

Centre for
Applied
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LANDUSE PLANNING AND IMPLEMENTATION
IN KANYATI COMMUNAL LANDS
KARIBA DISTRICT:

The Process and Impact

The Zambezi Valley Experience

By

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LIST OF ABBREVIATIONS

ADA	-	Agricultural Development Authority
ADB	-	African Development Bank
AFC	-	Agricultural Finance Corporation
Agritex	-	Agricultural, Technical and Extension Services
ARDA	-	Agricultural and Rural Development Authority
C.L.	-	Communal Land
CAMPFIRE	-	Communal Areas Management Programme For Indigenous Resources
CBM	-	Community Based Management
CMB	-	Cotton Marketing Board
DDC	-	District Development Co-ordinating Committee
DNPWLM	-	Department of National Parks and Wildlife Management
EEC	-	European Economic Commission
EU	-	European Union
FMD	-	Foot and Mouth Disease
GMB	-	Grain Marketing Board
LU	-	Livestock Units
LUP	-	Land Use Plan
MA	-	Ministry of Agriculture
MEH	-	Ministry of Health
MET	-	Ministry of Environment and Tourism
MALRR	-	Ministry of Agriculture, Lands and Rural Resettlement
MLGURD	-	Ministry of Local Government, Urban and Rural Development
MNAEC	-	Ministry of National Affairs and Employment Creation
NDC	-	Nyaminyami District Council
NGO	-	Non Governmental Organisation
NLHA	-	Native Land Husbandry Act
NWMT	-	Nyaminyami Wildlife Management Trust
NRDC	-	Nyaminyami Rural District Council
RDC	-	Rural District Council
TCB	-	Tsetse Control Branch
TMB	-	Tobacco Marketing Board
UZ	-	University of Zimbabwe
WARDCO	-	Ward Development Committee
VIDCO	-	Village Development Committee

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1. INTRODUCTION

The paper explores the process and impact of land use planning and implementation in the communal lands of Kanyati, Kariba District, Mashonaland West Province in Zimbabwe. (Figure 1)

It traces history back to the colonial governments' initial attempts to plan communal lands with the objective of marginalising Africans to less productive areas of the country. This fueled the war of liberation and Zimbabwe won its independence in 1980. Thereafter, the new government embarked on a Land Reorganisation and Resettlement Programme with the aim to address the inherited inequitable distribution of land. Both programmes have been implemented mostly in the marginal areas of Natural Regions III, IV (48%) and NR V (6%) which are subject to seasonal droughts.

This, coupled with communal tenure systems and the continued population increase, means that renewable natural resources in communal lands (previously called Reserves) are often mismanaged and overexploited, sometimes in favour of agricultural intensification or livestock production. This has already resulted in severe land degradation in the communal lands. This situation is continuing as the government is slowly implementing the land reform programmes.

The Kanyati Land Use Project culminates in a land use plan and corresponding project proposals that may be characterized as rural development in the framework of natural resources management. It reflects a long term approach inspired by the concepts of conservation and sustainable growth, the need for which, under the impact of population on a fragile environment, is becoming increasingly apparent throughout Zimbabwe.

The Kanyati communal lands were inhabited prior to independence. They experienced a sudden influx of people from around Zimbabwe beginning in 1984. This was influenced mostly by the successful Foot and Mouth Disease and Tsetse Control Eradication Programmes which made the area more habitable to both humans and livestock. These programmes were being implemented by the DVS through funding from the European Union.¹

The first immigrants to the area settled themselves on good soils and near water sources. Those who came later were forced to settle on marginal lands. This prompted the local authority, Nyaminyami Rural District Council, to invite Agritex and then ARDA to assist in planning the area for organized settlement as a control measure to curb continued haphazard settlement.

There were different aspirations and interests for the various actors in the forefront of this project. First, the people who settled here wanted land to cultivate and keep cattle. Secondly, for the government it was an opportunity to resettle the land less without incurring costs of purchasing land and certainly not breach the Lancaster House Constitution of 1979. Thirdly the EEC's interest in funding a land use project stemmed from fears that successful eradication of tsetse fly was posing a serious threat to the fragile ecology due to uncontrolled influx and settlement of people.

¹ Previously the European Economic Community

In response to EEC's concern, MALRR requested ARDA to spearhead a land use study in 1984 followed by a Land use project to be funded under Economic Development Fund, Lome Convention III.

The background to this paper discusses the pre and post-independence era to land reform and the conflicts to settlement in the Zambezi valley. It then discusses the situation without project, project conceptualization and objectives, activities and results and finally an analysis of the project impact.

Our hypothesis is that in the land reform programmes:

“Good planning, involving local participation and coordination and adequate funding without a supportive tenure system in a favourably productive environment would definitely lead to a poor investment. The consequence of this is that populations are attracted to these areas and political influence result in massive investments on infrastructure and administration which in the long run local production will not be able to sustain.”

The ideal situation would be a supportive tenure system in a favourably productive area. Investments should be proportional to the productive capacity of the area so as to generate future incomes and be environmentally friendly. Supportive data for this report has been derived from project annual physical and expenditure reports, household income and expenditure reports, evaluation reports and interviews with the community. However, empirical evidence is limited as annual surveys are inconsistent. Statistical analysis is also not considered.

utilization as one of its major aims.² The state adopted a two pronged approach characterized by land resettlement and reorganization. The objective for land resettlement was to redistribute land which had previously been distributed on racial lines. The programme of communal area reorganization, which is the focus of this paper, was intended to ensure that productivity in the old communal lands was sustainable.

The main post-independence attempts at land use planning in the communal areas has been the Mwenzi Radical Reform Programme which started in 1982. The aim was to resettle people by allocating grazing lands with short duration grazing scheme, consolidating arable lands and establishing village sites. Since 1986, a pilot "villagization" programme was initiated in 55 villages, one in each of the 55 districts. Agritex and the Department of Physical Planning were directed to demarcate arable grazing areas, plan for consolidated village settlements with close access to good water sources. No cases of the effective implementation of these projects has been reported. Land reorganization and land use planning has been actively resisted in most areas (Drinkwater 1991, Derman 1990) and tension between central and local control of land use which marked the history of relations between state and the peasantry in the colonial era has strongly emerged in the post independence era.

