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CHANGING LAND-USE IN
THE EASTERN ZAMBEZI VALLEY:
SOCIO-ECONOMIC CONSIDERATIONS

By

Bill Derman

Department of Anthropology & African Studies Centre
Michigan State University

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Centre for Applied Social Sciences
University of Zimbabwe
P O Box MP 167
Mount Pleasant
HARARE
Zimbabwe

WWF - World Wide Fund for Nature
Programme Office - Zimbabwe
P O Box CY 1409
Causeway
HARARE
Zimbabwe

Members of IUCN - The World Conservation Union

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PREFACE

This study by Professor Bill Derman is intended to provide an overview of socio-economic dimensions which have influenced, and often controlled, land use in the eastern Zambezi Valley of Zimbabwe. The study also provides a wider contextual framework to several more detailed studies of the ecological, economic and social components of land use, agriculture, and natural resource use and management being undertaken by CASS and WWF. Much of this work is in support of Zimbabwe's Communal Areas Management Programme for Indigenous Resources - CAMPFIRE, but has wider implications for the development of sustainable land use practices and resource management regimes in the region.

Professor Derman's work was jointly funded by CASS and WWF. Within the CASS programme the study is located as one of CASS's long term investigations of temporal change in the socio-economic dimensions of land use under communal tenure. Within the WWF programme it formed a component of a study entitled "*Land use changes, wildlife conservation and utilisation and the sustainability of agro-pastoral systems in the Zambezi Valley*" (WWF Project ZW0024), funded by the European Union under contract No. B7-5040. This project covered both the Sebungwe region in the north west of Zimbabwe and the eastern Zambezi Valley.

DR D. H. M. CUMMING

WWF Programme Office - Zimbabwe
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INTRODUCTION

The report examines land use policy and practices in the Eastern Zambezi Valley that includes the valley portions of Guruve, Muzarabani and Mount Darwin Rural District Councils.¹ The Eastern Valley is defined for this report's purposes as the area from the Chewore Safari Area to where the valley escarpment meets the Mozambique border south east of Mukumbura. The report examines past, present and future bases of land use planning. It assesses the strengths and weaknesses of present and future plans, and the degree to which these approaches fit with the complex social realities of eastern valley life at the end of the twentieth century. It is hoped that this report will be used by residents, development practitioners, and researchers to assist them in contextualizing land use changes in the eastern Zambezi Valley.

Complex intersections among wildlife, livestock, tsetse flies, agriculture, and national economic and political dynamics characterise the eastern valley. It is in this context that valley land use policies and decisions are made. Simultaneously, the valley has become the target destination for in-migration by commercial farm workers, retrenched miners and communal area farmers. It also is home to some of the best CAMPFIRE programmes in Zimbabwe along with other consumptive and non-consumptive natural resource potentials.

Land use planning in the eastern valley has been characterised by highly varied strategies making this area an ideal context for examining the efficacy of these approaches. These include efforts to eradicate the tsetse fly and attempts to control in-migration. Communities have also been encouraged to determine their own land use plans and central planning setting out where rural residents should live, and what and how they should cultivate. These widely varied strategies are important to consider and evaluate as Zimbabweans debate the next series of planned interventions in the eastern valley. The comparison among different development strategies in the eastern valley itself provides striking contrasts between the western eastern valley with its emphasis upon wildlife-based strategies and more eastern valley approaches which focus upon agricultural intensification.

The contemporary context for examining developments in the Zambezi Valley is in flux and presents many uncertainties. First, the basis of land tenure in both the communal and commercial areas is being seriously debated. The Land Tenure Commission's report should be public shortly, if it is not already. The Commission challenges current thinking about the rights and responsibilities of both government and local communities. In particular, it emphasises the need for secure tenure in the communal areas (based on communities) and smaller scale farms than currently exist in the commercial farm areas. Second, Members of Parliament are now entering into dialogue with their constituents whose views may be reflected better in the formulation of national government policy and legislation. These positive developments are counter-balanced by the separation of the Ministry of Lands and Water Development from that of Agriculture thus dividing that which would appear to be inseparable. This may make land use planning both more difficult and less accountable. In addition, despite a great influx of new resources (particularly from the United States Agency for International Development, USAID) the Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) will find it difficult to maintain its emphasis upon: a) providing benefits to "producer communities"; and b) fostering management approaches and participatory involvement. Large donor

organisations have tended to favour centralized planning rather than decentralized, adaptive management strategies. Their willingness to change remains to be demonstrated. In sum, this appears to be a time of transition with new openings and possibilities for arguing for basic changes in the conceptualization of, and the practice of, rural development.

The perspective that I adopt rests on reconceptualizing the Zambezi Valley. In addition to the unpredictability of the natural system, there is a need to examine changing human interventions, particularly those that affect the operations of the "natural system" (Lee 1994). Contrary to popular images, the valley is not exemplary of wilderness in Zimbabwe. Instead, I argue that it represents a very large ecosystem experiment. Kariba dam was constructed to the west, in 1959, flooding the Tonga's prime agricultural lands and altering the ecology. Downstream of Kariba to the east, many communities were removed to create a habitat for animals. Further east still, and along the different tributaries of the Zambezi, a major attempt to create an environment more favourable for human settlement is underway. This involves programmes to eradicate the tsetse fly; thus permitting an increase in both human and livestock populations, bore-hole construction and irrigation projects that have made the valley attractive to migrants and a site of numerous agricultural intensification projects. From this perspective, the valley has been subject to multiple experiments, the outcomes of which remain unknown.

One long-term ecological and human experiment has been the effort to control and eradicate the tsetse fly. This effort has been ongoing since 1917 but without full understanding of what the consequences would be if the effort were to be successful. The measures used to eradicate the fly have included the mass destruction of wild animals, the movement of human populations, aerial spraying, ground spraying, etc. This long-term continuous effort remains a site of contestation between development planners and valley residents since the presence of tsetse reduces to some measure the possibilities of keeping livestock.

The valley also needs to be reconceptualized spatially. Historically, it has always been linked to the plateau through trade, political incorporation, and ecologically, through the multiple rivers that flow from the plateau into the valley.² Viewing the valley in terms only of its east-west linkages may result in further inappropriate development interventions.³ From two standpoints then, both the degree of human intervention in the valley and the valley's profound historical ties and connections to the plateau, the valley may be best thought of not as a wilderness area but rather as the product of purposive and non-purposive human activity.⁴ The historical evidence indicates that prior to the Portuguese, Muslim traders participated in "fairs" or markets between Kariba and the Luangwa River dating from the fifteenth century. The valley, rather than being viewed as a wilderness, has been an important route into the heart of southern and central Africa (Newitt 1973). Thus the factors that have driven valley history have changed over time while the ecology of the valley itself has also been altered. These changes are a combination of long-term historical continuities and discontinuities. Relatively frequent drought has remained a constant feature of recent history as has export trade. On the other hand, drought coping mechanisms and the nature of exports have dramatically changed.

The report is organised into eight sections:

1. A brief historical overview of the Eastern Zambezi Valley;
2. A brief review of economic, development and environmental interventions from national, provincial and district perspectives;
3. A brief overview of the activities of a few non-governmental organisations (NGOs) and how they intersect with the activities discussed above;
4. An examination of migrants and migration as their continued influx will dramatically affect all planned interventions;
5. A consideration of the diverse responses of different populations to the rapid changes taking place;
6. An examination of the major planned development initiatives in the eastern valley, including the Dande Irrigation Scheme, the expansion of ARDA at Mushumbi Pools, and the Mid-Zambezi Project Phase II, and proposed expansion of Campfire's activities;
7. A brief discussion of the strengths and weaknesses of different levels of governmental and administrative organisation in the valley context; and
8. An examination and analysis of some policy options in the light of changing trends in patterns and strategies.

PART 1

The Eastern Zambezi Valley: An Historical Overview

1.1 Trade

The Zambezi Valley has long been an avenue for trade and contact among the peoples of what are now termed Mozambique, Zimbabwe, Malawi and Zambia. Unfortunately, there is little archaeological investigation yet completed to help us understand the long-term adaptations that human populations have made to the vast riverain environment that constitutes the eastern valley. In addition to its role as a highway for commerce, it was the environment through which first East African and Arab Muslims and then the Portuguese established themselves in Southern Africa. The Portuguese created prazos⁵ (land grants initially given only to Portuguese who in turn had rights to both land and labour) in the Zambezi Valley in the seventeenth century. Isaacman (1972) and Newitt (1973) have convincingly demonstrated that despite efforts by the Portuguese to have the prazos develop commercial agriculture, they depended instead on the tried and true methods of trade, serving as middlemen linking the Indian Ocean coastline with the African interior. The staples of this trade were gold and ivory from the interior which was exchanged for cloths, beads and other trade goods.⁶

David Beach (1980; 1994a; 1994b) has argued that the eastern Zambezi Valley - known in the late precolonial days as Dande and Chidima - was an essential element within the broader economic and political structures of the Shona kingdoms. During this period, there were multiple and overlapping links between the high plateau and the valley many of which continue through the contemporary period. Indeed, these influences extended well into what is now Mozambique. Both Newitt (1973; 1995) and Isaacman (1972) have provided detailed accounts of how the Portuguese operated in the Zambezi Valley over time. The Shona domination of both the plateau and the eastern valley was challenged first by the Portuguese and then by the British South Africa Company. One of the important consequences of the Portuguese colonization was the formation of the VaChikunda who are an amalgamation of several valley ethnic groups linked closely to the Portuguese-dominated prazo system.⁷ Whatever their past historical formation, these groups came to constitute the VaChikunda and are currently viewed as long-term residents within the valley.

The other major population groups in the valley prior to recent migrations were a range of Shona peoples now known as the Korekore (including in the past, the Tande and Tavara). Like elsewhere in Zimbabwe, in the valley there has been a uniting of sub-groups into larger sub-ethnicities. Indeed, many Vachikunda now speak Korekore and their ethnicity is becoming less and less relevant to the contemporary period. The exceptions are those royal or chiefly families who emphasise their genealogies in order to compete for chieftainship and headmanship.

The other long-term resident group whose history still has not been clarified are the Vadema or, as Hasler (1993) calls them, the Mvura who live in Chapoto and Kanyurira Wards of Guruve District. They appear to have close connections through the spirit medium to the people of Kanyurira. The Vadema have been subjected to much bias and

stereotyping by other valley residents as well as outsiders. They are also known to seek independence from most development initiatives.

Ethnic cleavages, to the degree that they exist in the valley, do not appear to be between these older valley groups but rather between them and more recent migrants. Ethnic stereotyping of valley residents is common. This was the practice of many representatives of the Rhodesian government who believed that cultivation in the valley was quite primitive, as were the cultures of the people. While District Commissioners noted that it was possible to obtain three crops a year from alluvial riverain areas where the lands were planted to maize, rapoko, sorghums, beans, ground peas, sweet potatoes, pumpkins, etc. they nonetheless concluded that because only a hand hoe was used, the agriculture was primitive.

These stereotypes persist today. For example, there is the widely held view that the valley Korekore are far more conservative than other Zimbabweans and have not adopted cattle and cotton in comparison to more recent migrants.⁸ Marja Spierenburg's M.A. thesis (1990) on Mahuwe examines this assumption. She found that there were no significant ethnic differences in either cotton production or livestock ownership. In my own surveys, wealth, education and wage employment are the predictors of agricultural practices and cattle ownership, not ethnicity, a finding which confirms Spierenburg's results.

This said, there are political contestations taking place between the older Korekore and Chikunda families and more recent migrants. This point will be discussed below after a brief consideration of the two major colonial processes which have transformed the valley and which are also linked to each other: colonial land policies and tsetse control.

1.2 Drought and Famine

Most of the Zambezi Valley is listed in Zimbabwe's agro-ecological zones IV and V. In general the area is characterised by high temperature, relatively low and sporadic rainfall, and frequent drought. This susceptibility to drought appears to be characteristic of the last five-hundred years. Beach (1977) cites Portuguese sources as observing the importance of gathering during frequent drought years. This is in direct contrast to Palmer (1977) who argues that famine on the Zambezi was almost unknown. Scudder (1962) and Colson (1971) cite problems in the production system of the valley Tonga which led to frequent hungry years. These patterns continued during the colonial period as documented by Iliffe (1990). For example, there was a serious drought in northern Zimbabwe in 1903. *"Men from the Dande flocked into the highlands, seeking employment with more fortunate Africans, bringing their sheep and goats to trade, offering even their daughters."* (1990: 36). Iliffe comments that the new colonial government did little or nothing to relieve the famine of 1903. The government was soon to change its response to famine resulting from drought. The major argument of Iliffe is to point out how both the causes and responses to famine changed during the colonial period. There has been a major difference to date between the colonial and independence period: droughts even though extraordinarily severe have not led to famines due to responses of the national government and international donors. Nonetheless, the frequency of drought remains a critical issue for all future planning in the valley and surprisingly it is virtually absent from serious consideration in most planning documents.

1.2.1 Colonial Land Policies

There is little need to review the historical processes which led to the current land division in Zimbabwe since these have been well described. What perhaps needs to be emphasised is how the Native Land Husbandry Act (NLHA) led the Rhodesian authorities to determine that the Tribal Trust Lands which they created were over-populated both by people and by cattle. The NLHA was passed in 1951 and the 1950s were devoted to preparing for its implementation. This led the colonial government to look to the valley as a partial solution to the perceived over-population in the highland plateau areas.

The Native Land Husbandry Act of 1951 sought to limit the area that African farmers could cultivate to 8 acres and to limit livestock holding to six units per household. In Sipolilo (what is now Guruve District), the Native Commissioner determined in 1958 that the Reserve was over-populated by 3,559 families who would have to be removed. His proposed solution involved the eastern valley area where the colonial state had reserved large tracts of land. In the same year, the 1,148,000 acres of what had been unassigned land in the Zambezi Valley was officially designated the Dande Special Native Area. It later became part of Sipolilo Tribal Trust Lands. Thus in 1958 the Native Commissioner proposed:

Those that fail to get land at initial allocation and those who return to the reserve and fail to acquire a farming right [in the plateau area of Sipolilo] may request permission to move to the Dande Special Native Area under their own arrangements. (1958: 3)

In presaging current conflicts in the valley, the District Commissioner noted that the farmers¹ average holding in Sipolilo was 12.5 acres which would often yield 50 bags of maize. He was clearly told by the residents that if their landholdings were reduced they would be losing land rightfully allocated to them. In addition, they stated that the land was not just for them but also for their children. This concern for land availability for future generations continues. It is a growing and volatile issue.

Simultaneously, although independent of the NLHA, some areas which had been designated Native Reserves were cleared of Africans and given to European settlers. In the Sipolilo area of Gota, 1,572 residents were forced out. Of these, 171 moved to the Zambezi Valley in 1957 and 1958.⁹

This legacy of forced movement is not lost on valley residents today. While most development plans operate in a historical vacuum, this is not the case with most residents. The Mid-Zambezi Rural Development Project (see below) and potentially other projects produce strong negative reactions among their potential beneficiaries due to collective memories of forced re-allocations. It is also worth noting that in the 1950s as is the case today, the major constraints to development for Dande (including Guruve) were identified as the tsetse fly, water development and the lack of irrigation.

A parallel process of forced relocation was taking place in the old Mount Darwin area which then included Muzarabani. The District Commissioner of Mount Darwin determined that the veld lands were over-populated and thus new lands and homes had to be found for the excess population. He hoped to move people from the Chesa Native Purchase Area to Muzarabani. However, water development by way of dams was not feasible, and drilling

bore-holes largely proved unsuccessful in Muzarabani. In addition, the District Commissioner commented that the infection rates for malaria in Muzarabani was eighty percent thus giving him pause about moving large numbers of *people* into the valley. Health issues for a greatly expanded valley population have never *been* seriously studied or considered.

The earliest road into the valley descended from Mt. Darwin and was then extended across the valley floor. Thus, the eastern valley continued to be relatively inaccessible by motor vehicle until 1958-59 when the road from Guruve to Dande was built. Administrative tours in the valley had to be done on foot, particularly in the west. Residents had to climb the escarpment by foot as well. A new paved road from Centenary to Muzarabani was completed in the mid-sixties. These roads facilitated greater administrative contact with the valley as well as the relocation of peoples. During the late sixties and seventies they were also used for troop movements. Tsetse Control constructed tracks throughout the valley served as a major means for settlement from the 1950s through the present.

1.2.2 Tsetse and the Valley

Throughout the valley's recent history, a consistent component of government programmes has been tsetse fly and trypanosomiasis eradication. This effort has involved the killing of game, movement of peoples, barring of cattle from infested areas, the erection of game and cattle fences, the development and use of trypanomicides, cattle dips and, more recently, the erection of targets to attract and kill the flies.

