reside away from the roads.

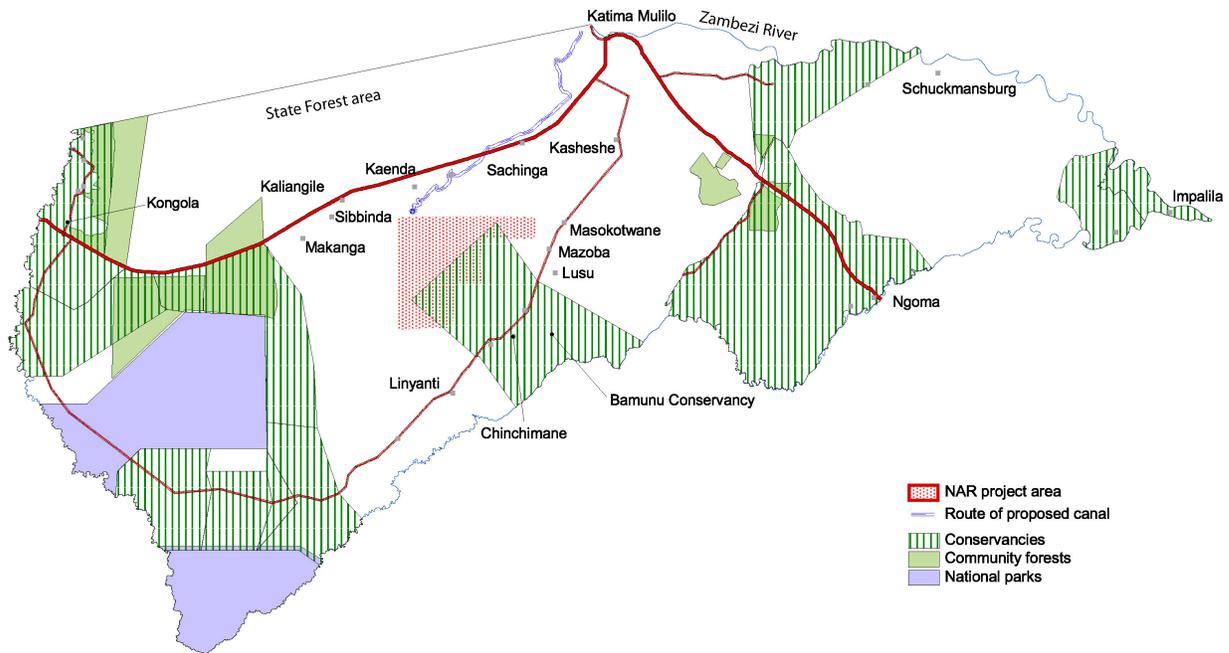


Figure 1: Eastern Caprivi and the location of the NAR project area and its canal from the Zambezi River at Katima Mulilo.

The NAR project area is predominantly used for cattle farming, largely with animals based fairly permanently at cattle posts. Indeed, apart from three fields belonging to a tiny village of 3 or 4 families some 500 metres north of the project boundary, no other crop farming is evident in the area.¹ Neighbouring villagers doubtless hunt occasionally although there is now little game in the NAR area (see page xx).

Most of the area to the west of the NAR project is also used for cattle farming around cattle posts. To the east and north, however, most cattle are based at their owners' homes, grazing outwards within a few kilometres on a daily basis.

¹ The fields were present and visible in the aerial photographs taken in 2007.