In part, this tension maybe due to the failure of the resettlement programme to significantly reduce the problem of land shortage, or to uplift the standards of living of the "peasantry" or merely resistance to bureaucrats imposing restrictions on local decision making. The strong degree of continuity in technical approaches to land use planning in areas not that productive, suggests another, perhaps fundamental reason why land reform programmes in communal lands has not been all that successful.

2.3 The Zambezi Valley; Land use conflicts

The Communal Area Re-organisation Programme, its objectives, implementation, institutional and legal framework have had a critical influence to land use planning events in the Zambezi Valley. There are clear conflicts of land use options in the Zambezi Valley between wildlife and tourism activities on one hand and increasing settlement associated with small scale agriculture and livestock on the other. On the national policy level these conflicts are reflected into the emergence of divergent view points as to the future of the valley. Professor Murphree (1993) identifies three "lobbies" regarding the land use options in the valley:

Wildlife Lobby

"Has a heterogeneous constituency involving a spectrum of support which includes sentimental conservationists, safari operator interests and those who believe that wildlife provides the best, most economically efficient and ecologically rational form of land usage."

² 47% of the total farm land was reserved for 6700 commercial large scale farmers, 49% was for 7600 communal farmers and 4% for 8708 small scale commercial farmers (1980 estimates).

Agricultural Lobby

“Argue that with improved crop production technologies and varieties, arable agricultural production will become increasingly viable. Others in this camp suggest that, with tsetse eradication, cattle production will become a more rational form of land use. This lobby is supported by some international aid agencies which have funded tsetse-fly eradication programmes and regional schemes of agricultural development and therefore have a vested interest in this perspective.”

Resettlement Lobby

“Which is allied with the second and which in its more extreme form is based on simple political expediency. It regards these communal lands, with their low population densities as a convenient dumping ground for the resettlement of persons living in the overcrowded communal lands. Not surprisingly this lobby finds allies in the commercial farming sector which perceives this as a convenient solution to demand for land reform and post employment retirement needs for wage labourers.”

Government's response to these conflicting viewpoints has been the commissioning of land use studies and their subsequent implementation. There are currently various resource development studies and programmes at various stages of development and implementation in the Zambezi Valley. They comprise the Mid Zambezi Rural Development Project (ADB/Derude), Gatshe Gatshe Land Use Project (EEC/ADA), Mid Zambezi Valley (Phase II) Land Use Study (EEC/ADA), Dande Irrigation Feasibility Study (ADB/ADA) and the Kanyati Land use project which is the centre of discussion in this paper.

The basic theme underlying these projects is the emphasis placed upon what is called the “fragile ecology” of the Zambezi Valley and the environmental degradation associated with spontaneous settlement and a realization that without assistance spontaneous settlement cannot generate a process of integrated area developments.

Other emergent programmes receiving much of government and NGOs' support are the CAMPFIRE and District Environment Action Plans DEAP. Both emphasize devolution of proprietary rights on natural resources to the producer communities which should be the incentive to conserve the resources in a sustainable manner.

All these settlements, programmes and projects tend to offer solutions to the wildlife and tourism versus agriculture and livestock debate by suggesting that the two land use options can coexist within the same production system. Despite the continuing lack of any obvious solutions to most of the development problems in the valley some tentative lessons have emerged from current ongoing projects. Assessment of these will hopefully provide some useful guidance for improvement of future projects.

A GENERAL INTRODUCTION TO KARIBA DISTRICT, NYAMINYAMI RURAL DISTRICT COUNCIL AND KANYATI COMMUNAL LANDS

Physical Situation

Kanyati Communal Lands is located in the northern part of Mashonaland West province, in Kariba District within the Zambezi Valley (Figure II). To the west of the area it is bounded by the Sanyati river while to the south lies Rengwe C.L. and to the east Hurungwe C.L. To the north is Lake Kariba. The area falls under the Nyaminyami District Rural Council based at Siakobvu in Omay, while District Administration is carried out in Kariba.

Two basic land forms are identified in Kanyati. That to the north of Gatshe Gatshe River and to the west of Urungwe and Kaiwa Rivers is generally very broken country forming the Zambezi valley escarpment. Altitudes range from 500 to over 1000 metres at the top of the escarpment. This area accounts for over two thirds of the landscape and this has very little agricultural potential. The land to the south and east of the rivers is generally undulating but interspersed with patches of broken country with both grazing and arable potential. Altitudes vary from 700 to 950 metres.

Soils are identified as belonging to the lithosol group of the armorphic order. These are shallow soils over weathering rock or gravel derived from phyllites and in some parts quartzites and gneiss. To the south eastern sections, deeper soils are found with loamy sand to sandy clay texture.

Most of the area is well covered with *Julbernardia globiflora*, *Brachystegia boehimii* and with patches of *Colophospemum mopane* and *Diptorhynchus andylocarpon* in the southern areas. *Hyparrhenia* species - *Heteropogon contortus* and *Diheteropogon amplexans* - are co-dominant grass species, with *Coudetia simplex* in the open drainage lines and *Brachiaria* species associated with mopane woodlands.

Annual rainfall is between 600 - 800 mm. The area is affected by droughts (in terms of both absolute rainfall and extended dry periods in mid-season drought). Rainfall diminishes and is more variable as the area is traversed in a northerly and westerly direction. Rainfall is concentrated in a relatively short period (December - March) and consequently the agricultural growing season is restricted.

Temperatures on top of the escarpment in Kanyati show a mean annual maximum of 30 degree Celsius and a minimum of 18 degree Celsius. Temperatures are higher on the valley floor with the maximum average peaking in October at above 35 degree Celsius.

Kanyati is shown on the Natural Region Map as falling almost entirely in Natural Region IV with only the south eastern corner lying in NR III.

Demographic and Socio-Cultural Aspects

Table I below show household changes from 1982.

Table I : Household changes in Kanyati between 1980 and 1984

<i>Year</i>	<i>Household</i>
1980	0
1982	61
1984	450
1987	870

The new settlers came from different parts of the country with the majority coming from Masvingo Province where land pressure was seriously felt. The pattern of land use was largely dictated by natural factors particularly good water sources, soils and flat land.

Infrastructure

Communication in the area is generally poor, although the construction of the main Binga road to Kariba improved access to the area from administrative centres of Siakobvu and Kariba. The nearest town, is Karoi, 100 km away, by dust road. There is no electricity in the area.