The tsetse fly was regarded as one of the most serious threats to life in Southern Rhodesia, and a campaign against the fly (or THE FLY as it is written in many documents) has been waged since the 1920s with varying degrees of success and much controversy. During the 1930s, game control killed approximately 20,000 animals per year. This programme of relatively indiscriminate killing was not significantly challenged until the 1950s. In 1954 for example, 37,000 animals were killed while in 1955 over 41,000 were eradicated. This led to the "Commission of Inquiry on Human and Animal Trypanosomiasis" which reorganised Tsetse Control into a new Department of Tsetse and Trypanosomiasis Control Organisation (DTTC) which was established in 1956. In 1961, DTTC was absorbed into the Department of Veterinary Services as the Tsetse and Trypanosomiasis Control Branch which it remains today. A second review of the tsetse programmes took place in 1964 at which time the Government continued to approve of game elimination but concluded that a selective policy towards wild animal species eradication would be more effective combined with other control measures. The major rationales for tsetse elimination were to prevent the fly and disease from spreading into commercial cattle herds and to permit cattle holding in the valley. Thus, an expected outcome of these game control measures was to permit an increase in the numbers of both domesticated animals and people in the valley - particularly in the east. The elimination of tsetse was seen as an unmitigated good until the 1980s. An unstudied consequence of this long-term effort to eradicate the tsetse fly has been the construction of roads and tracks throughout the valley to enable personnel to build fences and to move into isolated areas. Many of these tracks served as roads for people to open up new homesteads. This pattern was intensified after the construction of the new roads down the escarpment from Guruve to Mushumbi Pools and Centenary to Muzarabani.

Barrett (1994) observes that it was only in the 1980s that serious consideration was given to what would the valley be like in the absence of tsetse and what the modalities of land-use

planning should be. Barrett himself notes that the mere presence of tsetse flies has not been a barrier to the expansion of livestock.

Current evidence suggests that the extensive use of cattle in the Zambezi Valley's agricultural system is relatively recent although the presence of cattle in the valley is not. Zimbabweans prior to independence were quick to adopt ox and plough in many areas but not in the valley. Three of Barrett's elderly male informants said that cattle were the in the valley in 1921 but that they were removed by government during the 1930s, only to be officially reintroduced in the 1940s. Even Chief Kanyemba owned cattle in the 1920s. Cattle were permitted east but not west of the Musengezi River in the mid-1940s (Muzarabani 1943, Kaitano 1945 and Chiswiti 1947). The cattle were not used for ploughing until after 1945 in the valley.

1.3 Colonial Resettlement in the Valley

Of equal significance to efforts to eradicate the fly and its wild animal hosts was the belief that intensified land use and increased human populations would lead to decreases in the numbers of tsetse flies and in the incidence of trypanosomiasis. Therefore, the Rhodesian government used farmers to open up tsetse infested areas in the valley. For example, some residents from Sipolilo District (followers of the Chief Sipolilo), termed squatters by the colonial authorities because of their use of European land, were moved into tsetse areas of the valley in 1957. They were originally due to go to an area near Chiroti Gate in Urungwe Reserve but instead they were placed in the Rengwe Valley, where the tsetse fly was more prevalent but the land was quite fertile. One-hundred and fifty four families were brought in and settled in this area, a part of the Urungwe Special Native Area. These families were required to sell their livestock prior to moving and were not permitted to reacquire cattle for more than a decade.¹⁰

The outcome of both tsetse control and the colonial vision of the valley as a solution to the over-crowded Reserves and Tribal Trust Lands was that the movement of settlers into the valley began in earnest in the 1950s. The movement was more marked in the east because settlers were permitted to keep cattle there. This increased human settlement was a combination of choice and coercion as is described below. In addition, cotton cultivation was advocated by the colonial authorities beginning in 1925. The Native Commissioner argued for a road to be built to permit opening up a large tract of country suitable for cotton growing and sugar plantations.¹¹ Efforts continued in both Mount Darwin and Guruve in the 1930s to introduce and expand cotton cultivation. Cotton was adopted sooner in the east - closer to the road from Mt. Darwin - than in the west. Even so, the crop remained relatively unpopular during the 1940s according to the Native Commissioner for Darwin District. It made little progress till the 1950s and even then encountered quite variable success. For example, the Native Commissioner of Mount Darwin reports that: "Cotton was disappointing being affected by the heavy rainy season and badly attacked by boll worm and stainers. Only 28,852 lbs. were sold [in 1955] compared with 59,779 lbs. in 1954. This crop has lost its popularity with the natives."(p. 6) In short, smallholders have a long and mixed experience in cotton cultivation. The reduction of tsetse and the push to settle in the valley meant that they, both on their own and with the blessing of the colonial government, could enter the valley and take up new agricultural technologies - much as had been done elsewhere in the country.

The 1950s and 1960s saw a slow but steady increase in human and livestock populations in the eastern valley. During this time the Rhodesian Government demarcated Guruve and Mount Darwin Districts for the implementation of the Native Land Husbandry Act as discussed above. The implementation of the NLHA had the effect of creating a crisis of land and livestock threatening both residents' land holdings and livestock holdings. It is not surprising therefore, that during this time, Sipolilo was a stronghold of the African National Congress until it was banned. The solution adopted to the perceived over-population of the highland areas was entirely top down and involved resettlement of people to the valley. This creation of land scarcity and livestock over-population led to residents on the plateau to move into the valley. The early movement of settlers into the valley meant they had to give up schools for their children and reasonable access to health care. The infrastructure to support an increasing population was not put into place by the colonial authorities. The Rhodesian authorities did not really act until faced with a growing insurgency against their rule in the 1960s.

As a very belated response to African grievances, and in an effort to enhance rural development (including in the Zambezi Valley), the Rhodesian Government formed the Tribal Development Corporation which developed two large estates in the valley: one at Muzarabani, the other at Mushumbi Pools. In addition, an irrigation scheme was developed in Gutsa. The object of both the Muzarabani and Mushumbi estates was to grow cotton and provide poles of development in the hitherto "undeveloped valley". These schemes were to serve as both models for and employers of Zambezi Valley smallholders.

All the schemes were closed during the war and were reopened under the auspices of the Agricultural and Rural Development Authority (ARDA) which took over the farms and estates of TILCOR. The irrigation scheme at Gutsa in Muzarabani was flooded out in 1973 not to be restored.

1.4 The War for Liberation in the Valley

For several reasons, including the long borders with Mozambique and Zambia, both ZIPRA and ZANU were very active throughout the valley. The Rhodesian government responded by creating protected and consolidated villages in the valley. In the first phase, those living north of the game fence had to move south and live in concentrated villages. In the second phase, toward the end of the war, all valley residents were moved to keeps which were located at Angwa, Mushumbi Pools, Mahuwe, Muzarabani and Hoya. In addition, the liberation army forces crossed back and forth from Zambia and Mozambique. The valley became a zone of intense fighting.

Many valley residents left the area during this period. They stated that they left the valley to avoid the fighting, to seek schooling or to seek employment. While no statistics appear to have been kept, mortality rates in the keeps were very high. Residents remember this period as one of extreme hardship.¹²

The war has had several consequences for the contemporary period:

1. The tsetse fly re-emerged ;
2. wildlife populations increased;
3. human populations were concentrated and decreased; and

4. the importance of the valley for the over-all liberation struggle committed the government to develop it following independence.

The decades of combating the fly were reversed, according to Barrett (1994), by the war. The cattle population in the eastern valley peaked in 1972 at approximately 23,000 head. Thereafter, the numbers dramatically declined. Losses of cattle were most severe when people were placed in protected villages or keeps and were unable to look after livestock. In addition, the Rhodesian Ministry of Internal Affairs (which had absorbed Native Affairs) confiscated cattle from villagers for sale to the Cold Storage Commission in order to insure payment of collective fines imposed upon them for allegedly assisting the freedom fighters. Farmers report that once they were placed in the protected villages, the area under cultivation was greatly curtailed, especially as the number of draught animals declined. Large areas reverted to forest and bush increasingly occupied by wild animals, which had not ventured into the area before the war for fear of being hunted. Barrett argues that this movement of animals was aggravated by the creation and filling of the Cabora Bassa dam in the mid-1970s. This dam and its lake are located just to the north of the Mozambique border in the Mid-Zambezi Valley. The drought of 1978 probably also contributed to substantial game movement. These wild animals brought tsetse flies with them. Because the remaining cattle were not kraaled at night, there was much opportunity for cattle-game contact which contributed to the spread of trypanosomiasis.

1.5 The Human and Livestock Populations

The human population along with the cattle population appears to have dramatically declined between 1965 and 1969 and 1982. In short, the liberation war appeared to cause a marked reduction in the valley's population. This can be demonstrated for what was called the Dande Special Native Area, now known as lower Guruve. It is more difficult to do for the current districts of Muzarabani and Mt. Darwin because of missing figures and changing boundaries.

The rapidly increasing human population is a phenomena of the postwar years, not before. Thus, the marked population increases are between 1982 and the present. While I will review the figures for the eastern valley as a whole later, a focus on the area now known as lower Guruve illustrates this decline.

The Native Commissioner estimated the population in the Dande Special Native area as 26,665 in 1960 and 27,805 in 1961. Both these figures are estimates. In 1965 the Rhodesian government conducted a Delineation Exercise which along with reports on the conditions in all districts also included a census. The Delineation Report for Guruve District done by chieftaincy totaled 6,237 households in the valley area. If the average size of households is estimated at 4.7 this results in a total population of 29,000. If, on the other hand, the average size of the household is estimated at 6.0 the resulting population totaled 37,000. I have worked with an average household size of 5.0 to simplify matters which leads to an estimated population of 31,185. In 1969, in contrast, the total population of the area was given as 11,690 in the census of 1982. This large drop in population is probably best accounted for by problems in the census of 1982 and the war's consequences. Hawkins and Associates in 1982 attempted a projection based upon earlier population estimates and their own sample surveys to calculate that lower Guruve's population was

17,631 in the same year of 1969. These figures are further supported by the results of the 1982 census calculated that 18,000 people lived in this area.

If these figures are to be believed, between 1965 and 1982 the population of lower Guruve declined significantly. Clearly, the war caused large numbers of people to leave the valley to escape the fighting. Thus in the 1980s the valley was characterised as empty masking the fact that many people who might still retain identification with, and claims to the area, had left.

The result has been low approximations of the valley population. For example, one of the central planning documents - ARDA's Mid Zambezi Valley Development Study (1982) - assumed a population in lower Guruve of 18,000 people. The estimate provided by the FAO/AfDB Project Appraisal (1986) stated there were approximately 19,000 people between the Manyame and Musengezi Rivers.¹³

The census of 1992 was the most complete carried out by the Government of Zimbabwe. In addition, the statistics by ward agree reasonably well with those produced by Cutshall for Chapoto, Kanyurira, and Chisunga wards in Guruve District (1989; 1990; 1991). The comparison of 1965 raises important questions, if the numbers are anywhere near correct. Chapoto and Chisunga Wards (even with the addition of Kanyurira) have much lower populations in 1992 than 1965 whereas there has been a great increase in Chitsungo Ward and the new ward, Neshangwe. (These wards have been divided more recently even further due to their large populations.) With current information, it is not possible to assess if these declines in population are accurate or if it is a lack of accuracy in the 1965 delineation exercise. One can hypothesise that the populations were reduced following the war and the placing of residents in the Angwa Keep due to the dramatic increase in numbers of wild animals, tsetse flies and the relative isolation of these areas. As residents of these areas had a greater choice of where to live some chose to remain in the valley but in less isolated portions, others may have decided to leave altogether. Below is a table which attempts to see patterns in population change from the 1965 Delineation Exercise and the 1992 census for lower Guruve. A comparable effort to assess population figures for Muzarabani and Mount Darwin was not possible because of shifts in boundaries and the lack of chiefdom by chiefdom population figures. The over-all growth rate for Mashonaland Central Province is 3% without taking into account migration.

1.5.1 *The livestock population*

The growth of the livestock population has parallels to the human one. What's interesting is Barrett's view that the cattle population in the Mid-Zambezi Valley peaked in 1972 - at around 23,000 head compared with a figure of 18,600 for 1990. Mr. Zengeni, the Veterinary Assistant based at Chitsungo estimated that for the whole Dande area from Hoya to Mushumbi there were 24,000 cattle in 1994.¹⁴ Thus, the rate of increase has been higher than that for the human population. The numbers of cattle in the newly created Mhokwe Ward (taken from Chitsungo Ward) was 1,786 cattle and 1,115 goats. For the now reduced Chitsungo Ward there were 3,310 cattle and 2,126 goats. For Neshangwe 3 and 9 (the division of old Neshangwe) he had 789 cattle. The average number of cattle, owned by a stockowner is between five and six depending upon the ward. Upper Guruve has 70,000 cattle with 11,000 livestock owners. For Centenary District the number of cattle has increased from 832 in 1982 to 15,983 in 1990. Cunliffe estimates the annual growth rate in cattle populations for Gutsa and Muzarabani to be 26% and 36% respectively. It is

even higher for goats and donkeys. How long this high rate of increase will continue is difficult to know. In short, there is a rapid increase in dependence upon livestock for draught power as well as capital.

TABLE 1
Population Figures for Lower Guruve
[By current Ward]

WARD/OR FORMER CHIEFDOM	1965 POPULATION	NUMBERS OF HOUSEHOLDS	1992 POPULATION	HOUSEHOLD NUMBER	AVERAGE HH SIZE	Percentage Increase or Decrease
01 CHAPOTO*	3 495	699	1462	309	4.7	-58%
02 CHISUNGA**	7 030	1406	2 702 +[737]	529	5.1	-48%
03 NESHANGWE***			7 859	1702	4.6	see Chitsungo
04 CHIRIWO****	4 765	953	1965	441	4.5	Not possible to give estimate
05 MATSIWO A*****	7 265	1453	4 594	983	4.7	
06 MATSIWO B			6 180	1257	4.9	
07 CHITSUNGO	8 630	1726	10 280	1972	5.2	+210%
08 KANYURIRA	-	-	737	120	6.1	see Chisungo
TOTALS	31 185	6 237	35 779	7 313		+14%

Assumptions: 1) that taxpayers are equivalent to household heads

2) that boundaries are approximately the same

3) that household size is on the average 5 for 1965

* Chief Chapoto's followers living along Manyame are include in Chitsungo's totals for 1965

** It is difficult to figure exactly who are those residents who leave for Kanyurira and thus there are no figures for Kanyurira in 1965. This also means the numbers for Chisungo are high for 1965. I combined Chisungo and Kanyurira for the percentage decrease in 1992.

*** Neshangwe is included in Chitsungo since Neshangwe was a sub-chief and Chitsungo the full chief

**** Chief Chiriwo's territory was much larger in 1965 than the ward in 1992

***** These figures are lumped but they include part of Matsiwo in 1965

PART 2

Development Interventions in the Eastern Valley

2.1 Early Post-Independence Initiatives

Partly due to the eastern valley's critical importance in the war, the new Government of Zimbabwe sought to bring development to an area which was central to the liberation struggle. This resulted in a series of post-independence initiatives to increase the number of schools, roads, clinics, etc. to the valley. The first study undertaken after the war was carried out on behalf of the Agricultural and Development Authority by Hawkins and Associates in 1982. They had several recommendations for what they thought the best land use patterns would be for the eastern valley:

- 2.1.1 The development of tourism based on angling, boating, etc. along the Zambezi River at Kanyemba and on the Musengezi arm of Lake Cabora Bassa;
- 2.1.2 The development of wildlife resources for safaris and game ranching in the agriculturally poor northern and western areas;
- 2.1.3 The development of dryland agriculture in the central belt below the escarpment with cropping on the better soils and livestock on the poorer soils;
- 2.1.4 The development of irrigation where water and soil resources combine e.g. Mushumbi Pools and Muzarabani;
- 2.1.5 The development of one or more recreational parks in areas of exceptional natural beauty and negligible agricultural potential along the Zambezi escarpment e.g. the Musengezi Gorge. (p. 88)

Given ARDA's commitment to agriculture, the report focused on agricultural development. Eight problems were identified requiring immediate attention. These were:

1. The very thin coverage of extension workers;
2. The desperate shortage of draught power;
3. The lack of credit to enable draught power to be hired, or for other purposes;
4. An acute lack of agricultural inputs;
5. Very poor, or non-existent, feeder route transport services;
6. Lack of any marketing facilities except on the plateau;
7. Lack of local agronomic research back-up;
8. The tsetse fly infestation of the valley and consequent hazards for livestock.

The Report was written at the time Rural Service Centres were being promoted and thus the authors suggested that most of the problems could be solved by them. They indicated that apart from tsetse fly control and research, that the Rural Service Centres could provide the needed extension, social services and commercial facilities. What needs to be highlighted in these plans is the emphases upon rationalising land-use planning by recognizing both the tourism and agricultural potentials of the area. This is reflected in importance given to tourism in the earliest post-independence planning process, and also the emphasis upon irrigation and the provision of an improved range of agricultural, social and commercial services.