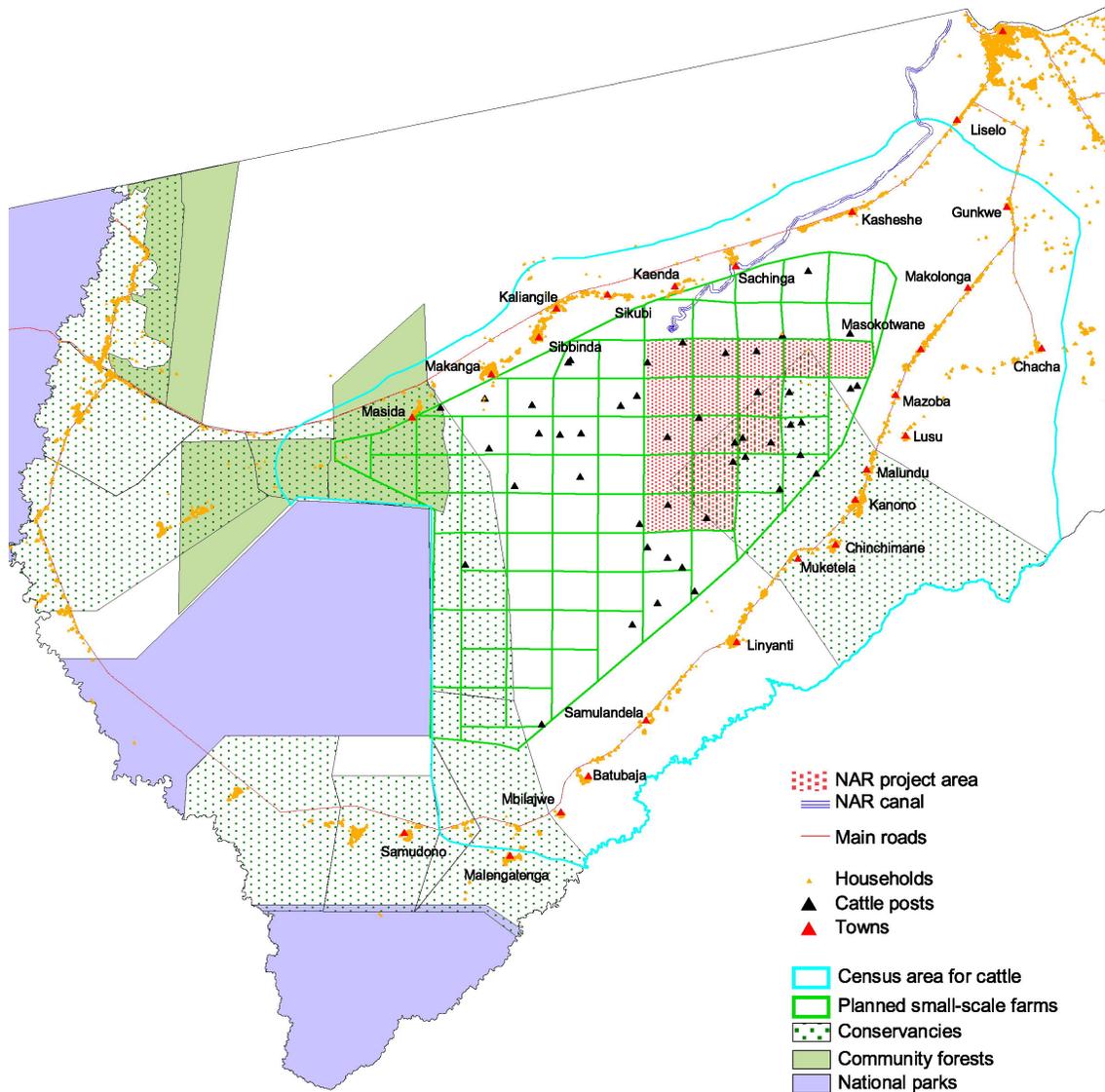


Figure 2. The NAR project area within the larger area of planned small-scale commercial farms. Each household was mapped off aerial photographs taken in 2007 and is shown here as a small orange triangle.