Up to 1985, there were only four functioning boreholes. Social infrastructure was poor in the area. One school funded under the EC Micro-project was completed in early 1986 and had an enrollment of about 700. A second school was built in 1988 under a similar programme. A clinic was also built at Makonde rural service centre in 1988. There were no livestock and marketing facilities for agricultural produce neither were they commercial facilities such as banking and post office.

4 Agricultural and Livestock Activities

An agricultural and socioeconomic base line survey was carried out in the area in 1985. This survey indicated that during that time, the average area claimed by households in hectares was 3.2 of which 2.5 had been planted in the season 1984/85. The main crop was maize, accounting for about 88% of the planted area followed by cotton and groundnuts. Yield data in tons per hectare, for the season 1984/85 indicated an average of 2.45, 0.840 and 1.4 for maize, groundnuts and cotton respectively.

The aggregate estimate of cattle numbers in the area at that time was 2,640 head and approximately a further 2 210 head of cattle were owned outside of the area.

5 Institutional Support Services

Kanyati is 100 km from District Administration based in Kariba town and 180 from Nyaminyami District Council. Other Government support services to the area were generally limited. It was only in 1985 that an Extension Worker was posted to Kanyati and another appointed in 1989. The Agricultural Finance Corporation (AFC) had not provided agricultural credit to farmers in the area up to 1989.

Kanyati is comprised of two wards A and B, each comprising 5 VIDCOs'. Local affairs are largely administered by Councilors and VIDCO Chairmen.

4.2.3 Agriculture

The 1987 ADA report proposed the introduction of farming systems which in the short term, would provide food self sufficiency and in the longer term would provide income.

The crops were short season variety maize or sorghum rotated with legumes such as sunflower, groundnuts and cow pea. These crops would not only provide a protein element to the diet but would also enhance soil fertility and structure and could be marketed as cash crops. Cotton would be promoted where soils were suitable and would replace sunflower. The recommended rotation (without cotton) was maize or sorghum followed by a 3 year fallow, then cow pea or groundnuts and then maize, sorghum or sunflower. A rotation including cotton would be maize or sunflower, three year fallow then groundnuts or cow pea, then maize sunflower or cotton.

Other recommendations during project implementation were : maize / sorghum, burley tobacco, groundnuts, cotton³ and sun hemp⁴ fallow or maize-sun hemp inter-cropping in the wetter areas and in the drier areas; oriental tobacco, sorghum, cow pea, cotton and sun hemp fallow.

Other technologies to be encouraged included:

- infield water conservation through the construction of ridges and tie ridges;
- Agro forestry practices to be incorporated through planting of tree species such as *Leucaena leucocephala* on contours in the arable lands; and
- Perennial alley cropping to be developed, tested and demonstrated, including species as *Leucaena palida*, *Acacia boliviana* and *Cajanus cajan* (pigeon pea).

Project production targets are shown in Table II below. These target yields have changed several times during project implementation for two reasons. The first was that the initial high production levels which were being attained influenced extension agents to assume that the targeted figures were too low. Secondly, the area received above average rainfall in 1991/92 and 1992/1993 season influencing extension agents to assume that the area was not in NR IV but was in NR III. The original production targets will be considered in this paper.

The input requirements to achieve this production level were estimated at 19 tones maize seed, 7 tonnes groundnuts seed. Approximately 175 tones of fertilizers were required. It was expected that 75% of the farmers would adopt the recommended practices mentioned above.

Large and small irrigation schemes were to be developed along perennial pools. An estimated 80 gardens of 0.2 ha would be developed using hand pumps. Capital

Cotton was not fully recommended because of soil types which could experience a profound crease in bulk density below the top soil and also that nematode build up could be a serious problem. Only 600 hectares of class II soils were identified suitable for cotton production.

Sun hemp (*Crotalaria* species) was to serve as green manure to add nitrogen to the soil and for controlling nematodes in tobacco cultivation.

investment included a hand pump, pipes and water storage.⁵ The scope for irrigation development using borehole water was not envisaged due to low abstraction rates.

Table II: Agricultural Production Targets

Crop	Yields		Target Yield	Area	
	Initial	Target		Initial	Target
	(t/ha)		(tons)	(ha)	
Maize	1.9	1	1,280	1.1	1.05
Groundnuts	0.8	1	840	0.1	0.33
Cotton	1.2	1	100	0	0.66
Cow pea	0	0.5			0.66
Fallow				2.8	1.3
Non-arable				1	1
<i>Total Area</i>					5

4.2.4 Livestock

The introduction of livestock was viewed as a longer term development option, after the complete eradication of tsetse-fly and to be encouraged only with strict controls on numbers. Furthermore, the scope was not considered great on account of low carrying capacities and the area being in FMD vaccination programmes.

The project was then to play a vital role in carrying out livestock planning prior to livestock introductions. This would involve assessment of carrying capacities, identification and demarcation of grazing areas, paddocking and provision of water supplies. In addition the method of controlling animal numbers and types would be formulated. Cooperative management of livestock was to be introduced whereby livestock management committees would organize grazing and herd management and selection of bulls etc.

Carrying capacities estimates ranged from 6 to 20 hectares per Livestock Unit. The total grazing area was estimated at 22 400 hectares while the total carrying capacity was estimated at 2 240 LU. The herd structure would be 2 900 head of cattle of which 1,105 will be oxen and 626 breeding animals. Assuming that 25% of households will for one reason or another fail to own livestock, the average number of head per family would be kept below 4.

A herd off take of 320 at full herd development (65 tonnes of carcass weight) was envisaged. This meat would not be sold outside project areas because of the DVS, FMD control regulations. Livestock infrastructure proposed included the construction of five stock water dams, 2 dip tanks an erection of 70 km of FMD control game fence.

⁵ An argument for introducing alley cropping systems was to allow browsing during the dry season, improve soil fertility and structure and reduce the use of chemical fertilizers.

4.2.5 Wildlife and other natural resources

Wildlife

The alignment of the FMD fence (Figure II) was designed to represent the boundary of the settlement from wildlife area and the implication was that beyond this fence, crop farming was not viable. However, wildlife populations were low in the area because of extensive hunting carried out for tsetse control in the 1970s and poaching. Most of the game is found in the valley bottom of Gatshe Gatshe and it was assumed it project planning that proper management and improvement of the water resources would attract animals up the escarpment for the benefit of the Kanyati people. A potential off-take of 430 animals annually was planned if population increased in the period of 6 - 10 years

During 1988 a framework for the management of natural resources was set up by Ministry of Natural Resources and Tourism under the Communal Areas Programme for Indigenous Resources (CAMPFIRE). This programme envisaged natural resource cooperatives established by the community with membership open to all members of the community.