ARDA envisioned a clear demarcation between areas designated for tourism and those for agriculture. Having received the two TILCOR estates at Mushumbi Pools and Muzarabani, the organisation was far from being a disinterested party. ARDA proposed irrigation in the area between the Dande and Manyame Rivers but argued that people resident there should not be displaced (1982:121). Their priority was the installation of irrigation at Mushumbi, and its expansion at Muzarabani. Early on they realized the importance of electricity for profitable operations despite the initial cost of bringing it to the valley, This is only now being done, thirteen years later.¹⁵ What ARDA's planners did not foresee was their plans for availability of water would be undermined by the withdrawal of water rights to the Manyame in 1986 and which were not really restored until the 1990s (Raszeja-Tobjasz 1985).

ARDA was not able to generate the resources for the irrigation of the Mushumbi Estate until 1991 nor expand Muzarabani, although it still may do so if the Mid-Zambezi Land Use Project (MZLUP) is implemented. While ARDA's influence in the eastern valley has been relatively limited, this may change if it becomes the implementing agency for two new large projects (see below). In addition, ARDA experimented in the mid-1980s with attempting to influence the production systems of small-holders near their Muzarabani estate. Sibanda (1986) reports on two efforts to influence rural development. The first was a failed project to promote women's management of goats and the second was a tractorisation scheme. The goat scheme was initially designed for women to come daily to the ARDA estate to manage goats. This effort did not work. With regard to tractors ARDA attempted to develop tractor co-operatives to address the shortage of draught power. Sibanda demonstrated that the initial members of their tractorisation scheme were larger-scale smallholders who used their profits to purchase livestock and then leave the scheme. In this instance, tractorisation directly led to the increase in numbers of livestock. This historical experience should raise red flags to those planners who keep on insisting that tractors should and can replace livestock in the valley.

2.2 Land Use and Tsetse Fly Control

An important continuity in colonial and independence policy was tsetse eradication and control. What becomes different is the linkage between tsetse control and land-use planning which turns out to mean opening up the valley for increased human and livestock habitation. While the ARDA study noted the shortage of funds for tsetse control this was only short lived. The European Economic Community, following a consultancy study in 1983, funded the establishment of a Regional Tsetse and Trypanosomiasis Control Programme (RTTCP) to investigate the best methods to control and eliminate the fly belt in Zimbabwe, Zambia, Malawi and Mozambique. John Barrett who served as the economist for the programme commented that:

It was only in the 1980s that the land use issues relating to reclamation of tsetse-infested areas came to the fore in Zimbabwe. The newly developed methods for tsetse control provided real scope for moving from defence to attack against the tsetse... furthermore Government objectives towards the development of the marginal hinterland of Zimbabwe changed radically since 1980. (1994: 31)

He went on to observe that the government's aim was to expand the frontiers of prosperous communal farming. "Tsetse control supports these rural development programmes, which

relieve the population pressure in other parts of the country (1994: 31)." Barrett makes explicit the continuities between colonial and independence policies even though he treats the independence policy as a new one.

Additionally and perhaps most importantly, alternative land-use options were not seriously entertained by the GOZ and the EEC in these critical years. The EEC undertook an aerial spray over the length of the Zambezi Valley, stopping only in 1988 because of the development of alternative cost-competitive techniques (Barrett 1994). In light of the range of potential long and short-term consequences of tsetse eradication, or at least its dramatic reduction, new studies were commissioned to examine land-use in the valley. The bases of such policies which remained unstated - was that the division of land between communal and large-scale commercial lands would remain unchanged. Thus land for land-poor communal farmers had to be found in "marginal" areas like the Zambezi Valley. The ARDA emphases also provides a striking continuity with TILCOR's efforts to develop large-scale irrigation estates in the valley. These plans are resurrected again in the proposals for the Dande Irrigation Project and the Mid-Zambezi Land Use Plan discussed in detail in Part 6.

2.3 Land Use and Cropping Recommendations

There continue to be strong continuities between the colonial and independence periods in the cropping emphasis, namely cotton. The expansion of cotton production is generated from rural producers' needs for a cash income. The role of the state and the Mid-Zambezi Rural Development Project in fostering cotton production is much less than that of the colonial Mozambican state as described by Alien Isaacman (1992). The colonial Rhodesian authorities pushed cotton growing in the valley since the 1930s without much success. In the 1960s, they established two cotton estates, one at Mushumbi Pools and one at Muzarabani under the auspices of the Tribal Development Corporation (TILCOR). These two estates continue today, now run by the Agricultural Development Authority, a parastatal. The estate at Mushumbi Pools isn't particularly profitable and the one at Muzarabani is giving up cotton because of the prevalence of boll rot and its resistance to pesticides.

Subsequent to the ARDA study, Brunt, Clarke and Groeling (1986) laid out possible and preferred development scenarios for the entire Zambezi Valley. This was the earliest effort to argue for the need for land use planning due to the influx of people and cattle into the valley. The degree to which these populations movements were due to the actual diminishment of the tsetse fly remains an arguable point. Nonetheless Brunt, Clarke and Groeling forcibly argued for the need for an over all land-use plan for the entire valley in order to prevent further environmental degradation. They envisioned cotton as the primary income generating crop for smallholders.

In addition, they proposed a series of projects which at least in hindsight, had contradictory objectives. Among the ones they proposed was the Mid-Zambezi Rural Development Project. This project's goals were to prevent environmental degradation by limiting new settlers to 3000 families and re-organizing the lands of the other 4600 families believed to be resident in the project area. The project area proposed was between the Manyame and Musengezi Rivers north of the escarpment until game fence which ran just north of the Mushumbi Pools-Mahuwe road. While the project design advocated that the conservation of the fragile ecosystem in the northern zone should be based upon game utilization, this

zone division was jettisoned in the early part of project implementation when it became clear that there was insufficient land for all the proposed settlers in the southern zone. In addition, the premise that by rationalizing land use the project would be able to halt the continued uncontrolled movement of migrants or new settlers into the area turned out to be wrong. Despite the contradictory premises of this document, it identified a series of potential projects the entire length of the valley most of which are outside the area being considered in this report.

2.4 The Mid-Zambezi Valley Rural Development Project

As just noted above, one of the major projects identified by Brunt, Clarke and Broeling was the Mid-Zambezi Valley Rural Development Project. The African Development Bank and the Zimbabwean Government agreed to fund it. It began in July, 1987 and was to be completed by July of 1992. Due to multiple factors, the project was extended with some additional funding from 1992-1995. Tee shirts were printed in celebration its inauguration with the slogan "Putting the Last First". The original design of the project was modified to take into account the GOZ's need to identify areas for resettlement. The project became a blend of a large-scale rural development project with resettlement. The GOZ opted to make it an accelerated Resettlement Programme Type A in a Communal Area. This meant that all expenses of moving and resettling were to be born by those who were resettling. (In ordinary Type A projects the government underwrote many of these expenses.) The basic structure of the project was to assign all residents of the area five hectares for cultivation and .5 hectares for their residential or home. The villages were to be consolidated, and accessed by road located near bore-holes. The objectives of the MZRDP were to greatly increase agricultural production, to increase commercial agriculture production, to protect the fragile environment and to provide a resettlement zone for 3,000 farming families from other communal areas in Zimbabwe. Specifically, the MZRDP was to provide bore-holes, schools, clinics, roads and improved agriculture for all residents - both old and new.

The project's logic was that because the valley was so underdeveloped and so many critical aspects of infrastructure were missing any intervention would be better than none. This faulty perspective, combined with the social and environmental consequences of the war, led planners to see an empty valley although the reality was quite different.

One of the most significant changes in the original project's design was the creation of a game zone to the north of the game fence. The MZRDP planning documents (FAO 1985 and African Development Fund 1986) call for little or no agricultural development north of the game fence and the creation of CAMPFIRE type groups. Indeed the planners foresaw that the Natural Resource Management component **funded by the project** should be seen as a pilot scheme for CAMPFIRE. The dilapidated game fence was to be replaced by an electric one to separate wild game from cattle and to protect the fields from wildlife damage. Further fencing was to be installed around farmers' fields in the northern zone of the project while six watering points would be built for wildlife. This part of the MZRDP was never implemented because there were not enough arables of five hectares for each of the 7,600 households called for. In the choice between a northern wildlife zone and meeting the target number of households the MZRDP planners and staff bowed to government pressure to choose the resettlement option. The political priority was for the project to be able to say that 7,600 households/families were being resettled which would demonstrate the government's ongoing commitment to resettlement. Despite the government's

objective of providing land for new settlers this could not be achieved due to the large numbers of residents already resident in the project area. Thus the statement about how settlers would be chosen could not be acted upon:

Settlers will be selected on the basis of need, with priority on refugees and peoples displaced during the war preceding independence, the landless and those with insufficient land to maintain themselves and their families. In order to qualify for selection applicants should have some assets such as cattle, should be in the 25-50 age group and either married or widowed with dependents. Applicants who are in employment anywhere will not be able to qualify for selection (ADF 1986: 36).

The screening of applications was to be done by the District Councils from where the applicants originated. Preference was supposed to be given to those most in need. As Derman (1990) and Spierenburg (1990) demonstrated the selection of settlers never took place. The movement of people into the valley accelerated throughout the 1980s resulting in more residents living in the project area than there were arables. This will be elaborated below in the discussion of migration.

One common theme to be found in past, present and future projects is to shift cultivation to tractors to avoid the reliance upon livestock. Due to the presence of tsetse fly and the emphasis upon "ecological fragility" project planners always include a tractorisation component in their plans. In the MZRDP, the planners envisioned that the majority of settlers would be dependent upon tractors. The Project was to buy 50 tractors and to form tractor groups or co-operatives. It is one of the many project mysteries that not a single tractor was purchased. Thus, any effort to have farmers use tractors rather than livestock could not occur. Many wealthier farmers do, however, hire tractors either from the Lower Gुरुve Development Association, local farmers or commercial plateau farmers to plough their cotton fields. Moreover, the effort to limit the numbers of livestock did not and does not work. The use of tractors for cotton cultivation has had a dramatic impact upon valley ecology. Tractors require stumped fields which thus are rendered treeless.

The MZRDP planners overlooked some of the war's consequences in the eastern valley, an oversight which had serious ramifications for the project. First, both the Rhodesian army and the ZANLA and ZIPRA forces had occasion to get to know the valley and to seek land and pasture there after the war. In addition, following the war with the contraction of commercial farms on the plateau and near the valley, many workers migrated to the valley to obtain land. Moreover, project planners had no sense of the numbers of people who had fled the war or children who were sent out of the valley and gradually returned during the 1980s. Indeed, the MZRDP faced the same problem as the implementers of the NLHA - claims by children of land-owners to their share of the household's land.

In general, the legislative changes in Communal Areas through the enactment of the Communal Lands Act of 1982 and by the repealing of the Tribal Trust Lands Act of 1979 shifted land allocation authority from chiefs and headmen to District Councils. The amendment of the District Councils Act in 1980 gave enhanced powers to the councils to regulate land use through Natural Resource Committees. The apparent plan was for government to implement land use reorganisation. This land use reorganisation was to be implemented nation wide, much like the NLHA. However, except in instances like the MZRDP, it has not been.

The MZRDP was a substantial effort to bring the government version of development and resettlement to the Zambezi Valley. The number of wards (which have now been increased), the size of the area and the numbers of people indicate a relatively large-scale need for management and resources. For the planned 7,000 households there was only a half-time project manager and five resettlement officers (who were never all on the job together). Agritex did not increase its staff to serve project residents. It is not clear that the GOZ or the ADB understood from the beginning the scale and magnitude of what they planned and whether they had the resources to make it successful. Table 2 indicates the population in the project area as of 1992.

Table 2

Ward Populations in the Mid-Zambezi Rural Development Project Area
(1992 Census)

	Population	Households	Average Size per HH
<u>Muzarabani District:</u>			
O6 GUTSA	1 662	302	5.5
07 HWATA	1 052	203	5.2
05 MUZARABANI*	1 000	222	4.5
Estimated Project Population in Muzarabani	4 825	1078	4.5
SUBTOTAL	3 714	727	5.10
<u>Guruve District:</u>			
03 NESHANGWE	7 859	1702	4.6
04 CHIRIWO	1 965	441	4.5
05 MATSIWO A	4 594	983	4.7
06 MATSIWO B	6180	1257	4.9
07 CHITSUNGO	10 280	1972	5.2
SUBTOTAL	30 878	6355	4.85
<u>TOTALS:</u>	34 592	7082**	4.88

* Only a small part of Muzarabani Ward is located within the MZRDP

** 7,600 arables were to be allocated not including widows and polygamous households. Assuming a low rate of increase in the number of households of four percent (including both in-migration and population increase) there would be 8,189 households in 1996.

PART 3

Non-Governmental Organisations

There are many Non-Governmental Organisations (NGOs) active in the eastern valley including numerous churches. Two NGOs have been selected because, from a development perspective, they are the most important. CAMPFIRE has been chosen because it provides an alternative development model for incorporating people, the environment and land-use planning from the other projects and plans discussed in this report. In addition, the Lower Guruve Development Association is briefly examined because it represents a set of indigenous valley interests often different from those contained within CAMPFIRE.

3.1 The Communal Areas Management Programme for Indigenous Resources

While CAMPFIRE is not an NGO itself, but rather a programme which varies from district to district and ward to ward, it is best included as an NGO. CAMPFIRE has a government component which includes the following various actors: the Department of National Parks and Wild Life Management; the Forestry Commission; the Ministry of Local Government and Rural and Urban Development (MLGRUD); and ZANU-PF support - along with its multiple NGOs, which is difficult to classify. However, for the purposes of this report CAMPFIRE is best understood as a potential land-use planning model derived from complex community-organisational interactions that provide a real and concrete alternative to massive blueprint projects like the MZRDP. Thus, at the same time as the planners designed and implemented the Mid-Zambezi Rural Development Project, an alternative strategy was underway just to the west of the project area. This initiative, known as the Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) was based on the Parks and Wild Life Act of 1975 which conferred the custodianship of wildlife to land owners. This act was amended in 1982 to permit District Councils (now Rural District Councils) to be the Appropriate Authority - to have ownership of - communal area wildlife resources. The Guruve District Council became far more active with respect to wildlife as it gained Appropriate Authority in 1989. The western wards in particular - Chapoto (Kanyemba), Kanyurira (Masoka) and Chisunga - served as revenue earners and places in which to work together with communities to enhance their internal capacities for local decision-making. While at one level, CAMPFIRE has been a District Council initiated set of activities, at another, it has been the focus of co-ordinated work by units of Government, Non-Governmental Organisations, and the University of Zimbabwe, initiatives partially supported by international assistance organisations (USAID, ODA, IDRC, Ford Foundation, etc.) The co-ordination of efforts by Zimbabwe Trust, WWF - Zimbabwe, Centre for Applied Social Sciences (at the University of Zimbabwe), the Department of National Parks and Wild Life Management and the CAMPFIRE Association has resulted in the capacity to support and often initiate both district and ward level activities. Guruve District and its wards have experienced much experimentation, training, job creation and income generation through the expansion of wildlife generated revenues.

Muzarabani District Council has also been active in promoting alternative land use strategies. However, its options are more restricted due to the lack of wildlife resources. It has emphasised the Mavuradonha Wilderness Area which has been the central focus of

tourist-based activities. The project was formally begun in 1988 when the escarpment portions of Gutsa and Muzarabani were gazetted. Cunliffe (1992) observes that this was the first time that a wilderness area had ever been proclaimed within a communal land (p. 82). Its uses are to be both for hunting and for non-consumptive tourism. The management of the elephant herds, taking into account the interests of commercial and communal areas, appears to be central to the success of the Mavuradonha Wilderness Area and to the Muzarabani Rural District Council's own success in managing its natural resources.

While CAMPFIRE has its origins in the Department of National Parks and Wild Life Management, a government department, it also includes numerous NGOs. CAMPFIRE, according to many of its proponents, is attempting to implement what is both necessary and extremely difficult: adaptive management of wildlife and other renewable natural resources. Two of the more successful CAMPFIRE districts and several wards are in the eastern valley. CAMPFIRE acknowledges that local knowledge is usually more detailed, more persuasive, and often different than knowledge at the centre. Managers from the centre must always simplify and reduce information to manageable proportions (Lee 1994: 113). CAMPFIRE has undertaken the challenge of attempting to have the centres (Districts, Provinces, line agencies, central government and multi- and bilateral donor organisations) listen and adapt their programmes to local knowledge and practices. This is no easy task since the principles underlying CAMPFIRE are the reverse of those underlying MZRDP and other government instituted development programmes.

CAMPFIRE is also quite different than projects like the MZRDP because the past has served as model for the future. Many large-scale projects demonstrate that they do not achieve their goals of sustainability but rather replicate past misunderstandings. In addition, development organisations, in Lee's words "*do not face a rich experience*". They oversimplify and tend to ignore conflicts and issues of who really benefits (1994:160). CAMPFIRE is not based on models drawn from the past but rather from rich experience. Not only will the Zimbabwean government need to change to permit the flourishing of CAMPFIRE but so will its major donors.