There are at least 16 cattle posts in the extended project area of 30,000 hectares but only one in the 5,000 hectare development area. Based on livestock counts during vaccination campaigns in 2011, it is estimated that approximately 3,000 cattle graze in the extended project area at a stocking rate of about 10 hectares per animal.²

² Census data were obtained for 31 vaccination points in and around the project area as well as the small-scale commercial farm zone. The area outlined in Figure 2 as ‘Census area for cattle’ encloses the total grazing area for all the cattle counted at the vaccination points. This area covers some 372,700 hectares. Cattle numbers in the area amounted to 33,105 in 2011; 35,841 in 2010 and 32,349 in 1996. Vaccination campaigns in Caprivi are considered to be comprehensive in coverage and so these figures are likely to reflect the number of cattle fairly reliably.

About 7,800 hectares of the NAR project area is within the Bamunu Conservancy. Aspects concerned with this overlap are discussed below, but it also draws attention to a wider debate that prevails in Eastern Caprivi regarding the balance between land under conservation management and that used solely for farming. As Figure 1 shows, large areas of eastern Caprivi have been set aside as national parks, conservancies or community forests, and several more of these conservation areas have been planned. While the extent and number of conservation areas is often acclaimed by environmentalists, many residents in Caprivi argue that too much land has been devoted to conservation. Moreover, the number of human-wildlife conflicts has increased in recent years, a trend that has caused added resentment towards conservation.

Attitudes towards the NAR project are often divided along this dichotomy. Traditional leaders, business people, regional councillors and other leaders who derive most of their income from jobs and commercial enterprises generally favour the project. By contrast, most local residents who depend to a greater degree on local, often commonage resources are against or fear the NAR project.

The project area lies entirely within a broader area of 148,084 hectares that was gazetted as a 'designated farming area' in 2007 (Government Gazette 3878:3). This was planned to be divided into fenced farms, each covering about 2,000 hectares and allocated to an individual for development as a commercial production unit. The number of farms to be developed was originally estimated to be either 75 or 81. Fifteen of those farms have since been allocated to the NAR project (Figure 2).

The gazetting of the designated farming area was done under the auspices and approval of the Mafwe Traditional Authority. However, development and allocation of the farms has been beset by a variety of problems, with the result that none of the farms have been allocated to individuals. The difficulties include disagreements about how beneficiaries would be selected, and conflicting land uses between private, fenced farms and the three conservancies that overlap the small-scale farm area. There have also been differences of opinion between the Mafwe, Mayeyi and Mashi traditional authorities on how the allocations were to be made. Questions have been raised of what would happen to people and cattle that would be displaced by the development of the farms. These questions remain unresolved.

Although Bamunu was only registered as a conservancy in March 2011, it has been developing over the past 7 years. Its first application for registration to the Ministry of Environment & Tourism was submitted in 2005. This was done with the encouragement of the Mafwe Traditional Authority, apparently because there was no community conservation project inside the Mafwe area. The Traditional Authority's later allocation of part of the conservancy to the NAR project was a surprise to local residents in Bamunu.

The whole project area falls within Sibbinda Constituency, one of six constituencies in Caprivi. NAR began negotiations in 2007 to obtain a lease over its project area with the Ministry of Lands & Resettlement and Mafwe Traditional Authority. Initially, the project was planned to cover some 90,000 hectares. This was later reduced to 50,000 hectares

and then finally to the present 29,783 hectares. A certificate of leasehold (Certificate number CCLB (LH)-0001) was signed with the Caprivi Communal Land Board (representing the Ministry of Lands & Resettlement) on 3 September 2010. The leasehold covers 5,000 hectares and lasts from 1 October 2010 to 30 September 2035. However, the terms of the leasehold make provision for the project area to be expanded in five increments of 5,000 hectares, each increment being approved upon the reaching of a stipulated milestone.

The annual rental is set to increase from N\$8,650 in the first year, to N\$21,625 in the second, to N\$43,250 in the third, N\$64,875 in the fourth and then N\$86,500 in the fifth year. Thereafter, the lease fees will be negotiated between NAR and the Caprivi Communal Land Board. The lease between the NAR and Communal Land Board is a formal, legal agreement in terms of the Communal Land Reform Act (No. 5 of 2002) and its Regulations in 2003.