Natural woodlands

The original project (1987) document does not mention anything about these natural woodlands and how they could be protected or how the community would benefit from them.

4.2.6 Management

The project was to be implemented by ARDA mainly as financial administrator and a link between the donor and the beneficiaries. Government institutions and the local authority would still maintain their roles.

PROJECT ACTIVITIES AND RESULTS

Land Use Planning and Implementation

5.1.1 The initial planning phase

The land use planning process was initiated by the District Administrator's office, as the chief executive officer for the then NDC in 1984. Agritex was requested to carry out a settlement plan and to identify arable and grazing land and village sites.

Agritex started the process with the identification of land with arable potential using aerial photography at a scale of 1:12 500 and a plan was prepared in late 1984.

In 1984 another land use study was commissioned by ARDA funded by EEC for purpose of identify present forms of land use, classifying land with arable and grazing potential and providing recommendations on future land use with appropriate farming systems that would have long term viability. The reason for this second more detailed planning stems from concerns raised by EEC to MALRR on the need for organized settlement in the areas which had been cleared or were in the process of being cleared of tsetse fly. MALRR delegated ARDA to facilitate the planning process to be followed by designing a Land use project proposal to be funded by the EU.

Table III gives a summary of the land classes identified during this process:

Table III: Land classifications

Category	Area (ha)
Arable	4,700
Grazing	22,400
Wildlife	34,000
Residential	530

Both plans designated a settlement area in the western side separated from wildlife area in the northern side by a game fence. (See Figure 2).

The potential arable land had a net area of 3500 hectares after deducting land to be taken up by roads, water points, water ways, divisions, rocky spots, sacred bushes etc. The arable land was to be subdivided into 5 to 6 hectare plots per family depending on the family size.

A low density village settlement was proposed i.e. with residentials nearer to the fields. Non arable land within settlement area was reserved for livestock grazing only after tsetse eradication. Natural boundaries such as waterways, crests, roads and

markings on trees and rocks and in some cases iron pegs were used to demarcate plots.

In 1985, Agritex demarcated 870 arable plots of 5 - 6 hectares and this was completed by March 1987. The same number of residential stands of half hectare each were demarcated near good water sources or areas with high potential for domestic and stock water supply.

The next stage after demarcation was the allocation of plots and residential stands to individual households and the preparation of land holders registers showing plot numbers alongside the name of the household occupying that plot. The Rural District Council delegated this work to local Councilors and Vidco Chairman. In April 1987, Agritex proceeded with mapping all 870 demarcated plots onto recent photography.

The potential for irrigation development was investigated in detail during the 1985 hydrological study. Four areas were identified with irrigable soils adjacent to rivers. On two sites only did there exist potential for gravity fed irrigation. Preliminary dam surveys and designs were carried out and only one had a suitable site. Micro-irrigation was feasible near perennial pools adjacent to arable lands.

5.1.2 The second planning phase

In September 1992 Agritex replanned Kanyati communal lands with the main objective of fully demarcating the grazing areas and making provision for service centres, wood lot sites, feeder roads etc. The request of this planning came from the ARDA project management who were responding to request by the community to erect paddock fences. The initial plans had not taken paddocking into consideration. A team of 10 Agritex planners were brought in from various districts of Mashonaland West. The project was to meet all the costs for the planning.

We will now briefly go through the planning methodology adopted during this phase:

Methodological Issues

Stage 1 Air photo interpretation:

Each planner would start the process with air photo interpretation of the area, marking land capabilities on field mosaics or on bi-two enlargements.

Stage 2 First planning meeting:

The local councilor or the VIDCO Chairman would introduce the community and its leadership, followed by a council official or the District Administrator introducing the government agencies and NGO members and then give a background to the purpose of the meeting.⁶

The planner would then initiate discussion by asking problems and how the community wanted them solved.

This was attended by all members of the VIDCO, Government and Council officials and representatives from the NGO community.

It was also in these initial meetings that the planner would be advised of sacred places and cultural practices which needed to be respected.

The planner would then announce his programme and requirements from the community.

The meeting would then come to an end.

Stage 3 First Field Work:

The planner would move around the area with the village research assistants whom he will show sites to dig pits for soil surveys. He will take two or three days, depending on size of VIDCO, ground truthing the aerial photo interpretation. He will also train some of the research assistants in collecting socioeconomic data.

The planner would then go back to his office as the pit diggers and enumerators continue their work.

Stage 4 Second Field trip:

Soil and vegetation coding. This will only involve the field assistants who will show him the sites for the pits and provide the survey data.

Stage 5 Office work:

The planner will draft map showing present situation, draft soil and vegetation maps, ideal and implementable land use plans.

Stage 6 Second planning meeting:

The planner and the community will discuss the maps indicated above.

Stage 7 Drafting of final plans:

The planner would go back to the office to finalize the ideal and implementable LUP basing on his technical information and minutes of the various meetings.

Stage 8 Last community meeting:

The final plans would be presented to the last community meeting.

Stage 9 Adoption of plans by DDC and PDC:

The plans will then be presented to the DDC subcommittee meeting mandated with land use planning. This committee comprised of the relevant government ministries such as MET, MA (AGRITEX), MNAEC, MULGUR D, MEH, the local authority and NGOs.

This committee will check whether the plans conformed to government policy relating to rural development and whether other government plans at national level were not being compromised e.g. national dams, roads, electrification etc.

The subcommittee would then recommend the plans to the DDC comprising of all other government departments, NGOs and other vital bodies at District

level. Once adopted by this committee the plans would then be included in the District Development Plans.

The DDC, the DA, assisted by the local DAEO, will present the plans to the Full Council Meeting. The DA will also present these plans to the PDC for inclusion in the Provincial Development Profiles for PSIS funding. In the case of the Kanyati plans there was no need for this as funding for implementation was already available from EEC.

These issues will be discussed further below.

5.2 Infrastructure

The project managed to invest heavily towards infrastructure as shown in Table IV below. This Table also shows additional infrastructure constructed from other government sources.