3.2 Lower Guruve Development Association (LGDA)

The LGDA plays a significant role within the valley for several reasons: its programme is focused entirely on developing the Zambezi Valley area within Guruve District; it is eleven years old and remains active in all Wards, and it has now gained eleven years experience in functioning as an NGO in an area where most initiatives have been governmental.¹⁶ The LGDA was known throughout the valley as the Lutheran World Federation (LWF) which, like so many others, perceived the valley as the most isolated and underdeveloped portion of Zimbabwe. Their initial approach was to incorporate influential valley men into an organisation, provide tractors to them, and assist them in renting tractors to other farmers. Like many other activities by the Lutheran World Service, it was from its inception a development, not a partisan religious activity. On December 31, 1991, after eight years of operation, the Lutheran World Federation turned over the control of the organisation to Zimbabweans. The LWF hoped and expected that the LGDA would be a self-sustaining organisation. By that they meant that there was sufficient leadership, infrastructure and revenue generating capacity for LGDA to survive the departure of the Lutherans. LGDA was not ready, and NOVIB, a Dutch NGO funded by the Dutch government, stepped into

the breach to maintain and then increase funding through 1996. NOVIB's funding has permitted LGDA to both expand its activities, provide more services to its members, and to try to shift to income generating activities to once again be self-sustaining.

Functionally, LGDA meets - as a whole - by an elected committee with an executive officer and by region. The executive offices are in Guruve Town but a workshop has been built at Mushumbi pools which not only repairs and maintains LGDA's trucks and tractors, but is the site for numerous training activities and meetings. Both individuals and groups are members of LGDA and have to pay dues. LGDA is organised into three regions, each owning its own tractor(s) and having its own leadership. In addition, there are grinding co-operatives, sewing co-operatives, and a consumer co-operative (store). LGDA has provided nutritional supplements for school children, sold maize at reduced prices during drought years. In addition, it maintains a revolving fund which regional organisations, small groups and other members can access to maintain their activities. LGDA has been open to new ideas to serve the valley better. For example, it sought unsuccessfully to construct and run a petrol station at Mahuwe. It has also sought - so far unsuccessfully - to form a fishing co-operative at Kanyemba and to build chalets on the Zambezi. These initiatives are not likely to be successful due to other local and national efforts to undertake the same projects.

Despite multiple efforts and initiatives, LGDA remains dependent upon donor financing. NOVIB funding is to end in 1996 at which point LGDA is to be self-sustaining. This is difficult to envision given its current level of activity and infrastructure. The question is, how important is LGDA to valley development? What might be lost if LGDA were not able to sustain its current level of activities and programmes? LGDA represents an interesting balance between a donor's efforts (in this case Lutheran World Federation) to successfully create a self-sustaining development programme and continued donor dependence. LGDA has been successful in recruiting active entrepreneurial individuals into the organisation, providing training for them, and keeping them in touch with changes in government policy and trends in development thinking. Its leadership keeps abreast of new thinking and has recently increased its attention to environmental issues, including a small programme to experiment with organic cotton and environmental education programmes. Because it owns tractors, it maintains field ploughing as an important activity even though it continues to lose money, most of which is regained through using tractors for transport. In addition, LGDA is an important source of employment for valley residents. Because it charges membership dues, (\$5.00 is the current joining fee) many of the valley's poorer residents do not join. The tractor ploughing is usually more expensive than that provided by DDF and some commercial farmers and much more costly than renting oxen and a plough. In surveys conducted by LGDA, a large majority of residents remain relatively uninformed and without knowledge about its activities. LGDA has defined its own significance in three areas: *"democratic organisation, how to motivate the poorest of the poor and how to co-operate with local authorities to get what you want"* (n.d.). LGDA's objectives and significance are consistent with CAMPFIRE's but nonetheless its future is problematic.

PART 4

Migration and Migrants

The Eastern Zambezi Valley manifests on the surface what appear to be contradictory tendencies: it is a target destination for both rural and urban migrants, and it is a source of labour for the cities and farms of Zimbabwe. The percentage of migrants (depending upon the definition of a migrant) varies significantly from ward to ward.

Migrants have been attracted to the centres within the valley - Hoya, Muzarabani, Mahuwe, Mushumbi Pools and Chitsungo. Migration and shifting residence is certainly not new to the valley. The Vachikunda - one of the important if newly created ethnic groups within the valley - are themselves located in what is now Zambia, Mozambique and different parts of the eastern valley. With kin throughout the valley, families and individuals may move frequently. The Korekore who are now the numerical majority ethnic group in the valley have numerous links with fellow Korekore on the plateau. What appears to be qualitatively different since 1980 are the large numbers of migrants who are arriving from either the commercial farms on the plateau overlooking the valley or Masvingo Province. Most of the latter are "Karanga". There are clear migrant streams to different parts of the eastern valley. For example, the village of Hungwe near Muzarabani was founded by someone from Masvingo and then attracted a series of kin. These farmers tend to have herds of cattle and goats, ploughs, and other agricultural equipment. They grow five to 20 hectares of cotton. On the other hand, streams of elderly commercial farm workers often come from Zambia or Mozambique to join kin in the valley. They are attracted to the valley because they can no longer labour as hard as necessary to maintain their employment in the commercial farms. Lastly, civil servants and others who are employed in different capacities by government, or by the project, have also decided to take up land in the valley because they see ongoing government commitments to the valley's development or because they can successfully position themselves economically in the growing valley economy.

The continued desirability of the valley as the target destination for so many migrants raises questions about:

1. What is happening in the rest of Zimbabwe that people choose to continue to settle in the valley?
2. How do current valley residents - both migrants and long-term residents feel about this migration continuing?

Since the mid-1980s the eastern Zambezi valley has been transformed from a verdant to a deforested, dust-filled zone, with thousands of new farms. The contemporary patterns of migration into the valley as a whole are historically rooted in an effort by the Rhodesian Government to re-organise what were then termed the Reserves and to find new areas for displaced farmers. In addition, the use of frontiers for human settlement results from the growing scarcity of good farm land and pasture in the communal lands of Zimbabwe. It is indicative of the extent of land-scarcity in other portions of Zimbabwe that so many migrants choose the drought-prone Zambezi Valley to settle in. The current government, with the assistance of the European Economic Community (EEC), the Food and Agriculture Organisation (FAO), the Overseas Development Administration (ODA), and the African Development Bank (ADB) have continued to press for the intensification of population and

production in the Eastern Valley. This view of the valley as a host for the over-populated communal areas is, of course, a long standing one as discussed earlier in the report. In general, only recently have the donors begun to acknowledge that due to the heavy in-migration there, a dramatic shift has occurred from a more diverse natural resource management system to one centred primarily upon cotton and maize. The continued co-existence of intensification schemes with those of CAMPFIRE poses a major challenge for planning and will be discussed in Part 7.

Valley planners - governmental and donor alike - have not included in their planning the older, weaker, less resilient populations that have also sought the valley for their home. These older commercial farm workers, many with some capital and many also with children who work in the cities and on commercial farms, find the valley meets their "retirement" requirements for land for themselves and their children. Thus the migrants have different motivations - those seeking larger land holdings and adequate pasture are more entrepreneurial, and tend to have more resources. They expect responsiveness on the part of civil servants and often they are more successful in obtaining services because they are perceived as being more progressive farmers. This is not the case of older commercial farm workers - both men and women - who are perceived as being uneducated, poor and often non-Zimbabwean citizens.

The second part of the equation continues to be the positive attitudes of residents toward new settlers, although this appears to be changing. Cutshall (1989, 1990, 1991) reports that in Chisunga, Kanyemba (Chapoto), and Kanyurira Wards the majority (about seventy-five percent) of residents favoured the continued settlement by migrants. For example Cutshall and Hasler (1991) find that the most commonly stated reason for favouring more migration was "...*land is plentiful*". Twenty-seven percent responded that people equals development and eighteen percent stated that more people means that wildlife will be chased away. These findings duplicate my own results from both migrant and long-term resident surveys in Neshangwe, Chitsungo, Gutsa, Matsiwo B and Chiriwo wards (as they were prior to their reconfiguration in 1994). Spierenburg (1990) also reports for Matsiwo B that not only did residents feel positively toward migrants but migrants reported that they were well received. The results of these surveys however, while accurate for the time, most likely do not reflect current attitudes in many wards. Moreover, it is difficult to make accurate statements about the current rates of in-migration to the different wards due to the continued shuffling of the population by the Mid-Zambezi Project (see below). There continues to be - based on my own personal observations - continued migration into the valley both by kin of residents (both long-term and migrant) and non-kin. The underlying forces leading people to migrate into the valley do not look like they will subside in the near future. There are some indications though that valley resident's ideas about new settlers are indeed changing:

First, in Kanyurira/Masoka, which has been the beneficiary of the largest amount of CAMPFIRE revenues, they are trying to prevent migrants from entering just to obtain revenues or to engage in economic or social practices contrary to community defined goals. Kanyurira Ward's plans are cited as an exemplary approach to these issues (Rihoy 1992).

Second, in much of the Mid-Zambezi Project area the outcome of the project has been the displacement (or continued illegal settlement) of long-term residents from their riverain fields. This has occurred in several wards, for example in parts of Matsiwo A, Matsiwo

B, Neshangwe 9, and Neshangwe 3 and is likely to be repeated if new projects are implemented. This dispossession has occurred because of the MZRDP's and GOZ's definition of what constitutes arable, grazing and non-arable land. In the MZRDP project area all riverain fields and gardens were to be moved to at least 100 feet from the regular flow (which was defined as flood stage) of the major rivers (Manyame, Dande, Musengezi, etc.). Because long-term residents, usually Korekore or Vachikunda, already cultivated along the rivers, new settlers were usually given lands by both "traditional" authorities and District Councils away from the rivers, when the lands were allocated by the project, new settlers were far more likely to receive the lands they were already cultivating from the project and the long-term residents much more likely to lose theirs. This potential or actual loss of riverain land has created a new and destabilised relationship between long-term and migrants within the project. It has increased tensions between them. Many long-term residents have had to decide either to move or to resist the project. The outcome has been a long period of difficult decision making for families and individuals deciding when and if to move. It has been striking how little attention has been paid to the real difficulties for households receiving an arable and/or residential five or more kilometres from their current home as they juggle school, clearing new fields, constructing new homes, etc. Moreover, because residents often argued for the continuation of riverain cultivation long-term residents were regarded by project personnel as obstacles to successful project implementation.

Third, in addition, the valley is moving from a context of land abundance to one of increased land scarcity. While communities remain remarkably accommodating to new residents, it is not clear if this tolerance will continue. There is another dynamic which necessitates greater attention to the stark contrast between migrants and long-term or indigenous residents, that I am using among others. In particular, the contrast between long-term residents and migrants is not as clear-cut as it might appear. While the concept migrant is linked to that of stranger, many new arrivals are not considered strangers because they are linked by kin-ties to either long-term residents or to more recent migrants to the valley. The degree to which attitudes toward migrants are changing and who is and who is not considered a migrant needs continued research.

There are two very different hypotheses that can be proposed about the eastern valley's future. The first is Boserupian: that the increasing population in the eastern valley will lead to the successful intensification of agricultural production and the diversification of the economy.¹⁷ This hypothesis is certainly not the generally accepted one for the Zambezi Valley which emphasises over-population, soil erosion and land degradation. However, while not expressed in these terms, many residents believe that they will benefit from increased numbers of people who are seen to scare wild animals away and diminish the amount of wild bush. In addition, local political leaders have sought to increase the numbers of people dependent upon them to increase their political standing. It is also believed that more people result in more schools, clinics, roads, buses and the like. Objective measures of resource pressures brought about by increasing numbers may be little understood or accepted by communities. Thayer Scudder based upon his research in the Lusitu area on the Zambian side of the Zambezi downstream from Kariba between Chirundu and Siavonga believes that increased degradation and poverty can be expected without drastic changes at the local and central policy levels as well as behavioural levels.¹⁸

The second hypothesis is that the valley will become increasingly degraded and unable to economically and ecologically sustain, at a reasonable standard of living, increased

numbers of people and livestock. In this view, the valley will, if it has not already, surpass its carrying capacity for people and livestock (which is what Scudder maintains has already occurred in Lusitu). In sum, the current development trajectories will lead to non-sustainable economic strategies, a degraded environment and increased poverty.¹⁹ In addition, development as currently practised will result in the rapid depletion of wildlife making that type of land use impossible for the foreseeable future.

These two opposing hypotheses have different implications for policies toward migration. The former would lead to a continued strategy of intensification of settlement and production, the latter would result in intensifying controls over in-migration. The degree to which the valley can be zoned, applying one strategy to Guruve's wildlife-dependent western wards and another to the eastern wards and Muzarabani and Mt. Darwin Districts might be a compromise. While it is perhaps too early to argue which of these two views is the more likely there are, nonetheless, a series of economic activities which are not included in any of the current figures for the valley. These include the sale of meat, fish, vegetables and fruits from Mozambique. The sale of meat and fish is conducted illegally. It is a highly seasonal activity but can be quite significant. Mozambicans purchase relatively large amounts of goods from Zimbabwean stores including sugar for the making of kuchasu which is then brewed in Mozambique. These cross-border transactions will probably increase with the peace settlement and elections in Mozambique. Tourism, safari operations, and the repair of roads will only accelerate these trends. One might anticipate increased cotton production in Mozambique if marketing were possible.

At the present time, the relevant District Councils - including those of Guruve, Muzarabani and Mt. Darwin - are seeking controls over continued in-migration. How, and in what ways, these controls can and might be effective will be addressed in the next section because the Mid-Zambezi Rural Development Project was designed and implemented, in part, to control and regulate land use.

PART 5

Local Responses to Planned Change

5.1 The Mid-Zambezi Rural Development Project

The first place to begin in assessing the range of responses that residents have had to development initiatives is the Mid-Zambezi Rural Development Project. This is the largest and most ambitious project in the eastern valley, if not the whole valley, since independence. These responses are critical to understand in assessing the likely consequences of future development initiatives in the eastern valley. The project's goals have already been outlined in Part 2. There are many dimensions which have important implications for continued land-use planning. Two general dimensions have been selected since the MZRDP was designed to provide solutions to them. The first dimension focuses upon whether the project has been successful in limiting in-migration into the project area, and if it has, how? The second dimension examines how the MZRDP has altered land use practices and the land tenure systems. The report does not attempt to analyse the ecological changes that have been produced both by the MZRDP and increased migration into the valley. Nonetheless, this is of central importance because a changed ecology will constrain future options and choices by valley residents. At the end of this section, the MZRDP will be compared with CAMPFIRE to illustrate the differences between a blueprint and a learning process approach. In conclusion, the degree to which the MZRDP has been unable to alter rural household strategies will be highlighted to underscore the importance of how valley residents construct and utilise their environment and how they will continue to do so in spite of efforts to alter them.

5.1.1 *Continued Migration into the MZRDP Area*

It is difficult to obtain good figures for recent migration trends in the project area. This is due to resettlement taking place within the project area due to villagisation. The restructuring of villages, VIDCOS and Wards makes in-migration difficult to track. Nonetheless, many observers report the continued influx of new settlers throughout the eastern valley. For example, fifty plus families of retrenched miners from Mutorashanga settled along the western side of the Manyame River south of the Mushumbi-Mahuwe Road. Other elderly commercial farm workers have settled in homes vacated by families relocated by the Mid-Zambezi Project. This phenomenon of "moving in behind" - that is taking up the homesteads of those who are taking up their new arables and residentials - is a frequent practice. Sometimes these people are kin, sometimes not. In addition, ambitious political leaders give non-allocated land to new settlers without regard to project demarcation.²⁰ In sum, there is little evidence to suggest that the project has been successful in slowing the flow of migrants. In my estimation it will be land scarcity, the distance from water, and higher rainfall regimes in the southern half of Zimbabwe that will slow the flow.

While there are incidents of conflict between longer-term residents and migrants, over-all these are much less frequent than might be expected. The families that were placed by DERUDE in Kadzi (in Chiriwo Ward) from Porter's Farm and Mazoe report that they were greatly assisted by local residents, far more so than by the responsible resettlement officer. The one very violent clash between a migrant and a longer-term resident which resulted in

the latter's death was over the re-allocation of an arable in Karai and appears to be an isolated incident rather than a sign of intensified conflict. There are innumerable small incidents. For example, residents who have not been allocated arables or residential plots refuse to move from fields or residential plots allocated to someone else. One Ward Councillor informed his constituents that they shouldn't move until land had been found for them. This becomes quite tricky in some areas where there are many more residents than arables available, or in one extreme case the people have rejected the project's insistence that they move to a particular named area that is viewed as having poor soils. In short, the population of the project area has demonstrated remarkable resilience in face of multiple pressures of movement and migration as well as two horrendous drought years (1991-92 and 1994-95). To date, the conclusion would seem to be that the majority of valley residents continue to welcome new settlers - be they kin or non-kin. Nonetheless, I would hypothesise that there will be growing conflict between long-term residents and more recent ones. This may be expressed in ethnic terms since more recent migrants tend to be Karanga and Zezuru whereas long-term residents tend to be Korekore and Chikunda. Development issues may serve to intensify potential conflict. For example, long-term residents who tend to have riverain fields will be far more likely to oppose irrigation than those who do not have access to such good land (see below).