NAR also entered into separate informal agreements with the Mafwe Traditional Authority. The final terms of these agreements have not been made public, but an agreement signed on 21 November 2008 by NAR and the Mafwe Chief stipulated that annual fees would be paid of US\$0.25 per hectare of undeveloped land, US\$2.00 per hectare of developed land and 5% of annual profits.³ Leaving aside the profits, the Mafwe Traditional Authority would earn some N\$360,000 per year once the 20,000 hectares of irrigated land has been developed. NAR has also agreed to pay US\$18,000 (equivalent to about N\$144,000) per year into a community development fund administered by the Mafwe Traditional Authority.

Social and economic environment

Outside the NAR project area, the great majority of neighbouring resident households depend partially on cash off-farm incomes from wages, business earnings, remittances and social grants, and partially on in-kind incomes from farming. The estimated median expenditure in 2010, and therefore income, of each person (adult or child) amounted to between N\$2,000 and N\$3,000 each year.⁴

About three out of every five (58%) households own some cattle, but only 15% of families have moderate or larger herds of more than 30 head. There are few other livestock, the only exception being goats which are owned by one in six (or 16%) households.⁵

³ It was initially agreed that 3% would go to the Mafwe Traditional Authority and 2% to the other three traditional authorities in Caprivi. However, according to the Regional Councillor of Sibbinda this has been amended so that all 5% would be paid to the Mafwe Traditional Authority.

⁴ Central Bureau of Statistics. 2011. *An atlas of poverty in Namibia*. National Planning Commission, Windhoek.

⁵ Based on analyses of Agricultural Censuses conducted by Central Statistics Bureau, National Planning Commission, reported in Mendelsohn, J.M. 2006. *Farming systems in Namibia*. RAISON, Windhoek. 80 pp.

Although cattle belonging to households to the north, east and south graze within the project area at times, most of the animals based at the cattle posts are owned by relatively wealthy people who live and work in Katima Mulilo and other commercial centres in the country.⁶ Their animals are tended by herders employed to care for the cattle. If each of the 16 cattle posts in the NAR project area is owned by a different person and there are roughly 3,000 cattle, then each owner may have about 200 animals. This figure is very much an average, since cattle ownership and other measures of wealth are highly skewed.

Cattle off-take rates in Caprivi are about 10% per year.⁷ If 10% of the cattle grazing in the project area were harvested and sold at an average of N\$4,000 per head, an annual income of N\$1.2 million would be generated for their owners.⁸

All households grow a variety of crops, of which maize, sorghum and mahangu (pearl millet) form the bulk staple and are grown on the largest field areas. Vegetables are grown in small gardens close to homes. To the north of the project area, all crops are grown on dry-land fields watered only by rain. To the south of the project area, especially close to the Linyanti Swamps, most households have both dry-land and flood recession fields. The former are close to their homes while the latter are along backwaters of the swamps. Maize is grown predominantly on these wet, often peaty soils.

Bamunu Conservancy now has a hunting concession and a trophy hunter has been recruited. A quota of 6 elephants has been requested, and each elephant would earn N\$120,000 for the conservancy. Members of the Conservancy expect that much of the elephant hunting would occur in and around the NAR project area since other parts of the conservancy are more densely populated by people.

There are 15 schools within 5 kilometres of the project area. Most are located in the villages to the north along the Kongola-Katima Mulilo main road. The majority are combined schools that offer primary and some secondary grades, usually up to Grade 10. Health centres or clinics are located at Sibbinda, Linyanti, Masoktowane, Kanono, Chinchimane and Kasheshe.

⁶ People residing around the project area who are relatives of the wealthier absentee cattle owners also have some of their cattle amongst the herds based at cattle posts.