DDF was responsible for the maintenance of roads and water points after completion. In the last two years of project implementation, DDF began to indicate financial problems in maintenance of this increased infrastructure. A Community Based Management programme for maintenance of boreholes was initiated whereby responsibility was passed to the community on a trial basis. Success of this initiative is still to be assessed at the time of writing this paper.

IV: Infrastructure

Type of Infrastructure	EEC funded	Other GOZ Sources
Feeder roads	40 km	117 km
Boreholes	37	25
Deep wells	9	10
Piped water scheme	1	1
Primary schools	1	3
Secondary school		1
Dip tanks	3	
Stock water dams	8	1
Paddock fences	180 km	
Warehouse	1	
Tractor workshop	1	1
Houses	6	6
Houses	1	2

Agriculture Activities

The extension team comprised of three Agritex and three ARDA extension workers. A team of provincial Agritex specialist frequently provided backup services to the extension activities in the area.

The project did send farmers for training outside the project area during the eight years of implementation. This included 100 farmers for cotton production in Kadoma and 60 burley production in Harare.

Field crop demonstrations were held every year in each VIDCO demonstrating various agronomic practices mentioned above. Attendance at the field days were good and evaluations were conducted after each demo to check whether the farmers had grasped the concept. Farmers also benefited from free inputs handed out by the project which were meant for on-farm trials and also would serve as seed capital for inputs purchases. A tillage unit was also fully operational supplementing draught power. Agritex also successively pegged 60% of the arable land for installation of contour ridges.

Agriculture Results

The results are based on those years where reliable data was collected. Extension effectiveness and efficiency will not be discussed as this might be an area for a more detailed research. Table V (below) shows the percentage of farmers growing particular crops for selected years.

Table V: Percentage (%) of farmers growing particular crops

Crop	85/86	90/91	94/95	95/96
Maize	88	98	100	100
Groundnuts	*	86	65	30
Cotton	*	79	85	88
Sunflower	0	27	12	3
Tobacco	0	2	5	0
Sorghum	0	1	20	31

* figures not available

The table shows emphasis towards maize production. Despite the original reasons for restrictions on cotton, number of farmers cultivating the crop is increasing every year. Interest on sunflower and groundnuts production is gradually decreasing. Though interest on sorghum production is gradually increasing, it is not being adopted by farmers in the drier parts of the area. Much of the interest for growing it is for beer

brewing. Table VI (below) shows area cultivated per crop and merely confirms the trends noted above. The table shows that the net arable land of 3,500 hectares has been exceeded which implies some of the cultivation is being done on unsuitable land e.g. waterways. Despite the concerns of the expressionists at planning, most of the cotton is being cultivated on unsuitable soils from the recommended 600 hectares.

Table VI: Cropped area per crop for selected years

Crop	87/88	90/91	95/96
Maize	960	1189	1762
Groundnuts	90	90	208
Cotton	0	712	1323
Sunflower	0	76	49
Tobacco	0	0	0
Sorghum	0	7	117
	1050	2074	3580

Below are summaries from various project surveys and evaluation reports conducted during project implementation:

1988/89 Household agricultural survey of the Kanyati and Gatshe Gatshe Communal Lands 1988/89

- 90% and 29% of farmers applied fertilizer to cotton and maize respectively in the form of a combination of top dressing and basal application. No basal fertilizer application were recorded for groundnuts and sunflower.
- Protection chemicals were also being applied to cotton only.
- 95% of the farmers used maize hybrid seed, 81% cotton, 10% groundnuts and 2% sunflower.

ARDA, October 1993 Evaluation report

- Crop rotation is generally being practiced but no inclusion of fallow or sun hemp was apparent.
- Over 65% of the farmers did not know what their pests were either in cotton or maize.
- The average plough depth using oxen varies between 7 - 10 cm which is totally inadequate. 68% of the farmers plough late.

65% of the farmers have contours in their fields. On the ground, the consultant found considerable evidence of erosion.

Less than 40% of the farmers use maize and cotton fertilizers and given the intensive cropping regimes in the generally sandy soils, this is inadequate.

- In one ward, 60% of the farmers receive Z\$167 per month which is unfavourably lower than the minimum wage for the agricultural workers.
- Current production is below optimum. Poor farming practices and environmental degradation is prevalent in the area.

1994/95, 1996 Household Income and Expenditure survey

- 1994.95 season was declared a drought year.
- A total of 3750 hectares was planted during this season. The average plot per household is 4.06 hectares with a standard deviation of 1.32 which indicates that some farmers are actually planting more land than allocated.
- Total maize production was 942 tonnes (0.5 tons/ha) from which 643 tonnes is reserved for home consumption.
- Total cotton production was 540 tonnes (0.4 tons/ha) and sunflower was 22 tons (0.25 tons/ha).
- The main source of revenue is from cotton sales which averaged \$2,394 with a high standard deviation of 2,898.
- 40% of the farmers procured fertilizers and 79% chemicals.

1996/96 Household Income and Expenditure survey

- Despite being a good season 90% of the farmers experienced food shortages for varying periods in the 12 months and that rain fed agriculture in the area carries a great risk
- 96% of the residents received food aid from the Government Grain Loan Scheme for 1994/95 season
- Crop farming in Kanyati is subject to problems such as (in decreasing order) cash for inputs, water shortages, availability of inputs, draught power and wildlife
- Revenue from crop production is estimated at Z\$6,000 with a cost Z\$1,538 giving a net income of Z\$4,513.

There are no records of any farmer having adopted alley cropping or agro-forestry practices. During implementation, the project started promoting burley Tobacco production. Farmers' interest did go up initially as the project provided free inputs for the crop but later declines to almost nil after the project withdrew this benefit.

of the major successes of the project were nutrition gardens established at the sites on communal or individual basis. Produce from these gardens is usually for home consumption as the water resources are not adequate for commercial production. These gardens are, however, abandoned during the cropping season as farmers turn back to their dry lands. No major irrigation schemes were implemented as no suitable sites for gravity fed irrigation were identified.

Livestock Activities and Results

The project promoted the establishment of grazing scheme committees in each village to ensure full participation of the community in preparation for the grazing plans. Their main task was to receive and take care of fencing materials, organize fence erection and reporting to the project on progress. However, the committees were never active in organizing grazing and herd management nor selection of bulls. While the establishment of these committees was seen as a positive move, it was not always clear if these committees were representative of all farmers and thus being able to respond to diverse community need.