5.1.2 Land Tenure

To date there has been a pattern of resilience by residents to rapid change. It seems likely that this resiliency may diminish in light of continuing issues of land rights in the MZRDP area. The resettlement model is based upon providing permits to residents of the project. These permits can be revoked if residents do not conform to project guidelines. This is consistent with the view that the central Government owns the land in communal areas and has the right to set the conditions under which it can be used. The Mid-Zambezi Rural Development Project falls under the legal guidelines of an Accelerated Type A Resettlement Scheme. This project has thus reflected the Department of Rural and Urban Development (DERUDE) efforts to implement villagisation in communal areas which has been proceeding very slowly in other districts (Alexander 1994: 341). The MZRDP appears to have garnered support, particularly from new residents, in clearly delineating land boundaries and by giving household heads rights to that land, albeit on conditional terms.

Longer-term residents, in contrast assert that they have lost control over their land because they have been told they cannot cultivate on stream banks as these areas now have been reserved for cattle. The outcomes of this effort to end stream bank cultivation have been very mixed. The riverain fields and gardens (the distinction is that the fields are used for rainy season cultivation, usually of maize or cotton while gardens are dry-season fields, usually hand-irrigated and much smaller in area) remain of critical importance in the over-all strategy of those households with access to such land. Riverain fields are far scarcer than garden land. In its initial phases, the MZRDP sought to end all such practices making no distinction between fields and gardens. As the project is extended to Matsiwo A Ward which is just in the process of being pegged, the residents extracted promises from the project that riverain garden areas would be included.²¹ According to Marja Spierenburg who has been conducting research in Matsiwo A, the project has been angering local residents by implementing the project too slowly. In place of riverain gardens, the project proposed gardens located around the new bore-holes. These would be much smaller in size, and would require greater soil inputs than riverain gardens. Most women and men do

not regard these new gardens as an adequate substitute. The one location where they seem to be working is at Mahuwe where these gardens benefit from piped water.

5.1.3 Livestock

In collaboration with the Veterinary Services Department, the MZRDP has sought to carefully regulate the numbers of livestock in the project area. However, the policy of restricting livestock ownership to two oxen except for those families owning cattle prior to 1987 has been ignored by new and old valley residents alike. Even the clear statement that there were to be no livestock north of the old game fence is not being observed. Residents ask, not without anger, how cattle can be restricted on the one hand while riverain lands on the other hand are set aside for grazing areas? The cattle population as has been noted above, has in fact been expanding faster than the human population. Efforts to restrict livestock population was at the heart of implementing an effective land-use strategy and thus is indicative of the depth of the problems involved.

5.1.4 Land Allocation and Restriction of Field Size

Another linchpin of the MZRDP was the restriction of field size (arables) to five hectares. As is observed by many residents, this is too little for some farmers, especially those with ploughs and cattle, and too large for those doing hand cultivation (although often some rent livestock or tractors). The size limit in turn, is not being observed by larger and more successful farmers. It is being evaded by having unmarried sons obtain their own five hectare arable which then becomes part of the larger household area. Still others rent their lands. There are numerous other ways by which residents avoid the five hectare restriction requirement.

The MZRDP proposed to allocate one hectare for each second, third and fourth spouses and one for elderly widows. After the project's life of five years these had not been pegged or allocated. Currently, even after the project's extension for three years from 1992-94 none of these were pegged. How and where these will be pegged is far more important than might appear. First, it gives the appearance of bias against women. Second, as households have had to move, sons have often left their older mothers behind. These older women do not know where they might be allocated land. They ultimately will have to choose between allocations far from their children or moving in with an adult child. The same considerations will apply to polygamous households where it is unclear if and when they will be pegged.

Layered over these as yet uncompleted components of the project are a set of multiple conflicts over who got what land. In many instances, favouritism, nepotism, or payments are alleged. In other instances, settlers complain of water-logged fields and/or homesteads. These are normal problems which come with major efforts to reallocate land on such a massive scale. In the end, however, all these conflicts have resulted in a general and pervasive resistance to many project goals and a discrediting of those institutions implementing the project. This resistance to government interventions may well be an enduring legacy for future projects and interventions. This will be heightened if, as it appears, many or even most project objectives were not attained or ignored.

The question of appropriate scale for management and planning is an often missed dimension of both past and present plans. The MZRDP chose a very large scale in which

to operate. However, the capacity to plan, supervise, monitor and evaluate large interventions are far more limited than Government generally acknowledges. Scale is also important in terms of community capacity for members to meet, argue, agree and enforce agreements (Metcalf 1994: 182).

Lynam has observed that the pegging of arables (fields) and residentials (homesteads) has brought home the notion of limited land.²² Certainly many households have fenced their homesteads. Fenced homesteads represent not just the acceptance of limits but also the increased number of domesticated animals, the necessity to live next to neighbours not of one's choosing, and shifts in the structure of households from larger extended families to smaller ones. Preliminary results from surveys conducted in 1995 indicate a much greater support for the idea that land has become scarce and that migrants should be limited. It is clear, however, that the MZRDP brought no new practices or extension messages to assist both long-term residents and migrants to shift from a land extensive to a land intensive system of agriculture.

Over-all, the responses of residents to the MZRDP have only been welcomed by the project and government if they were in line with project objectives. Those residents who have sought to have aspects of the project changed (for example, the continuation of riverain cultivation) have been viewed as obstacles to development. There has been little or no room to change the project's trajectory based on local knowledge and concerns.²³ To examine alternative approaches it is instructive to compare CAMPFIRE with the MZRDP.

5.2 The MZRDP and CAMPFIRE

The contrast between the MZRDP and CAMPFIRE is striking. The MZRDP follows what Chambers (1993) has termed a blueprint approach. A blueprint approach seeks to impose upon rural communities one technically driven solution to a wide range of social, environmental and economic issues. In contrast, CAMPFIRE has adopted what Chambers calls a learning process approach which changes the relationship among development planners, implementers and experts to one where they are guided by, and interact as equals with, rural communities. One of the central differences in these two approaches is who makes decisions about what? Who makes decisions and who carries them out is generally discussed as "participation." There appears to be wide agreement that participation is a good thing even though it often is not critically analysed. We agree with Little (1994) that participation has two central components (leaving aside the institutional contexts in which participation is carried out): 1) participation as a goal in itself that allows communities to have greater control over their lives and resources; and 2) participation as a major means for achieving social and economic objectives (Little 1994: 350).

5.2.1 Land Insecurity

CAMPFIRE responds to one of the central elements introduced to the valley by the MZRDP - land insecurity. CAMPFIRE's endeavours in the eastern valley to have wards determine their own land use plans is in dramatic contrast to the technocratic exercise that characterised the Mid-Zambezi Rural Development Project and other efforts of DERUDE's rural planning.²⁴ Murphree has asserted that:

One of the central tragedies in the history of Southern African land and natural resource management has largely been restricted to a discussion of the relative merit of state or private property regimes. Policy has assumed two options, privatise or nationalise, ignoring the further option of a communal property regime. (1993:4)

It is significant that there is now a growing convergence of thought that the long-standing land tenure systems of Zimbabwe require reform. The thrust of the Land Tenure Commission appears to be in line with a re-emphasis upon greater community control over its resources. Such an approach is compatible with both the theory and practice of CAMPFIRE. In addition, it appears to be consistent with the new emphases placed by central Government upon headmen, sub-chiefs and chiefs. If communities, planners and government agree that continued in-migration poses a threat to community based natural resource management, then they will need to work together. Under present circumstances, this is difficult where local communities and leadership have lost those rights. The implications of diverse fields of authority for future projects will be discussed in both Parts 6 and 8.

5.2.2 Traditional Authorities, Community Authority and Government

The Mid-Zambezi Project first attempted to use project staff to carry out land and village re-organisation. It then shifted to using District Council, Councillors, Ward Development Committees and Village Development Committees to implement the project. The land planning and mapping were carried out by Agritex, and the local authorities had to implement these plans. "Traditional authority"¹¹, the mechanism through which most migrants obtained rights to land in the eastern valley through 1990, was bypassed. No longer were the chief, mhondoros and sabhukus asked or informed about new residents in their territories. Murphree suggests (1995) that the use of traditional local authorities can result in more effective and appropriate management of local resources than reliance on outside authorities. The Mid-Zambezi Project came to depend upon Ward Councillors who did not necessarily represent the very diverse interests of highly populous and large wards.

There are, nonetheless, examples of the capacities of new villages within the MZRDP to institute new forms of co-operation and natural resource management. As a result of the NLHA, the war and now the MZRDP the population of the valley has been shuffled and reshuffled repeatedly. This combined with the more normal patterns of shifting cultivation and labour migration means that people have developed a capacity to live together fairly easily. Many are able to recreate patterns of leadership and co-operation relatively quickly. For example, communities have had to develop at least informal patterns of bore-hole management. To avoid competition between human and animal consumption, they establish timing use patterns which are decided and regulated informally. Decisions on the supply of labour for moulding bricks for new schools are also decided at the Village Development Committee level between both old and new residents. In addition, residents will meet and decide upon issues and problems that they face that either can be addressed collectively (i.e. building a dip tank) or taken to a higher authority (obtaining a bus route or building a bridge).

In general, the central government conveys a mixed message with regard to who is ultimately responsible for development. On the one hand, it wants the citizenry to be active and improve its standard of living. On the other, it attempts to provide those services and

goods which are essential for development. These efforts are often confounded when political parties (ZANU-PF) takes credit for drought relief programmes which are in fact government's. Thus, the line between individual, community and government responsibilities are blurred.

The real problem for community decision-making is that, in many cases, communities and local leadership have had their decision-making authority taken from them. As a consequence, in some contexts, resumption of such authority becomes problematic. The diminution of local authority is also fostered by residents (usually migrants) who do not accept old leadership and who can legitimately claim that they do not fall under customary authorities but rather under the WADCOs and VIDCOs. These complex socio-political considerations intersect with household strategies toward the MZRDP. Thus, despite the massive efforts to restructure the social and economic organisation of the valley, most families continue to farm and act as they did without the project. This does not mean that the valley is unchanging, but rather that the MZRDP may have only accelerated the rate of settlement and change rather than having long-term consequences by itself. Nonetheless, the forced villagisation of the MZRDP is now embedded in the history of valley residents.

PART 6

New and Planned Development Initiatives in the Eastern Valley

6.1 Introduction

The economy of the Eastern Zambezi Valley is viewed by planners as non-viable. The underlying rationale for the interventions, as it is today outlined above, is that current population levels combined with current land-use patterns will degrade the valley's fragile ecology. Therefore, large-scale, planned interventions are required to compel farmers into more rational units of social organisation and production. It is the belief of planners - be they from donor organisations, consultancies or national technical agencies - that the valley does not contain the requisite technical, managerial and institutional personnel to manage the necessary interventions to save the valley from its residents. Alternatives to the perspective can be found among CAMPFIRE initiatives. One new dimension to its programme will be funding for communities and residents to suggest natural resource management projects which can be funded through the new USAID natural resource management programme. This will be in addition to the regular set of CAMPFIRE activities and programmes. These activities, however, are small in scale and participatory in design and implementation when compared to those projects which emphasise larger-scale land use planning and agricultural intensification.²⁵

The next three major proposed interventions for the eastern valley are: 1) the Agritex Irrigation Project to be located along the Manyame River near Chitsungo. This is designed to take advantage of Government's decision to make available ten percent of the water from select dams, in this case the Mazvikadei Dam at Chinoyi. I will not devote much attention to this particular project since it will not be implemented if the Dande Irrigation Project proceeds, since both projects will be utilizing the same potentially irrigable land. 2) the Dande Irrigation Project whose feasibility study has just been completed. This would enable the irrigation of five-thousand hectares of land between the Manyame and Dande rivers, from the escarpment to Mushumbi Pools where the two rivers meet. The dam will be constructed in Kachuta Ward where it is estimated that 200 families will have to be resettled; and 3) the Mid-Zambezi Valley Land-Use Programme. This is a multi-faceted project with nine components. These include efforts to shift farmers from cultivating non-arable land to cultivating arable land; to preserve and rehabilitate river bank environments where riverain gardening causes undesirable deforestation and consequent soil erosion; and to consolidate human populations to maximize provision of infrastructure. Embedded in both the DIP and the MZLUP are plans to expand ARDA's water supplies for their valley estates.

There are also immediate plans to transform the ARDA estate at Mushumbi Pools from reliance on rainfall to irrigation as well as to expand its size. Since ARDA's estates are demarcated and valley residents do not cultivate on them, there will not be any further land alienation. ARDA has just completed an irrigation pumping station on the Manyame River which is to become operational this dry season (1995). In addition, the DIP includes provision for more water for ARDA's Mushumbi Pools estate. These irrigation projects are, general, aiming to resolve a major constraint to intensifying agricultural production - insufficient and irregular rainfall.

Parallel to these interventions are the plans for consolidating and expanding CAMPFIRE nationwide. In the eastern valley these include CAMPFIRE programmes in Guruve and Muzarabani Districts as evident in the planning documents submitted by the CAMPFIRE Association, CASS, Department of National Parks and Wild Life Management (CAMPFIRE Co-ordination Unit), WWF, ART, Action Magazine and Zim-Trust to USAID.

In addition to these larger-scale interventions, there are other development initiatives taking place in the valley. These include plans by the Lower Guruve Development Association (LGDA) to develop tourism or even a fisheries' co-operative along with grinding mill and store co-operatives, District Council initiatives, like the grazing scheme at Hoya recently recognized by the Natural Resources Board, and an irrigation project in Chapoto Ward, Guruve District. There are also individual entrepreneurial initiatives including new stores and businesses. A significant improvement to the valley has been the opening of two butcheries. There has also been the expansion of masau fruit marketing. These entrepreneurial activities both create employment and intensify the circulation of commodities.

6. 2. The Dande Irrigation Project

This is characterised as an agricultural and rural development project and is based on an integrated cluster approach (water management, health, environmental protection, and the improvement of women's positions). The project requires competent technical and managerial local staff and specialised services including water distribution experts, engineers, etc. The total cost for this project is estimated at Zim \$32,459,000 (U.S.\$4,057,375). The investment per hectare of an irrigated perimeter is approximately Zim \$71,480 (U.S. \$9,000) which is low for Sub-Saharan Africa. In order to be economically viable high profit crops will have to be produced. Whether this can be accomplished is problematic, according to the consultants, because of the rapidly changing policy, economic and institutional environment.²⁶ With these constraints in mind, project designers propose to:

- a) Construct a dam on the Dande River up on the escarpment. It is estimated that the dam would yield 46,6700 ml/year for irrigation purposes and potentially to generate hydroelectric power. They envision a hydroelectric component;
- b) construct conveyances, distribution and application systems of water for irrigating 3000 - 5000 hectares;
- c) establish 1,500 - 2,500 irrigated farm units;
- d) put in place an adequate physical infrastructure (roads, bridges, etc.) with sufficient capacity to ensure the economic intra- and inter-regional movement of people and goods;
- e) supply electricity for industrial and domestic use;
- f) provide adequate social infrastructure facilities - health, education, potable water and improve the position of rural women;

- g) assure the existence of well-functioning agricultural input supply and support services as well as agro-processing services;
- h) develop an organisationally and financially sustainable management structure, which includes participation of project beneficiaries; and
- i) assure a sustained and properly managed environment.

Project benefits are identified as:

- a) A 160-260% increase in cotton yield and up to a 300% increase in cotton production at full development of the project;
- b) a 200% increase in maize and other food grains production at full development;
- c) production of 7000 tons of beans (mainly sugar) and 450 tons of vegetables per year;
- d) a six fold increase in project revenue from the project area based on current revenue;
- e) levels, resulting in an increase of 200-350% in net margin per ha. per farm household and an average increase of 140% in net income per labour day;
- f) improved access to production support services (credit, extension, marketing, transport, storage, processing);
- g) improved access to social facilities and service according to the norms set by the GOZ with regard to education, health, domestic water supply etc.;
- h) increased employment at the farm level as the project is anticipated to increase labour requirements by some 150-160%;
- i) increased employment opportunities at the project level through the creation of jobs for extension workers, project staff, health and education personnel, private and retail traders, and social and public services staff;
- j) improved nutritional status due to diversification of diet with vegetables, fruit, fish and other aquatic products;
- k) freeing of the women's time due to improved social facilities (shortening distance to fetch water, improved transport to markets, improved crop and livestock husbandry practices). The time gained can be used for additional education and improved timed availability and input for food, cotton and vegetable production;
- l) an overall increase in the standard of living including additional incomes derived from wildlife utilisation, hunting resources and fishing; and
- m) halting environmental degradation through rational and controlled use of available resources by the beneficiaries, through a heightened sense of ownership of arable land, woodland, and hunting resources.