⁷ MAWRD. 2000. *Livestock Marketing in the Northern Communal Areas of Namibia (Livestock Producer Marketing Strategies and and Skins)*. Northern Regions Livestock Development Project (NOLIDEP); Liagre, L. 2000. *Cattle Marketing in Northern Namibia: A Commodity Chain Approach* NEPRU Research Report No. 20.

⁸ Prices paid for cattle depend on the quality (grade) and weight of the carcass. An average Sanga might weigh 200 kilograms and be sold at \$20/kilogram, thus fetching a total price of N\$4,000.

Social and economic impacts

While the focus of the EIA and its socio-economic component is on the first 5,000 hectares to be developed, it is senseless to limit assessment of impacts to this area since the development of the 5,000 hectares is but an interim stage towards the full project over 30,000 hectares

The social and economic impacts described here are divided into those that are likely during implementation of the project and those expected once the project is implemented.

Loss of current land uses

As observed above, the project area is currently used to graze approximately 3,000 cattle. Although it is not known just how many cattle owners will be affected, the number is likely to be substantial, perhaps between 50 and 150 people. These comprise owners of the 16 or more cattle posts in the area, and residents who live locally, in such surrounding villages as Kaenda, Sachinga and Mazoba.

In terms of customary law and practice, the Mafwe Traditional Authority has complete rights to have allocated the project area to NAR. The same is true for the allocation of the area by the Ministry of Lands & Resettlement to NAR, since the Communal Land Reform Act (No. 5 of 2002) makes clear that communal land vests in the State. This is generally interpreted as meaning that the State owns all communal land. In addition, the government's compensation policy (as approved by Cabinet on 1 April 2008) states that no compensation will be paid for the loss of commonage grazing.

As a result of these rights and stipulations, the allocation of the project area to NAR means that it has to be vacated by its current users. What will happen to the cattle has not been determined, although the Mafwe Chief and his senior councilors suggested during a meeting with the EIA team on 24 November 2011 that the cattle be moved westward into areas zoned for small-scale commercial farming or into the so-called State Forest (see Figure 2). However, the 'small-scale farm' area to the west is already heavily stocked and grazed, and the use of the State Forest area is limited by an absence of surface water, poorer pastures, stock theft from Zambia and likely resistance by the Ministry of Agriculture, Water & Forestry. To our knowledge, there are indeed no areas within eastern Caprivi that could easily accommodate an additional 3,000 cattle. And if the animals were to be generally dispersed additional pressure would be placed on pastures, perhaps leading to over-grazing. The cattle owners would also have to negotiate access to grazing with people who already use the grazing.

It is thus difficult to imagine where the cattle owners can move. While it is most unlikely that the cattle owners will dispose of their animals and give up cattle farming, this might be possible if the owners were offered adequate monetary compensation for their losses. As mitigation, it might be possible to offer the cattle-owners livestock feed which will be produced as a by-product by the NAR project. This would involve considerable adaptation by the farmers, requiring them to shift from herding to a more formal feedlot husbandry system.

As a rough approximation and assuming that the land had value similar to that used for cattle farming in the nearest freehold farming area in Namibia, the total value of the project area could be about N\$15 million.⁹ If 10% of the cattle are sold each year, their owners might earn about N\$1.2 million annually.

What is certain in this assessment is that there will be considerable resistance by cattle owners unless suitable measures to accommodate their cattle and wishes are found, or they are satisfied by compensation. An equivalent challenge faces the Ministry of Lands & Resettlement plans to allocate the remaining small-scale farms. If these are given to people who do not have established rights to the farms, the Chairman of the Caprivi Communal Land Board warned that substantial social and political unrest might ensue.¹⁰

Demands for compensation will perhaps be fuelled by local residents who are against the NAR project. Unlike people who accept the project and decision to alienate the land, those who resist the project will probably only be content if substantial compensation is offered. The extent of opposition towards the project is hard to assess, both in terms of the number of antagonists and the strength of their resistance. In the files of the Ministry of Lands & Resettlement there is a written objection submitted by the headman of Kaenda on behalf of Kaenda residents, in which the fear is expressed that this community will lose its land, especially land used for grazing. During field consultations, the EIA team found that many local residents and users of the NAR project area were either against the project or denied any knowledge of the project's plans.