Each of the 10 committees compiled appropriate grazing by-laws and had them registered by the NRDC. The enforcers of these by-laws were to be the members themselves with the assistance of NRB and the RDC.

The other functions of the grazing management committees was maintenance of the paddock fences and assisting the project in planting various leguminous plant species in the grazing area. The fences are however in bad state and all portions planted with leguminous plant species have been grazed by goats despite having been fenced inside.

Infrastructure provided by the project in the 10 years of implementation included 2 dip tanks, 10 cattle handling facilities and 8 stock water dams. About 8 of the 10 villages erected boundary paddock fences with a total of 180 km. Table VII (below) gives the total number of livestock and livestock units by the end of December, 1995.

The predicted sustainable carrying capacity for the area was 2 240 LU (ARDA, 1987) and comparison of this figure with that in Table VII shows that the carrying capacity has been exceeded. Herd off take is less than 10% and the project's initial assumption that the farmers will practice almost commercial livestock farming is not achievable (1996 Household income and expenditure survey).

The 1993 Evaluation report noted that the grass cover for the whole area is generally poor. Driving through one would assume the cover is good but on close examination basal cover is poor with large bare areas and poor litter cover. Grazing pressure on waterways and drainage systems is resulting in serious denudation. This is because drainage lines provide the easiest route for moving livestock to and from homesteads. Recommendations from the land use plans that crests rather than drainage lines should be used for moving cattle has been ignored. These paths are particularly bad around residential plots, stock watering points, dip tanks and cattle kraals

However, the cattle in Kanyati are still in fair condition and a number of cattle buyers have been to the area to buy cattle. This has tended to make extension advise and compliance to land use plans difficult as farmers have not yet seen that the desert is creeping in.

Table VII Livestock numbers and livestock units equivalents

Class	Number	LUE	LU
Bulls	150	0.75	113
Oxen	1895	0.94	1782
Cows	1589	0.64	1017
Steers	946	0.61	577
Heifers	1116	0.55	614
Calves	1317	0.28	369
Goats	656	0.07	46
Sheep	6415	0.07	449
Donkeys	1036	0.4	414
Total LU			5381

5.5 Wildlife and Other Natural Resources

Wildlife activities and results

The NRDC was granted the Appropriate Authority status in 1990 by the Department of National Parks and Wild Life Management. To enable quick implementation of its CAMPFIRE programme, the council formed the NWMT in 1991 which had responsibility to receive and disburse wildlife funds to the community as well as manage the day to day wildlife activities.

The study of the Commercial Use of Wildlife in the Kanyati Gatshe Gatshe Project area 1990) reported that game populations were seriously reduced by decades of neglect and abuse including tsetse control hunting and the destruction burning programmes associated with it. Also lack of water and the seasonal veld fires might be other factors suppressing the animal densities. The project translocated 400 buffaloes and 2000 impalas to Gatshe Gatshe in 1991 and in early 1992 on the assumption that the animals would also move up the escarpment to benefit the people of Kanyati. The WWF serial survey of large herbivores in Kanyati Gatshe Gatshe area in late 1992 revealed that there were no marked changes in the wild biota in the escarpment of Kanyati after this translocation. However, the spoor of most species is observed through out the Kanyati wildlife area.

TRDC concentrated wildlife activities more in Gatshe Gatshe and Omay where was more wildlife. Before change of its dividend distribution policy (up to 5), Kanyati did receive the same revenues from wildlife with all other areas. This change was brought about in line with CAMPFIRE principles that producer communities should only receive benefits as an incentive for managing the resource. Table VIII shows revenue distributed to Wards of Kanyathi before and after the council changed its distribution practice.

Table VIII: Revenue distributed to Kanyati wards

Year	1989	1990	1991	1992	1993	1994	1995
Amount	23,000	16,000	34,000	69,000	115,200	48,800	33,400

This table shows that revenues are low in comparison to those from agriculture. This situation is likely to remain constant or even go down if the animal populations remain low.

Natural woodlands and woodlots

During settlement in Kanyati, woodlands provided poles for construction of houses and cattle kraals etc. Some residents utilized trees they were clearing in their fields for this purpose. However some cleared lands were later abandoned after noticing unsuitability of the land for cultivation. Evaluation report 1993). Though some patches are regenerating, some have been planted with eucalyptus through project assistance. The rationale for planting *Eucalyptus* being that it grows fast and would relieve pressure on the indigenous resource.

Nhira and Fortmann (1991) have documented institutional arrangements for control and management of Kanyati woodlands. They observed that natural resource overseers were elected through the requests of the NRB. Permission to cut trees is first sought from the overseers who also work with the Vidco Chairperson. They noted that this procedure is not normally followed because of the general perception that trees are an abundant resource. However, these institutional structures have strongly been effective in barring outsiders e.g. those from neighbouring Hurungwe.

There is however evidence of neglect of these wood lots and woodlands due to annual veld fires prevalent during winter. Once the fires break out, farmers do not usually make efforts to rush and extinguish them. Despite attempts to rationalize and control utilization, the woodlands and wood lots will be depleted in a relatively short time.

Estimates of Total Project Expenditure

The total project expenditure is divided into the direct EU grant and Government of Zimbabwe contribution. Due to inflation, the total costs since the project started will not give a good picture of the investments towards the project.

figures will not be provided but rather, we will give a list of expenditure items:

ant:

technical assistance: 150 man-months, five 4 x 4 land rovers, laptops and computers.

transport and equipment: three tractors and full set of equipment, 7 ton lorry and trailer, three 4 x 4 Land rovers, two 2-wheel drive vehicles, three computers, photocopier, fax, office furniture and workshop tools.

- infrastructure (see Table IV)
- operating and employment costs: project coordinator, accountant, secretary, field manager, two field officers, mechanic, three drivers and casuals.

Government of Zimbabwe contribution:

- infrastructure (see Table IV)
- operating and employment costs for a total staff of 30 and casuals.
- maintenance costs (for all items in Table IV)

The community together with the local authority did not contribute anything towards this infrastructure.⁷

⁷ Except in the form of labour towards community projects such as crop trials and fencing. The major infrastructural works were all contracted out and either the donor or government met all the costs.

A BRIEF DISCUSSION ON PROJECT IMPACT

ction will analyze project objectives, activities and results, highlighting the likely of poor performance and suggestions for future similar programmes. The suggestions conclusive as the experiences in this project alone do not give enough evidence.