The consultants anticipate that these outcomes are both profitable and sustainable. They envision that much of the decision-making regarding the organisation of irrigation perimeters, the marketing of crops, and the allocation of water should be community based. The technology should be cost effective, simple and appropriate, client-oriented, easily validated and diffused among water users. How to operate under communal tenure systems, how to select irrigation scheme members, and how to establish the rules, regulations and enforcement procedures are identified as problematic areas. Underlying their discussion is a deeper concern about whether or not participants in this irrigation scheme could meet the payments for its operation that will be asked of them. In general, the consultants observe that there is still very little information available on scheme implementation, management and responsibilities of community based schemes in Zimbabwe; a gap which makes planning and implementation difficult. The available literature on the social and institutional bases for irrigation comes primarily from Asia. Elinor Ostrom (1992) has provided an excellent account of how to design for a self-governing irrigation system.

Most irrigation schemes do not, in the absence of long experiences with them, lend themselves to the impressive set of goals laid out for them by the project planners.²⁷ For example, one of the central promises of all smallholder irrigation schemes is to reduce the risk of agriculture by increasing the control of water. Experience in numerous schemes have demonstrated the reverse: life on an irrigation scheme can be even riskier than that of rainfed agriculture. In general, the literature on this type of irrigation scheme elsewhere in Africa suggests that the DIP project planners are over-optimistic in their evaluations of what the project can accomplish, what the costs will be and how long it will be before the whole scheme is fully operational.

6.3 The Mid-Zambezi Land Use Project

The Mid-Zambezi Land Use Project, due to begin as soon as the formal agreement is signed between the GOZ and the EC, will be funded by the EC for a total cost ZWD\$ 64,492,735 (9,921,959 ECUs). The project has several components but the primary objective is to move farmers away from cultivating non-arable to cultivating arable land. This goal is identical to that of the Mid-Zambezi Rural Development Project. It is anticipated that available arable land will be increased by 16% while reducing the cultivated non-arable land by 63% from 13,922 hectares to only 5,100 hectares. The planners note that: *"It is quite possible that, during the course of detailed planning, this 5,100 ha may be reduced even further if farmers using this non-arable land (estimated at 590 households) can be accommodated elsewhere within the programme area"* (1994:109). However, they state that the expansion of the cultivated area will be achieved at the expense of the area presently covered by indigenous forests. Forested land is anticipated to decrease by 6% while the area available for livestock grazing is anticipated to remain static for the life of the project but only if limits on livestock numbers are accepted.

The project is divided into a series of components which are as follows:

- (a) The execution of a detailed hydro-geological survey to obtain more knowledge of the distribution, quantity and quality of the water resources as these will determine the feasibility and the extent of the interventions proposed under c, d, e and f.
- (b) The drilling and equipping of 60 bore-holes in the alluvial soils along the main river-courses to develop irrigated gardens to compensate for the ban on current riverain gardening activities and to provide water for both human and livestock consumption. This component is termed the "Multi-Purpose Water Supply Project".
- (c) The development of a "Community Agro-Forestry Project" including a baseline study to acquire a fuller understanding of the relations existing between people and trees, the establishment of an organised tree nursery and the initiation of some agro-forestry based activities cross-related to projects (b,e and g). These are aimed at introducing community based techniques for environmental rehabilitation and conservation (i.e. establishment of fodder banks and orchards along river banks), and increased access to quality fodder for cattle.
- (d) The opening up of under-utilised areas with agricultural potential, through the provision of infrastructure, facilities, and services, a component called the "Support to Settlement Project". This project will promote a more rational settlement of the populace, better distribute population pressure within the area and make more rational use of arable land resources. At the same time, the risk of environmental degradation will be reduced in the process.
- (e) The "Improvement of Livestock Production Project" which will increase access to fodder by establishing winter grazing areas through the provision of water in under-utilised non-arable lands, and riverain fodder banks.
- (f) "The Improvement of Rainfed Agricultural Production Project", which entails the provision of the necessary physical and non-physical inputs to strengthen the extension, training and adaptive research activities, and the existing District Development Fund (DDF) Tillage Unit which is to promote the adoption of an improved rain-fed farming system aimed at reducing the risk of crop failure and increasing crop productivity.
- (g) The execution of a "Commercial Forest Exploitation and Management Study" to examine in detail the existing indigenous forest resources in order to make recommendations to Rural District Councils concerning their possible commercial exploitation, conservation and management.
- (h) The provision of necessary physical and non-physical inputs, as yet unspecified, to assist in strengthening specific disadvantaged community groups, including women, through small projects which could involve cultural, educational and/or income generation activities. These will be identified during programme implementation. This is called the "Community and Women's Development Project". This element of the programme was specifically requested by the GOZ as a result of discussions held on the Draft Final Report.

6.4 The DIP and MZLUP: Critical Issues

6.4.1 *Land Allocation, Customary Tenure and Participation*

The MZRDP has greatly increased land insecurity in the valley by requiring many families to move and by substituting Project and Council permission to hold land from individuals, households and customary authorities. In addition, as already noted, resettlement schemes are based on a settlers only having temporary rights of utilisation based upon their following resettlement scheme guidelines. Thus, residents no longer believe that they have the same security of tenure that they had prior to the implementation of the MZRDP. This sense of insecurity is intensified, as has also been discussed, because of the particular history of the eastern valley.

Both the DIP and the MZLUP will not respect customary tenure. The DIP will be based upon a permit system to be given to lease-holders of irrigated perimeters. Initially the Project Management Unit will enforce project guidelines. They are to be replaced by water management units later in the project. In this proposed irrigation project, tenure will be based upon following project guidelines and production targets. This is a dramatic shift from the current views of residents toward their land.

The MZLUP planners state that the current intricate communal land system based on customary land does not permit anyone to know who precisely owns what land. They argue, that this system hinders any effective control by the relevant authorities (e.g. Rural District Councils). They conclude that without adequate records there can be no control of immigration and settlement into the eastern valley. This has and will continue to place unsustainable pressure upon its available resources.

Those who favour community based natural resource management systems assert that Rural District Councils and other administrative bodies are too far removed from actual land utilisation to be effective units for sustainable land management. The outcomes of the MZRDP to date point to the massive deforestation of the project area combined with widespread ignoring of project guidelines. This certainly suggests that the planners are under-utilising and under-supporting current tenurial arrangements to reinforce their land management guidelines. Moreover, current restraints upon Government spending both at the national and district levels will place even greater constraints upon their capacity to design and enforce good land use plans.

6.4.2 *Water*

Water is viewed as the single most important constraint to increasing agricultural production, to sustain the rapidly increasing human population and for the valley population to escape from its current dependence upon food for work and drought loans or relief. The critical water issues for the valley are: what are the realistic possibilities for finding sufficient water for valley development and whether or not this is the best use of both national and regional resources to do this? The eastern valley is well known for its variable rainfall. Indeed, like other parts of Zimbabwe, the valley suffered through two extreme droughts in the 1990s. The MZLUP proposes to have project residents rely on bore-hole water for domestic purposes and rainfall for agriculture. The DIP also proposes more bore-holes but a shift in agricultural production from a rain-fed system to a total irrigation one.

The first task for the implementation of the MZLUP will be a consultancy to conduct an extensive geological exploration to find water. The working assumption is that enough water can be found to support the proposed project although as discussed earlier, this has been a long search and it is not altogether certain that adequate water will be found.

The Dande Irrigation Project and the Agritex irrigation plans are both based upon the belief that with irrigation the limited production within the valley can be increased. The DIP documents do not review the other irrigation schemes in the valley, in Zimbabwe in particular, or in Africa in general. The consultants do not review the major constraints to irrigation that characterise many irrigation projects and how they can be overcome.

Even with the implementation of the DIP most valley residents will continue to rely upon rain-fed agriculture and riverain fields and gardens. CAMPFIRE practices in the western wards emphasises local determination of land use. Local residents throughout the valley have not been convinced by government and planners' arguments that riverain cultivation is harmful. Thus the western wards have not had their land use plans done and implemented by planners without community decision-making.

Riverain cultivation has, in the past, depended upon the floods and deep pools in the major rivers. In the case of the Manyame River, the flow has been altered over the past several years through water use in Harare and a series of dams on the escarpment. One can observe changes in the depth of pools, and the decline in flooding. Little attention has been given to water flow and ecological changes associated with the river. The broader pattern of increased water usage on the plateau, and the decline in downstream availability will have a set of important consequences for downstream vegetation, fisheries, cultivation, and land-use in general. Without immediate consideration, the Angwa's waters may also be lost to valley residents in the same way that the Manyame River's waters have seriously declined. The Angwa is central to the continued land-use planning and CAMPFIRE programmes in the western Guruve wards. The consequences of these changes for Mozambique have not begun to be examined.

6.4.3 Wildlife

In general, while there are excellent consultancy reports on wildlife and environment this information has not been taken into account in project planning. In the MZRDP area, it was pointed out earlier that the wildlife component was dropped despite excellent wildlife resources just to the west of the Manyame River. Over-all, the MZRDP has been unresponsive to alternative land-use concerns and to incorporating CAMPFIRE principles and practices. In the same vein, there is little discussion of wildlife resources which might be affected by the Dande Irrigation Project. I might note that the consultant for the environmental impact assessment does, but his or her comments are not included in the final mid-term report. While understandably irrigation projects focus on irrigation, nonetheless insufficient attention is paid in project plans to the other resources required by potential project participants. West of the proposed project area remain significant wildlife resources (on the western side of Chitsungo, Neshangwe 3 and Neshangwe 9 Wards). Altering the settlement patterns on the eastern side and displacing a large number of residents (as yet unknown) will have substantial consequences for settlement on the west. These have not, as yet, been considered. The MZLUP observes that east of the Musengezi River the possibilities of increased wildlife utilisation are dismissed due to the current low levels of game and ecological constraints. The major potential for consumptive and non-

consumptive tourism is in the Mavuradonha Wilderness Area which lies in the escarpment adjacent to the valley road from Centenary to Muzarabani. At the extreme easterly end of the valley, there are some possibilities for wildlife utilisation. Currently the land is not utilised because of the large number of mines still present. How this land will be used remains in doubt.

6.4.4 Cropping Recommendations

Every project proposal for the valley acknowledges that it is a drought prone area. Yet there continues to be an emphasis upon maize as the primary food crop and cotton as the recommended cash crop despite its susceptibility to both pests and drought. There is only minor recognition that the valley therefore poses a major challenge to conventional efforts to alter the production systems in place. While there is some recognition that more drought resistant varieties should be grown, there are no specific proposals for on-farm research trials. In the MZLUP there is the component to improve rain-fed agriculture but what research is to be carried out is not specified.

Cotton utilises large amounts of soil nutrients. Valley small-holders utilise the proper amounts of fertilisers only with difficulty. Small-holder cotton strategies have been to utilise new fields rather than cultivate old ones on a permanent basis. The ecological consequences of permanent cultivation on non-alluvial soils remains to be seen. Continuous cotton production will be highly problematic under such circumstances. Virtually all experts recommend that cotton be grown on the best lands and free-standing (e.g. not inter-cropped).²⁸ This has meant a declining attention to other food crops. Despite the relatively large literature on the relationship between food and cash crops in sub-Saharan Africa little attention has been paid to cotton in Zimbabwe. For example, Mariga who summarises the history of cotton in Zimbabwe emphasises the technical solutions for increasing production rather than any discussion of its consequences for communal area smallholders.

The cropping recommendation for the DIP is that cotton be alternated with sugar beans as the primary irrigation crops. No effort is made to calculate the impact of drought or disease upon models of crop budgets. The project can only be economically justified on the basis of high value cash crops even though its rationale is to increase food security for the valley residents.

6.4.5 Livestock

Cattle ownership in most of the eastern valley, as elsewhere in rural Zimbabwe, signifies wealth. It also marks the potential to cultivate larger areas of land and have means of transport for carrying water, wood, people and crops. Other than in Kanyurira Ward where residents have opted not to have cattle, ownership of cattle provide households with draught power, stored capital for emergency, the means to hold important ceremonies and transport possibilities. There is little disagreement among residents that there should be no restrictions upon livestock ownership. However, first the MZRDP and now the DIP and the MZLUP emphasise the need to limit the numbers of livestock or excluding cattle herds altogether. The MZLUP supporting documents observe that there is little current evidence that there is a shortage of pasture. Still, a major component of the MZLUP is designed to create grazing areas along streams and rivers. They propose to improve the pasture and to develop fodder production for cattle which would limit their movement thus controlling the

potential environmental degradation. One cannot emphasise too strongly that there has been no serious study of the ecological consequences of greatly increased numbers of cattle, goats, sheep and donkeys in the valley. Nor have there been studies of the ecological consequences of tractorisation; particularly on the valley's soils:

In the Dande Irrigation Project the consultants view cattle in the project area as a major risk to the national beef industry through the transmission of foot and mouth disease and trypanosomiasis. Hence, they advocate continued support for the policy of severely restricting the numbers of cattle. I might add that the area of the proposed irrigation scheme has some of the highest livestock numbers in the valley. The idea that government will impose complete de-stocking is highly problematic, Project planners continue to advocate the use of tractors as a replacement for livestock and thus there is a major tractorisation component in both schemes.

6.4.6 Forestry

The use of forestry resources is given much greater attention in MZLUP than in previous projects, particularly the MZRDP. This focus on forest resources is ironic in light of the massive deforestation brought about by MZRDP policies, particularly its policy of opening up arable lands which resulted in the burning of thousands of acres of forest. This is not to say that farmers' practices, particularly larger-scale cotton growers, have also not resulted in extensive deforestation. In the MZLUP there aren't clear recommendations beyond the need for a study of the potentials for commercial forest exploitation and a management study to examine in detail the existing indigenous forest resources in order to make recommendations to Rural District Councils. These slight efforts at forestry conservation and management may be overtaken by the reactivation of the Mopane Sawmill Corporation located in Muzarabani and owned by the Zimbabwe Development Corporation, which is currently being electrified. It is significant that the Rural District Councils are currently unable to control the ongoing settlement of escarpment lands which are resulting in both erosion and deforestation threats. It is unclear how RDCs will be able to control similar processes in the valley.

6.4.7 Environmental Protection

The protection of the valley's environment continues to receive very narrow treatment. Emphasis is placed in the MZLUP on moving people off of non-arable lands and away from riverain cultivation. In the Dande Irrigation Plan it is hoped that with the creation of irrigated perimeters there will no longer be any need for riverain cultivation. The environmental consultant for the DIP hopes that the remaining forests can be kept on riverain land. The MZLUP does not propose any new strategies for riverain lands other than a continuation of past policies to convert them to grazing areas. Over-all, despite emphasis upon the "ecological fragility" of the eastern valley, little attention is paid to a holistic view of resource use and conservation. Moreover, technical knowledge by "experts" has predefined what constitutes "non-arable land" without any consultation or discussion with local communities and farmers.

6.4.8 Women

Both project documents heavily underscore the importance of women. While on the one hand there is the recognition that women are essential to the rural economy, on the other

hand the projects are based on a series of insupportable assumptions about male-female differences. For example, the MZLUP Main Report states:

"Men tend to dominate in domestic chores which require physical strength and dexterity, such as roof thatching, construction of kraals, ... and the more technical aspects of agriculture such as land preparation, fertilizer application and pest control. Women tend to concentrate on more time-consuming agricultural activities..." (Vol. I. 1994: 62)

Both projects continue to assume that men are the primary farmers. In the DIP, the report asserts that women will tend to be disadvantaged in an irrigation project. Yet, ironically, there is little integration of women's actual productive, social and reproductive responsibilities into the proposed projects.

Women are divided into three categories - married, divorced, and widowed. The types of differentiation usually applied to men - ethnicity, land-owner, long-term resident or migrant - are not thought to be relevant for women. It would be unthinkable to use men's marital status as the basis for their participation in the project initiatives.

It is instructive to examine how women have and have not been incorporated into past and present projects. CAMPFIRE in Kanyurira provides an example of how NGOs working with a community can be a catalyst for a more inclusionary view of women while the MZRDP, the DIP and the MZLUP are less than exemplary.

It is acknowledged in most contemporary analyses of rural Zimbabwe, and this marks a great contrast with the colonial period, that women have had to shoulder an increasing share of agricultural work while continuing to obtain water, collect firewood, prepare food, care for children and earn income from a range of activities to help support the family.²⁹ At the same time, the actual practice in resettlement schemes and development projects has been to consider men as the heads of households. Women can obtain permits for resettlement land only if they are widows. Neither married nor divorced women could, for the most part, obtain land on their own in the MZRDP. There are a few exceptions but these have been special cases usually involving a personal relationship with a Ward Councillor or Resettlement Officer.