Who should pay the compensation if that is adopted as mitigation? Most people would probably argue that NAR should provide the payment as developers and users of the land. However, NAR has already obtained the land from the Mafwe Traditional Authority and Ministry of Lands & Resettlement under terms and payment for a lease. In addition, it is the Mafwe Traditional Authority and Ministry of Lands & Resettlement that decided that the cattle owners would lose their grazing rights. By rights, therefore, responsibilities for paying compensation rest with those who deprived the current users of their access to the land.

Similar considerations are due to the Bamunu Conservancy for its area of overlap with the NAR project area. Although Bamunu has apparently yet to derive any revenue from this area, in principle it has lost the opportunity to earn income from trophy hunting and other potential wildlife values in the NAR project area. This could amount to several hundred thousand N\$ each year (see page 60). Negotiations are probably required to determine the nature of compensation and who would offer the compensation. Bamunu was formally registered by the Ministry of Environment & Tourism after NAR had been allocated a lease by the Communal Land Board, but the Mafwe Traditional Authority

⁹ Farms in the Grootfontein area currently sell for a minimum of N\$1,000 per hectare. If that value is discounted by 50% because there are no improvements in the project area (such as fences, cut-lines, crushes, water pipelines etc) the 30,000 hectares might have a sale value of N\$500 per hectare, i.e. N\$15 million.

¹⁰ Personal communication to JM Mendelsohn and others during a consultative meeting at Linyanti on 7 February 2012.

allocated the area to Bamunu in 2005. This was long before NAR began negotiations to lease the area. Members of the conservancy suggested that another suitable area might be allocated to the conservancy in compensation and/or a lease fee could be paid for the use of its land within the project area.

Although Lake Liambezi (when full) is 10 to 15 kilometres away from the nearest farm boundary, the possibility of fertilisers and pesticides from the project reaching this wetland and fishery has been raised (see page oo). In that event, the chemicals may reduce the productivity of the Lake's fish resources which were estimated to produce harvests valued at some N\$34 million in 2011.¹¹ It should be noted that this fishery is ephemeral since the Lake has frequently been dry, often over considerable periods. For example, the Lake was dry between 1985 and 2004.

The risk of project failure

The project holds much promise. A great many jobs will be created, land that is perceived to be un- or under-utilised will become commercially productive, the traditional authority will earn large sums of money, and that area of Caprivi and the region as a whole will be boosted economically. Cumulatively, these and other benefits would far outweigh the losses of grazing for about 3,000 cattle and potential loss of revenue to Bamunu Conservancy.

Many other projects of this kind, and with similar promise, have been proposed in Caprivi and in other northern communal areas since independence. Most have aimed to develop irrigation schemes which would produce large volumes of food for export and domestic use, with the added allure of making Namibia 'food secure'. Likewise, many jobs were in the offing and the direct and indirect economic benefits were to be substantial. All the projects were proposed by foreign investors.

Not one of these projects has been implemented. As a consequence, many traditional leaders, government officials, regional councillors have become increasingly skeptical and distrustful of development proposals. "Too many promises" is a frequent and widely heard observation. As a result, serious development proposals may be brushed aside or given less attention than they deserve, which could lead to the loss of legitimate and valuable investments to Namibia.