Land Use Planning and Implementation

The project did undergo three land use planning phases with the same objectives but with different approaches. The first phase was done in a hurry in order to fulfill the JA's request to speed up planning and organized settlement. The second planning phase responded to EU's concerns that the FMD control and Tsetse Control Programmes, which they were funding, were fueling haphazard settlement. The third concerned the need to plan at village level grazing schemes and to check whether the original demarcations had not been ruptured.

It is quite clear that community participation in the first phase was negligible as the settlers were still arriving. The National Resettlement Programme undergoes such an approach in the newly purchased farms with much success. The second phase did interfere a lot with the people who had already settled themselves. However, the Land use study report (1987) does not mention any community involvement in project design. Community involvement for the third planning phase as documented above distinguished division of responsibilities between the planner, coordination committees and the community. The various stages indicate that they are issues which the planner had to handle alone and later divulge to the community e.g. soil and vegetation coding, calculation of carrying capacity etc.

The main point to note is that the planning phases found a population in place active and quite diverse. The planners had a difficult terrain to negotiate consequently producing plans tailor suited to what already existed on the ground. They were careful enough not to shift people around otherwise the community was not going to accept them. To protect their profession, the planners produced two plans, an ideal and implementable land use plan. The ideal plan being a professional model, the urban type plan, but earmarked for the shelves to gain dust.

Community involvement during planning entailed meetings, workshops and in some cases, training. Those members of the community who got involved are those who did attend these meetings and it is common that not all people attend meetings, be it urban or rural council meetings. Those who attend mostly have specific interest i.e. either those with boundary disputes with their neighbours, or who suspect they might be moved or those seeking a political and religious forum to air their views.

Of all the different VIDCO meetings we attended, the problems and suggestions for solutions were almost the same. These centred on inadequate water supplies for water and livestock, droughts and hunger, long distances to clinics and schools and councilors being ineffective in distributing drought relief food. Solutions given by the community were need for more boreholes, schools, clinics, tractors to cultivate, lorries to ferry their produce to markets, drought relief food etc.

None of those farmers attending these meetings ever raised concern over the need to curb environmental degradation even though indiscriminate tree cutting, veld fires and erosion were quite distinct in the arables, grazing and residential sites. The community just appeared ignorant of the disastrous consequences of this. It was only when the planner advised them of the consequences of uncontrolled utilization of resources that they would begin to show interest but would ask:

“Does this mean this planning of yours will move people from their current positions? What do you do if someone is residing in an area designated as a grazing area?”

The planner would avoid a direct response by saying, *“the plans are yours and you should suggest means of controlling your resources and how you will deal with those who break the regulations”*.

The planner's most difficult time was when he had to interpret the soils and vegetation codes and stocking rates to the community. First, farmers did not understand why light soils are not suitable for cotton cultivation when they had already harvested and marketed for two or more seasons. Secondly, they did not understand why they should be limited to four cattle per family when the grazing still looked so good. The planner would try to explain the concepts of carrying capacities, livestock units etc. as the reasons for limitations and restrictions but with no success in convincing the farmers.⁸ The consequence of this was that for eight years of project implementation, none of these limitations and restrictions were enforced.

The other weakness in the plans was that they did not provide for the younger generations. Figures from the 1992 Census of Zimbabwe indicate a total population of 8513 with a total household number of 1598 which is almost double the figure used as basis for planning (670). According to the District Administrator's records, 300 families have applied for resettlement outside the project area. As a result, allocated homesteads and arables have been further subdivided to sons and there are clear signs of expansion of arables to the grazing areas. Even if the planners had reserved land for the younger generations, the land was not going to be enough. One assumption could have been that the younger generations would be absorbed in urban centres where industrialization would be simultaneously taking place. Such were the same mistakes during the 1951 major land reorganization programmes, the Native Land Husbandry Act (NLHA). This was abandoned in 1961 after being realized that land degradation was continuing due to increase in population and cattle numbers in the reserves.

We will go further to discuss the impact of the development components to assess whether each did reinforce towards the objective of the land use plans.

⁸ When councilors were informed (from the findings of the mid term review in 1993) that the carrying capacity had been exceeded in a full council meeting, there was furore amongst them as they argued why the project after having been so helpful, had decided to impoverish them by recommending destocking. This issue was never discussed again.

6.2 Infrastructure

With resources available, investments in infrastructure are most welcome by politicians, local authorities and their communities at the expense of their capacities to maintain it. To them, maintenance is the responsibility of the central government. The NRDC did not institute any levying systems on the communities but derived most of its revenue only from CAMPFIRE (which was very minimal in Kanyati), shop licenses and fisherman permits. Resolutions for levies are not likely to be adopted by councils for political reasons and the rural communities together with their leadership do see such levies as government's attempts to shade away its responsibilities to them (the poor).

The consequence of this is that government will be forced to borrow heavily to meet maintenance requirements for local authorities.

6.3 Agriculture

Maize and cotton are the major crops for food security and source of income. Sorghum and groundnuts are minor crops grown for various reasons such as beer brewing, marketing and home consumption. Generally, most farmers have benefited from the training programmes and extension services such that they do get good incomes and have enough food during good years but this is not so during bad years such as 1992/3 and 1994/95 seasons. Dry land agriculture carries greater risk in Natural Regions IV and V and without irrigation the enterprise is not viable.

It is also noted that farmers do practice crop rotations and not the fallow practices. The reasons for this is that with the subsequent subdivision of allocated plots to sons, the demand to put the land under 100% utilization every year cannot be ignored. Also nutrient replenishment is not adequate and there is rampant cultivation of cotton on unsuitable soils. The consequences of these poor agronomic practice are that the value of the soil is gradually diminishing and there is gradual build up of pests.

Though various technologies have been sold to the farmers to alleviate the environmental harshness towards agriculture, adoption rates are very disappointing. Good examples are the alley cropping, agroforestry and water conservation techniques. We did not establish the exact reason for this but it would appear that some of the project interventions were ignored simply because they implied additional labour which the farmers, represented mostly by women, could not meet.

Policy considerations should look at the reasons why men have to seek other forms of employment elsewhere when farming is supposed to be a self sustaining form of employment? Maybe it is that the arable plots allocated are not economic to sustain a family livelihood, or climatic limitations limit the production levels or because the farmers are only paid once in a year.