Leaving aside tenurial issues, women's productive activities have not been systematically included in either past or present development interventions. For example, most women have vegetable gardens which they use to both provision their families with greens and to sell what they can. These gardens are often hand-irrigated and located near streams and rivers. No effort has been made to quantify either their contributions to their families' nutrition or the income that they earn. Nor have the variations that exist among women been considered. In addition, no effort has been made to examine the nutritional status of families that have access to garden land with those that do not. Thus, while all the new projects claim that they will assist women, not one actually examines what women do. In addition all the proposed interventions - the MZRDP, the MZLUP and the DIP - recommend that no more riverain gardens be permitted. The MZRDP and the MZLUP mandate that women have bore-hole gardens while the DIP suggests that women grow their crops in irrigated plots. These are not regarded as equivalent to or as adequate substitutes for riverain gardens by most valley residents. The bore-holes in the MZRDP are particularly problematic. In many instances they were not drilled well, and when they break-down they

are not repaired promptly, if at all. Those bore-holes that currently function well are subject to multiple use. Multiple use makes gardening in the vicinity risky due to the presence of large numbers of animals.

Moreover, all the proposed projects centre on increasing cotton production. None of them have examined what has happened to women's social and economic position in the valley as a consequence of expanded cotton production. Such questions as: 'Do women have to work longer or harder?'; 'Have they gained or lost in social position within households and communities?'; 'Do they receive direct remuneration for the amount of labour they invest in this cash crop?'; have not been asked.

CAMPFIRE is of particular interest with respect to women since hunting is predominantly a male activity. Matzke and Nabane (1994; 1995) and Nabane (n.d.) indicate that the changes brought by CAMPFIRE - while disproportionately benefiting men to date - have, nonetheless, begun to bring demonstrable changes to women. While receiving less employment, education, and training than men, women are still getting more of each benefit than in the past with the clear potential for growing opportunities. Moreover, the community's use of wildlife revenues to build a school and clinic are responding to the clear and palpable interests of women. While the original land-use plan for Kanyurira took insufficient account of women's needs for gates in the game fence to enable them to obtain firewood and other forest products, the community has responded to their needs and concerns. In sum, a process has been created in which women can and do articulate their interests; and men, both because of the soundness of women's arguments and the availability of income from wildlife, respond positively to those concerns.

The reason to explore how women are considered in land-use planning is to emphasise how they have been ignored and to re-emphasise my earlier point that current approaches to land-use planning are not people-centred. Land-use plans remain rooted in prior models and have not incorporated community variations and gender differences.

6.4.9 *Lessons learned from the Mid-Zambezi Rural Development Project to be Applied to the Hew Generation of Projects*

The Mid-Zambezi Valley Land Use Programme makes explicit the lessons they believe have been learned from the Mid-Zambezi Rural Development Project. The most objectionable aspect of the MZRDP according to them, was obligatory resettlement. Thus they write: "*except where unavoidable (e.g. because of the construction of a dam or road), resettlement and relocation should be voluntary and by consensus*". (Main Report 1994:156) They emphasise that the experience of coercive resettlement which has been conducted for the past seven years (and still is not completed) in the MZRDP should not be repeated.

The consultants then list the lessons that they drew from the Mid-Zambezi Rural Development Project. They are as follows:

- 1) Lack of participation of the local population in the MZRDP should not be repeated. Rather local populations should be engaged in all planning and implementation processes.

- 2) Coercive re-organisation of land use and settlement is unacceptable and leads to conflict.
- 3) Farmers should be encouraged to relocate, where necessary, on a voluntary basis.
- 4) Farmers will relocate if they perceive some benefit.
- 5) Farmers should fully understand the need for, and the consequences of, re-planning and re-organisation.

While these lessons do entail a shift in thinking and perspective on how to conduct land use planning, it is necessary to explore the degree to which they entail different principles and practices than the MZRDP. I will explore issues of participation, riverain cultivation, land tenure, migration and livestock before examining how the Dande Irrigation Project has assessed the MZRDP.

1. One can question whether the programmatic dimensions are sufficiently outlined to achieve the specified goals of participation. The project starts by assuming that farmers are living on non-arable land. The land that is regarded as non-arable includes both riverain and mopane areas. The continued emphasis upon convincing (or forcing) smallholders not to cultivate along rivers seems doomed to failure under current circumstances.
2. The project plans which deny all services to those not living in properly zoned areas are coercive and are likely to be perceived as such by local residents.
3. Those who are currently cultivating more than the project's stated limit of four hectares per household are also likely to feel that they have had little voice in decision-making.

What does participation mean if the amount of land as well as its location that can be farmed is decided upon by the project? Embedded in the project plans and annexes are a series of statements that clearly indicate that planners know best. In addition, these plans reflect a misunderstanding of current systems of land-use. For example the consultants write:

"No organised development of household dwellings or villages has taken place. This often has the effect of minimizing the impact of the establishment of infrastructure and services. It is also often the case that dwellings and settlements are located on potentially arable land" (1994: 155).

They contend that the problem with the intricate communal land tenure system is that there is no official record of existing land allocations; this in their view hinders effective control by the relevant authorities, i.e. Rural District Councils, over land allocation and immigration into the study area. The consultants show no respect for how long-term residents and migrants organise their communities, how they have adapted to each other, and how they have sought to make a living from a difficult environment. Nor do they appear to respect the complexity of tenurial rights bestowed by chiefs, headmen and mhondoros. Like most planners, the MZLUP consultants propose to remove the ambiguities and complexities from the existing tenurial system, an action which seems unlikely to succeed at least for the present. If past experience is a guide, then chiefs, headmen and mhondoros must be

engaged, along with Rural District Councils, to assess the consequences of continued in-migration and promote actions to discourage it. To place the full responsibility upon Councils seems, if the MZRDP experience is relevant, destined to be a failure.

6.4.10 The Dande Irrigation Project and the MZRDP

One surprising feature of the Dande Irrigation Plan is that the Terms of Reference for the Feasibility Study were written in 1989. In 1989 massive resettlement was planned or was occurring as part of the Mid-Zambezi Rural Development Project. Thus, the Africa Development Bank, the same donor funding the MZRDP, was planning an irrigation project involving resettlement in an area in the midst of being resettled. The Dande Irrigation Project paid scant attention to the MZRDP except to observe in the main report that some valley residents had been resettled and that more than fifty percent of the residents surveyed objected to an irrigation scheme. The environmental annex contains a more detailed discussion of the MZRDP. The consultant observes that the provision of irrigation will make it possible to move people away from the alluvial terraces along the rivers. He supports this move arguing against the continued use of riverain terraces for gardens without advancing any arguments to support his position except the implicit notion that these are areas of remaining riverain woodland and should be protected (Annex I Environmental and Health Aspects, p. 38).

The DIP consultants seem to have had little understanding of the amount of resettlement that had already occurred in the area and the disruption it has caused. In the Annex on Agricultural Development two categories of residents are identified: settler farmers and indigenous farmers. The consultant appears to have fundamentally confused the nature of resettlement that had occurred suggesting that 808 settler farmers had been settled in 22 villages while indigenous farmers numbered only 200. It is not clear who the settler farmers and the indigenous farmers are, as both more recent migrants and long-term residents (indigenous farmers) have been resettled in new villages formed by the MZRDP. In addition, the consultant suggests it is incorrect to assume that the rapid population increase in the area was due to the creation of the Mid-Zambezi Valley Project. The migratory flow resulted from changes in the southern half of Zimbabwe, and from increasing knowledge about land and pasture abundance in the eastern valley.

Since 1989, according to the consultants, the influx of settlers in to the Zambezi Valley increased to the point that it severely threatens the valley's fragile environment. As a result of the present high population density in the Mid-Zambezi Valley, the consultants propose another project objective to the DIP: *"To halt environmental degradation by creating a manageable area in the Mid-Zambezi Valley"* (November 1994: 22). This statement echoes arguments advanced for virtually all land-use planning in the valley; that without proper planning people cannot be controlled and that local communities cannot themselves be empowered to engage in such planning. In none of these project documents (either the DIP or MZLUP) is there reference to CAMPFIRE efforts for communities to design and manage their own land use plans.

My intent is not to argue that uncontrolled migration into the valley is a good or desirable thing. What is clear is that the Mid-Zambezi Project has failed in its objective of controlling in-migration. There are no clear arguments presented by either the MZLUP or DIP as to why they would be more successful in decreasing in-migration. In fact, if the DIP were to

proceed, one would expect further disruptions and resettlement which would jeopardise CAMPFIRE programmes in the western wards.

In addition, local communities have been unable to control their own tenurial situation because of the projects and because of politics at District and Ward levels. Customary authorities have not relinquished what they believe are their rights despite efforts by government and these development projects to usurp them. District Councils themselves do not act in a consistent fashion, much less individual councillors who are most knowledgeable about Council's thinking and decisions. For example, one Ward Councillor from Guruve Rural District Council, whose constituency is in MZRDP project area allocated 23 parcels of land for homes and fields to new migrants knowing full-well that District Council and the MZRDP specified that no new land was to be allocated outside of the project demarcated residentials and arables. In essence he pegged new land which had already been declared non-arable by the MZRDP. Other councillors, sabhukus and VIDCO chairmen have done the same, often being accused of accepting money in the process. This political context is critical to project functioning. Project goals to control migration are likely to be seriously compromised if they are not supported by local leadership.

The MZRDP, DIP and MZLUP all accept the notion that livestock will be destructive of the environment. Thus they have all promoted tractorization. In both the MZLUP and DIP there is the usual assertion that tractors can replace livestock and that strict controls over livestock should be maintained. As noted earlier, the MZRDP has been totally unsuccessful to date in successfully controlling livestock numbers. The view that farmers will choose tractors rather than livestock ignores, for example, the ARDA study conducted in 1986 which demonstrated that the initial members of their tractorisation scheme designed to benefit larger-scale small-holders used their profits to purchase livestock and then leave the scheme (Sibanda 1986). There has not been a serious revisiting of the question as of the economic and social viability of tractors in the eastern valley. The Lower Guruve Development Association has not been able to break-even on the ploughing services that they offer, not even when these were combined with transport. While a few farmers own tractors, these are not economically profitable on the designated land area (5 hectares) allocated by the Mid-Zambezi Rural Development Project to households. The MZRDP itself was to have obtained fifty tractors to form tractor groups in the project. None of the tractors were ever purchased and thus this part of the project was never implemented.

6.4.11 *Conclusion*

In sum, the lessons learned from the MZRDP and the counter-model of CAMPFIRE have not been incorporated into the new projects despite statements suggesting that they have done so. The tensions and conflicts surrounding land-use planning remain, and indeed will be intensified by irrigation projects and the continued emphasis placed on moving valley residents away from riverain lands. These projects, as currently envisioned, will only intensify the contradictions between project objectives of participation with the other goals of the DIP and MZLUP.

PART 7

The Organisational Environment

The central tenets of community based national resource management are not being incorporated into the agriculturally based interventions while they are being taken into account in the CAMPFIRE based wards of Chapoto, Kanyurira and to a lesser extent Chisunga. Community based natural resource management programmes rely upon community ownership, or at minimum very strong tenurial rights, in those resources. As Professor Murphree of the University of Zimbabwe has correctly observed: residents of communal areas in Zimbabwe do not have strong property rights in either the land or in their resource base. The rights that residents in the valley did have, have been undermined; initially by the Native Land Husbandry Act, followed by the keeps, and then by the Mid-Zambezi Rural Development Project. The documents for the new development interventions suggest that residents' tenurial rights to land will not be increased or strengthened.³⁰ Indeed, land insecurity will be increased. Residents are clear to point out the contradiction between statements that 'they own the animals' but that they cannot control their land.

Both the Zimbabwean Government and the colonial Rhodesian one have tried to limit the size of household land holdings; first in the reserves, then in resettlement areas and now in both the Dande Irrigation Project and the Mid-Zambezi Land Use Programme. There is surprisingly little analysis of the rationale for this policy. It is a clear example of the application of a uniform government policy which over-rides any local or community decision-making. In addition, it takes no account of ecological variations between and within communal areas. It is particularly surprising to find that in the MZLUP project land-holding per household will be limited to 4 hectares rather than the MZRDP's 5 hectares. Farmers in these areas, even if we may disagree with some of their cultivation practices, have every right to ask why the government is attempting to constrain them in improving their standard of living or becoming wealthier. There is a very strong collective memory of the Native Land Husbandry Act which also attempted to limit the size of African holdings.

All development interventions and projects in the valley claim that the standards of living will be raised and that the environment will be protected. This has been the case since colonial times. At the same time, farmers' knowledge is discounted, community social structures are regarded as irrelevant, and planners ignore them. Meanwhile as described earlier, the division of lands into arables, residentials and grazing areas takes no account of micro-ecological variations. The DIP and the MZLUP (and the MZRDP) do not begin with the assumption that valley residents are knowledgeable agents, who are making a living in a tough environment. Indeed their experiences are deprecated. Moreover, I have heard it argued by social scientists, planners and project implementers that valley residents are used to moving due to their system of shifting cultivation. While considerable movement took place in both pre-colonial times and even during colonial years, this kind of voluntary movement involved searching for new fields, villages, and fissioning of kin groups. It had a decidedly different character than that which took place following establishment of NLHA: moving people around, keeps, and now resettlement. In my estimation, the new irrigation proposals and the MZLUP will keep the pot boiling and people riled. It is very unclear who will actually benefit from the project's implementation other than those who are employed by it. On the more pragmatic side, the projects involve heavy management costs and

operations, which may be beyond the capacity of the different project management entities that are to be set up to be established. Most importantly, these projects will prevent communities from creating the organisation and structures necessary to manage their natural resources on a sustainable basis.

Given these difficulties, what are the strengths and weaknesses that different levels of government and different line departments bring to eastern valley development? In general, the range of government ministries and departments active in the valley is impressive. This represents both a past and current commitment to provide services to the area. Many of the shortcomings experienced are common to much of rural Zimbabwe - insufficient trained personnel in agriculture, medicine, equipment, etc. There are, however, elements which are different due to the history and current land use in the area. Two of the best staffed and active agencies within the eastern valley are Tsetse Control and the Department of National Parks and Wild Life Management. Tsetse control continues to monitor herds, carry out clearing and target placement and maintenance. It remains logistically capable of keeping large groups of employees out in the bush to carry out these functions. National Parks also does the same, but their budget often runs out early in the fiscal year, leaving them handicapped in performing essential functions. Other departments such as Agritex, Veterinary Services and the District Development Fund are also attempting to provide information and services to a rapidly increasing and dispersed population.

Rural District Councils are in the process of regrouping after the amalgamation of Rural Councils and District Councils. They are expected to do more with less. Therefore, they have a high degree of interest in actual or potential revenue generating activities - beer halls, CAMPFIRE, tourism and the like. Thus elements within the central government - Agritex and the Department of National Parks and Wild Life especially - have understood that there are limits to what government can do. Rural District Councils find themselves increasingly under pressure to generate more revenues and Councillors are also sought out to provide advantages to individual entrepreneurs or companies.

Rural District Councils also play a major part in national development projects and priorities. In the case of the MZRDP, DERUDE did not ask Guruve and Muzarabani District Councils if they approved of the MZRDP. These Councils are, however, left with all the responsibilities for finishing the project and enforcing its policies. This will be equally true for the next generation of projects. DERUDE did not, in the end, have the authority to remove residents from their riverain homes and fields. This was left to Muzarabani and Guruve Rural District Councils. They do not, as yet, have the will or capacity to enforce many of the central provisions of the MZRDP. In addition, and central to the discussion of the relationship between and among units of government and local populations is who owns the land and who allocates the land. The Mid-Zambezi Rural Development Project profoundly altered land tenure systems in the valley as well as heightening land insecurity (which of course was neither the project's nor government's intent). The MZLUP and the DIP apparently view land security as unimportant compared to their other objectives. In striking contrast, proponents of community based natural resource management systems (including CAMPFIRE) see the need for land security as a major means to achieving better land management.

Metcalfe (1995), Murphree (1995) and Peterson (1991) - among others - draw attention to the tensions that exist among the different levels of government and local communities.

Metcalfe's paper (1995) points to the underlying difficulty of empowering local communities without a clarification of land tenure. While his discussion is focused upon grazing land, it can be applied equally to all land. Metcalfe suggests that the Rural District Council is too distant from its component communities to be able to equitably and sensibly *practice* land allocation. If RDCs cannot carry out this function, then who should? How much local and regional variation can be permitted? How should the central government and RDCs respond to land-tenure issues for women? If one relies again on sabhukus/headmen how can their abuses be limited, or to whom are they accountable? The transition from local governmental authorities (Council, WADCOS and VIDCOS) to chiefs and sabhukus may be more problematic than imagined unless they are rooted in community interests. Murphree recognizes this by observing that:

"The principles of communally-based resource management regimes do not necessarily require the presence of traditional structure of power and authority. They do, however, require a viable quantum of collective consensus in the local, proprietorial unit, even if internal divisions exist."
(1995: 18).