Expectations have already been raised and so there is probably little that can now be done to mitigate against the risks of project failure. However, further developments and public discussion should probably be treated with some caution, since the risks of this project failing appear significant. For instance, NAR have not been able to meet some minimal costs of development in paying relatively small sums for the lease of the land to the Communal Land Board and the Mafwe Traditional Authority, and the consultants appointed to undertake the feasibility study. NAR have also been unable to appoint a replacement local manager for the project. Even the feasibility study has been partially

¹¹ Tweddle, D. & Hay, C.J. 2011. *Data collection and analysis. Report on workshop conducted from 26-27 October 2011, Katima Mulilo, Namibia.* Report of the MFMR/NNF/WWF Project for Integrated Co-management of the Zambezi/Chobe Fisheries Resources, 15 pp

funded by the South African government's Department of Trade & Industry because NAR did not have adequate funds for this study.

Much of the project's attraction rests on the assumption that many jobs will be created, with current estimates amounting to about 3,000 new jobs created directly by the project. These would consist of an estimated 2,276 permanent staff and 660 secondary staff of domestic workers, part-time labourers and people employed by schools and health services. Hundreds, perhaps thousands, other jobs may be created indirectly by enterprises that support the project and its employees (see below). However, there is also a risk that the number of people employed directly may turn out to be much smaller if the project uses greater levels of mechanization. This may happen if labour management, costs and availability become a problem, or if equipment becomes available to make the project's operation more economical, for example.

However, it should be noted that one of the NAR project's stated goals is community and economic upliftment. In addition, mechanisation itself runs the risk of problems due to inadequate supplies of spare parts and expertise for its operation and maintenance, for example.

Socio-economic impacts on neighbouring areas and the Caprivi Region

If the NAR project employs about 3,000 people and if each employee supports four family members, some 15,000 people may require housing, water, sanitation, health services and fuel for lighting, cooking and heating. If 30% of this population is of school-going age, places for about 5,000 pupils will be required.

Together with the several thousand houses built for employees many retail and service enterprises will be needed. Each of these will create more jobs and incomes to support family members. If the housing and associated enterprises and services are concentrated, a town of significant size will develop, probably one approximately half the size of the present Katima Mulilo and much bigger than any other urban area in Caprivi.¹² For example, if 5,000 pupils are to be schooled and the town is some distance from the existing schools, between 5 and 10 new schools will have to be built (if each school was to have places for between 500 and 1,000 pupils). A large, well-equipped hospital will be needed, along with service stations, banks and retailers of food, furniture and liquor, amongst others.

The effects of socio-economic development will be most focused in such a town, but neighbouring areas will also be transformed to a degree from their present rural, farming character into cash-based income societies.

While present planning suggests that employees will be housed within the project area, it is possible that employees of the project will also be housed in existing villages, perhaps some along the Kongola-Katima Mulilo arterial highway and some to the south in the vicinity of Kanono and Malundu (see Figure 2). Until more detail is available on the

¹² Katima Mulilo's population amounted to 27,600 people in 2001. At an annual growth rate of 5%, the town would have had about 44,000 residents in 2011.

planning for housing, it is premature to speculate on the exact impacts of these aspects of the project's development. However, further development should be conditional on detailed investigations and planning being conducted to ensure that negative impacts are kept to a minimum and benefits are maximized.

There is a need for similar investigation and planning to determine the exact course of the canal to carry water from the Zambezi River to the project area. Provision has already been made in the concept design for crossing points, protective barriers and escape ramps. In addition, it has been agreed that local residents will be allowed to take water from the canal at designated off-take points connected to the canal. It has been noted elsewhere in this EIA (see page oo) that elephants and other large animals are likely to be attracted by the presence of water and this may lead to human-wildlife conflicts in the area.

The current concept design and planning do not, however, take into account the probability that a ribbon of human settlement will develop along the canal as a result of people being attracted by the availability of water. The number and distribution of new homesteads will depend on how readily and where new off-take points are provided.

Finally, the project is likely to bring significant economic benefits to other parts of Caprivi, in particular Katima Mulilo as the region's economic capital. Most of these benefits are expected from the establishment or expansion of enterprises that directly or indirectly support the project, such as suppliers of plant and equipment, accommodation and general retailers.