The contrast between CAMPFIRE with its emphasis upon the development of representative local community bodies for decision-making (be they traditional or not) and with the MZRDP, DIP and MZLUP could not be greater. The projected plans of DIP and MZLUP call for new management entities. Without analysing them in detail, these plans do not build upon already existing local institutions. Indeed, in the DIP, there would have to be an intensive management intervention which would include a project management unit along with irrigation groups responsible for the operations of the irrigation perimeters.

The issue of whether or not local communities retain their capacity for self-management after being reorganised by the Mid-Zambezi Rural Development Project is of critical importance. Equally significant is the issue of whether or not government agencies would permit such self-management, and if so, how and in which domains? What is the appropriate balance between local and extra-local management? What guidelines should be established in this respect? The answers, I suggest, are to be partially found in Metcalfe (1995). In his discussion of range-lands reform, he emphasises the importance of resource user groups which are responsible and accountable to villages, which in turn are responsible to the wards. An assumption in much of the community based natural resource management literature is that communities need to be homogeneous for such groups to operate well. "Homogeneous" remains an unproblematized category. Does this mean homogeneous with regard to gender, class, ethnicity, age, length of residence, common occupation, cattle ownership, etc.? It would be unfortunate if CAMPFIRE goals were only deemed appropriate for so-called homogenous communities. Since wealth and status differentiation and ethnic diversity is typically the norm, strategies need to be developed which are appropriate for these communities.

Inequality and wealth differentiation is widespread in rural areas - in Zimbabwe as elsewhere. Without the national government, NGOs, and other organisations consistently advocating the importance of broad-scale participation, of women's benefiting from development initiatives, and of transparency in the allocation of money and resources, it is all too easy for new resources to be controlled and utilised by those already in positions of relative wealth and power. On the other hand, the reverse can also be the case. communities may be far more egalitarian and participatory than an external organisation

(either governmental or an NGO) and external resources may lead toward increasing internal inequalities. These concerns will become heightened as major USAID resources are being made available to those participating in CAMPFIRE. These generalisations aside, what is needed is a careful assessment of local communities and regions to learn how the local political scene and allocation of resources actually takes place. With locally grounded knowledge of resource management and allocation, appropriate interventions can be developed with the affected communities. In addition, the appropriate scientists and planners need to undertake a continuous give and take with local communities to redefine the relationships between producers and consumers of knowledge.

PART 8

Policy and Land Use Planning

The central ideological construction of development for the Eastern Zambezi Valley from the Manyame River east continues to be the view that with proper land-use planning, solutions can be found to both the valley's underdevelopment and the protection of its environment. However, both the Mid-Zambezi Rural Development Project and the new proposed ones do not challenge current land-use assumptions nor assess their inadequacies. CAMPFIRE, if broadened from its emphasis upon wildlife, serves as a counter-model which only partly challenges the dominant framework.

Since the mid-1980s, the eastern Zambezi valley has been transformed from a verdant to a deforested, dust-filled zone, with thousands of new farms. The contemporary patterns of migration into the valley (not only the east) is historically rooted in an effort by the Rhodesian Government to re-organise what were then termed the Reserves and to find new areas for displaced farmers. In addition, the use of frontiers for human settlement results from the growing scarcity of good farm land and pasture in the communal lands of Zimbabwe. It is indicative of the land-scarcity in other portions of Zimbabwe that so many migrants choose the drought-prone Zambezi Valley in which to settle. The current government, with the assistance of the European Economic Community, Food and Agriculture Organisation, Overseas Development Administration, and the African Development Bank have continued to press for the intensification of population and production in the Eastern Valley. This view of the valley as a host for the over-populated communal areas has a long history as has been demonstrated earlier. Due to the heavy in-migration into the valley, there is a dramatic shift from a more diverse natural resource management system to primary reliance upon cotton and maize. These population and agricultural changes are profoundly altering the valley's ecology, and the relationships between people and nature. To date, centralised planning has not worked. Efforts to control in-migration have been ineffective and alternative solutions need to be generated. A workshop on the patterns of in-migration throughout the valley may be in order to see who identifies it as a problem and what solutions can be found to reduce it in those areas where local communities find it objectionable or unmanageable. Perhaps trips should be arranged for valley residents to the Sabi valley to demonstrate the consequences of ecological degradation. Professor Scudder recommends that the Lusitu area also be used for such comparative purposes.

The eastern valley dramatically contrasts with the ecologically similar area just to the west of the MZRDP's end at the Manyame River. In this western zone population densities are much lower and economies are established upon a more diverse use of the natural resource bases. These are the wards where CAMPFIRE has had the greatest successes, but where only a small percentage of the eastern valley's population lives. The challenge thus becomes how to shift the basis of land-use planning away from the large-scale bureaucratic modes to incorporate local understandings and to find local solutions to problems. It is critical to prevent the rapid destruction of the resource base in the eastern valley and to retain as great as possible diversity of livelihood strategies.

The linkage between the maintenance of biological diversity, protection of soils and forests, and a multifaceted rural economy needs to be recognised. However, this strategy upon

which CAMPFIRE is based is not at root, the foundation of other development strategies. It does not appear that, apart from CAMPFIRE, the new round of development interventions have incorporated the changes in theories and practice learned from past historical and development experience. The complex realities of the eastern valley have not produced new strategies relying upon both planning and local knowledge and local organisations.

In conclusion, it needs to be emphasised that there is a need for planning and for science. This paper should not be read as being negative toward either. Rather, it calls attention to the tension between centralised knowledge and control and decentralised knowledge. Planners and managers always seek to oversimplify and they find it difficult to adopt to changing information. CAMPFIRE seeks to provide a mechanism for combining multiple perspectives and changing information. This model needs to be extended to the larger and more influential development projects and programmes that will result in the over-specialisation of the human social systems which will, in turn, further complicate the search for sustainability. If central control does not and probably cannot work, then there needs to be a decentralised exercise of power combined with a different vision of science. CAMPFIRE's use of ecologists, wildlife specialists, social scientists, etc., has remained unexamined but serves as a model for a "civic science" in which scientists responsible to different constituencies work with communities for long-term sustainability.³¹ Both decentralisation of land use planning and civic science require democracy for the difficult processes of sorting out what can and should be done about environmental problems.

Although the report urges local empowerment, civic science and participatory research methods, there are multiple arenas - both ecological and social - in which these approaches will not be sufficient. For example, there needs to be creative and adaptive strategies which link watershed or river basin planning with irrigation schemes, water uses and their effects upon non-human life. All life in the valley depends upon water whose supply is jeopardised both by drought and agricultural diversions. The flow of the Manyame River has been altered by dams and irrigation and the waters have been fully righted without any consideration of its consequences for wildlife, vegetation and riverain cultivation in the valley. The report has been weighted in small-scale and locally oriented approaches in order to stimulate debate about the continued dominance of the blueprint approach to land use planning rather than one founded on adaptive management strategies and civic science. The report has also emphasised local knowledge because it is more detailed, more persuasive and often contrary to the inclinations and plans at the centre of power. Local actors find themselves obliged to tell the centre what matters need attending and what the consequences are of uninformed policies. As Lee acknowledges (1995), to change the centre's grasp of what their actions mean and their consequences fosters conflict. It is conflict that can be productive. The incorporation of the knowledge systems of valley residents into land use plans can only improve these plans. After all, it is the valley residents who continuously assess their resources, constraints and balance between livestock, wildlife, agriculture, trees, disease and water and thus are ultimately responsible for the valley's future.

NOTES

1. I would like to thank WWF-Zimbabwe and the Centre for Applied Social Sciences for the opportunity to write this report. It could not have been done without the assistance of the National Archives, the Agricultural and Rural Development Authority, and the librarians at the Department of National Parks and Wild Life Management Library. The discussions I had with my colleagues at CASS have, I hope, found their way into this document. In particular I would like to thank Professor Murphree, Drs. Matowanyika, Murombedzi and Nhira, Mssrs. Jackson and Dzingirai, and Ms. Nabane for their thoughtful and helpful comments at different stages of my work. At WWF, Dr. Tim Lynam provided welcome council, discussion and criticism at different stages of my work. I owe a special debt to Anne Ferguson who took much time from a very busy schedule to edit this draft. Needless to say I am solely responsible for the interpretations - both their strengths and weaknesses - expressed.

This report is organized into eight sections which correspond to the Terms of Reference discussed at a meeting with WWF/CASS and myself on May 18, 1995.

2. This is not to discount the west-east links and ties. What is often missing however, are north-south international links to Zambia and Mozambique. Lake Kariba divided a common people, and the British South Africa Company and the Portuguese did the same when they created the boundary between Mozambique and Rhodesia.
3. The current debate about whether or not to form a separate district for the valley portions of Guruve and Muzarabani Districts does not seem to include the perspective that the watersheds are on the escarpment and that maintaining close political links to the plateau may better serve the longer-term interests of the valley than trying to gain greater control from valley resources, including wildlife.
4. In examining the "drivers" of Zambezi Valley history, there is an important philosophical and social science discussion that has yet to take place focusing upon the difference that consciously planning makes. We assume that during the pre-colonial period conscious holistic environmental and social planning did not take place. We assume that the colonial and post-colonial state planning makes a significant difference in the direction of change. It is my assumption that the drivers of change in the valley have changed over time due to changes in availability of resources (gold and elephants for example), the markets for commodities, the changing nature of trade (for example, the ending of the slave trade), the kinds and types of states that were hegemonic in the valley, the ebbs and flows of diseases and human populations, the altering of the flow of the Zambezi River itself, etc. This constitutes only a partial list of factors which would need to be incorporated into any periodisation of valley history.

5. Prazos originated in the sixteenth century, including the Zambezi Valley. The name only came into use in the 18th century. They were not abolished until the 1930s. Newitt writes:
To the Portuguese they were land grants held under Roman Law contracts of emphyteusis, but from the African point of view they were essentially chieftaincies and as such part of a complex system of social and economic relations bounding together all the peoples of the region (1995: 217)
 A prazos was a long lease held by a prazero.
6. It is perhaps indicative of efforts to transform the valley that while the prazos had formal status in Portuguese law, they were in practice groups of chiefdoms run by the same structures of authority as had existed before the Portuguese arrived. These prazos according to Isaacman were dependent upon slave armies, the Achikunda. The armies from the different prazos fought against each other keeping the Zambezi Valley in frequent turmoil. New slaves for the prazos were obtained from the Yao in what is now Malawi. Thus the valley was a frontier zone from the 17th-19th centuries.
7. There are multiple aspects of Chikunda history which would be a fruitful arena for further research. Isaacman observes that crucial to the formation of Chikunda identity (as they became autonomous and not just Portuguese slaves) was hunting elephants and ivory trading. For an exploration of the ending of Zambezi Valley slavery and Chikunda identity see Isaacman and Rosenthal 1988.
8. Even as keen an observer and development practitioner as Simon Metcalfe wrote in 1994 *"Perhaps in part because of their remoteness, the Korekore are still very traditional in customs. The roles of chiefs and spirit mediums remain very important in land matters."* (1994: 168). Remoteness needs to be spatially and temporally contextualized. Before the rise of automobile transport the valley was relatively isolated. With the construction of new roads and widespread bus transport it is no longer so.
9. One of the people we interviewed was a former resident of Gota. He made no distinction between how he was forced to leave Gota and current efforts to force him from his land along the Manyame River in the village of Nyambawhe.
10. Annual Report of the Native Commission, Urungwe, for the Year Ended 31 December, 1957.
11. Lomagundi District Annual Report 1924 and Native Commissioner's Office: Annual Report for 1924 (printed in 1925) P. 4.

12. This time period has been described and analyzed in David Lan's celebrated book Guns and Rain. Without detracting from his accomplishment, he does not pay attention to the war's consequences on the broader economy and social organization within the valley.
13. For reasons that are unclear, the Mid-Zambezi Rural Development Project based upon the analysis of Dr. K. El Harizi (1985) chose to ignore the census data from District Councils which listed 24,000 people as living in the Mid-Zambezi Project Area in comparison to the 19,000 which he estimated. The Hawkins consultancy (1982) estimated only 10,600 residents in the area.
14. I interviewed Mr. Zengeni in August of 1994 in Chitsungo. He kindly provided me with figures for the Mushumbi/Chitsungo area.
15. The report maintained that there are 7,384 hectares to be irrigated at Mushumbi, 1,060 at Muzarabani and another 1,010 at Masomo, Gutsa and Kapembere. The cost of electricity per hectare would be \$729.00 for a total cost of irrigated development of \$4,481.00 Zim at 1982 prices. The cost of the project was very low, even for that time, given the assumption that the Mazvikadei dam would be built anyway and that the water costs would be only \$30.00 per hectare for the winter season.
16. The Lower Guruve Development Association is a product of the Lower Guruve Development Programme (LGDP) which was started in 1984 by the Lutheran World Federation. The objective of the programme was to overcome the general lack of development in the area by creating an "animation" process to facilitate communities expressing their own priorities. The LGDA was officially established (with constitution and registration) in July of 1990.
17. There continues to be a lively debate about the relationship between population and agricultural growth. Kates, Hyden and Turner term those who view the relationship in negative terms as neo-Malthusians. They expect that population will outstrip agricultural change leading to environmental degradation, poverty and famine. In contrast, they term those who view the change in positive terms as Boserupians. These people argue that population growth is a stimulus for an intensification of agriculture which leads to increased technological change, greater division of labour, and a raising of the standard of living. Kates, Hyden and Turner do suggest that there is no macro-theory or approach to explain Africa's agricultural crisis. Rather, they argue to an examination of the role of intensification. They suggest that population increase can and does lead to what they view as positive change. They believe that Africa has been accommodating its increased population although not without difficulties. But they do, in general, reject an apocalyptic scenario (Boserup 1981; Turner, Hyden and Kates 1993).

18. Professor Scudder, in responding to a draft of this report, discussed the relevance of the long-term research findings on Lusitu that might be relevant to the Zimbabwean side.
19. There is an enormous literature predicting the coming catastrophes. A recent and well-reasoned non-apocalyptic approach is Kevin Cleaver's and Gotz Schreiber's book Reversing the Spiral: The Population, Agriculture and Environment Nexus in Sub-Saharan Africa.
20. Outside of the MZP area there have been increasing numbers of new settlers in Chisunga Ward as well as in Muzarabani.
21. Matsiwo A (an area including Musengezi and Chidodo in the north eastern portion of the project zone) resisted for several years any effort to have its land pegged. This was partly due to the resistance of the Ward Councillor and the Mhondoro. A new ward councillor was elected and the spirit medium accepted governmental housing (as a former combatant) which the project took to mean that he accepted the project. In addition, Nehanda's area (the recognized mhondoro of the area who currently is not possessed by a medium) will not be pegged but reserved for the mhondoro and her medium. The project followed a carrot and stick approach. On the one hand, they refused to open a new school until the residents agreed to the project, and on the other they promised a new clinic and other concessions.
22. *Personal communication*, December 1995.
23. For an elaboration of these ideas see Derman and Murombedzi 1994.
24. Alexander (1994) and Drinkwater (1991) point to the differences that exist and existed between DERUDE and Agritex on land-use planning issues. Now that many of DERUDE's functions are being given to District Development Fund and Provincial Planning it remains to be seen if this will lead to a new era of land-use planning.
25. The newly expanded CAMPFIRE activities will not be elaborated on since they were in process and are already well known by CASS and WWF. This is not to diminish their importance in any way.
26. The Consultants' changed their recommendations between the mid and final feasibility studies. In the mid-term report they argued that the Dande Irrigation Project could not be recommended until there had been a study of the entire Dande catchment area to determine the best use of its scarce waters. In the revised version they simply recommended the project. This was justified by changing the internal rate of return in the two documents to make the DIP economically viable.
27. There is a large literature on irrigation in Africa. The best overview is that of J.R. Moris and D. J. Thorn (1990). For the best over-all consideration of water and development see W.M. Adams 1992.

28. In Malawi during the 1950s the government made it illegal to intercrop cotton with food crops. Thus, government decided for the farmers how they should grow cotton and made them place a much higher priority upon their cash crop. There continue to be tensions between food and cotton production which tend to remain unexamined (Mandala 1995).
29. As an aside, most analysts have missed the horizontal flow of resources from sibling to sibling while only focusing on the lack of assistance provided by a husband to his spouse. There are real differences in the flow of resources in rural Zimbabwean households from those in the United States and Europe and these need to be detailed before being so quick to condemn Zimbabwean men for their lack of provisioning of their households.
30. Simon Metcalfe (1995) lays out in a clear and compelling fashion arguments for strengthening communal tenurial rights. This, as already mentioned, is consonant with the findings of the Land Tenure Commission draft report.
31. This is a term used by Kai Lee (1994) to shift both our conception and use of science. By civic science he means experimental science combined with reformist policy. In his view, important decisions about the environment can and should not be based solely on market considerations. In addition, he suggests that science should be far more conservative in its recommendations. He would like to see scientists having to demonstrate that what they propose cause no harm before being implemented or acted upon.

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