6.4 Livestock

The institutional arrangement put in place to manage and enforce the bye-laws have neither made attempts to control cattle numbers nor punish those found abusing the

fences. Neither farmers nor the grazing management committees have been serious with the bye-laws they enacted and registered with their council. It might be they did this just to please the project officers so that they did get more fences and dip tanks and not with a serious intention to control resource utilization.

The concept of carrying capacity and herd limits is also contentious especially in drier areas like Kanyati. Carrying capacities fluctuate seasonally and between seasons. Grazing areas are typically used for six months during summer and during winter, cattle graze in the arable lands. The farmers believe that stocking rates calculated by extensionists are lower than those at which they get maximum benefits. They argue that the stocking limits have not been exceeded as most of the grazing land is till intact.

Each individual farmer, cattle or non cattle owner has aspirations to increase herd size. Perhaps the availability of grazing compiled with land for cash cropping has been a major incentive to migrate to this area. Despite these farmers having moved from decertified areas, 68% of the farmers said they would not sell their cattle if the grazing became totally denuded.

Profit maximization seem not to be the sole objective of the farmers as earlier predicted in planning this land use project. Investigations have shown that communal cattle owners have a negative supply response to formal markets (Lutke - Entrup, 1971; Doram et al and Rodriquez cited by Scoones et al., 1989). Thus harmonizing cattle numbers with grazing capacities through voluntary destocking is likely to be difficult if not impossible to achieve. Farmers will only sell their cattle to meet urgent problems e.g. raise school fees for their children etc. It is not in the interest of bulk producers to market animals as they have insufficient animals to meet their requirements in terms of intermediate products and to market animals for slaughter on a sustainable basis.

Generally, the community view any restrictions on cattle numbers as attempts to impoverish them and not as a resource management tool. Because of this, cattle numbers continue to increase and erosion and gully formation in the grazing areas are very common. To what extend this is caused by livestock is not clear.

The technical and institutional weakness of effective common property management regimes has been well documented by Cousins 1992. He states that numerous intra - community conflicts show that communities are internally heterogeneous in complex ways and that the objectives of different interest groups cannot be reconciled. As mentioned above, whatever intervention the project came up with was an additional burden to the routine work of the farmers. This was in conflict with project management's targets to be attained within a specified time limit. How much time do we need for rural development?

6.5 Wildlife

Kanyati communal lands has benefited very little from wildlife for almost six years despite the efforts to reserve the land and translocate game to the area. When the writers left the project end of 1996 efforts were being made to improve the water

situation in the wildlife area by constructing small weirs. Also they were plans to exploit the good scenic views in the wildlife area but how much of tourism activity would stimulated to this area was unknown. There is danger that if this area continues unoccupied with such reduced activity and incomes, more settlers might take over the land for grazing and even cultivation, though the area is not quite suitable.

6.6 Woodlands Exploitation

Nhira and Fortmann 1991 have documented in detail activities for establishing wood lots in Kanyati C.L. They have observed that the most important piece of legislation with regard to environment in the C.L.s, the Natural Resources Act, has been applied piecemeal. Committees associated with the act have also been ineffective. The provisions of Communal Land Forest Produce Act (1987) Section 4 Sub Section 2 and 3 states that the forest commission should promote sustainable utilization and does not prohibit the cutting of trees by communal dwellers for subsistence use. What this implies is that if the villagers have no other source of energy for cooking, and that they need poles for various household chores, then they should be allowed to exploit trees in a sustainable manner. Weaknesses associated with internal central also lie in that ownership belongs to all and concern to conserve is limited.

6.7 Project Sustainability

The sustainability of this project is questionable. The project is more acceptable on social and political circles rather than from an economic point of view. Massive infrastructure has been put in place to service the community Kanyati but as noticed, there are no systems put in place to charge the community for this service. We also note that, the value of the land to sustain agricultural and livestock production is diminishing very fast such that even if levying systems were introduced, farmers in the near future will be producing very little to be able to meet this demand. Will the government, in the long term be able to subsidize the costs of living in this area or in other areas in Zimbabwe experiencing the same problems. Already the government is under pressure from the World Bank to cut on the non productive expenditure and already shortage of drugs in the clinics, poor road maintenance etc. in the area are signs that the government is under pressure.

We have our reservations in putting the blame on planners and their planning approach or the project implementors without looking at the overall policy framework in which these plans were produced and project implemented. We briefly look at the land tenure policy, institutional weaknesses and environmental limitations.

6.8 Tenure Policy

Communal tenure has been indicated for inevitably leading to resource degradation because of the its inability to control the behaviour of individuals within that group regarding the utilization of the groups common resources. The chief architect of this position is Hardin who advanced the "Tragedy of the Commons" paradigm whose basic premise is that individuals will attempt to maximize their benefit from common properties at the expenses of the resources themselves and the group as a whole.

Murombedzi (1992) writes that due to the fragmented nature of most resources and the need to access the resource at different times in different quantities, discrete demarcation of land use obviously goes against the grain. He goes on to say that because of this land reorganization in communal lands is usually viewed by the stake holders as a continuation of the colonial policies of equalizing land holdings e.g. NLHA (1951). Though Murombedzi identifies reasons for such failure as due to top bottom approach to planning, we view this purely on the heterogeneous stratification of the society's needs and as mentioned above, the scattered nature of the limited resources which everyone is scrambling to exploit for his own benefit at the expense of conservation.

The Land Tenure Report 1994 highlighted the **disadvantages of communal tenure** for resource management as difficult in cases where **population pressure** are excessive or where administrative and legal structure are ineffective. However, it has noted its advantages as low investment and administrative costs. We differ on the administrative costs as in this report it has proved that to the government it is more costly to administer communal lands than commercial farms.

Institutional Weaknesses

J.C. Mohammed (1991) writes that there are various legal provisions which impede effective resource management strategies by not defining areas of authority. These are the⁹ Rural District Council Act, Natural Resource Act, Chapter 150, Parks and Wildlife Act, Forest Act, Chapter 125, Communal Lands Act and Water Act. The primary areas of the conflict are; conflict over the right of access to land, conflict over fishing and hunting and conflict over the right to use trees for energy, building and source of income.

The Natural Conservation Committee in Nyaminyami District is hardly effective and the enforcement has never been implemented. The DNR which has the mandate of enforcing environmental conservation in the communal lands, have for the past 5 years had not stationed an officer in area. Though an officer was based in Kariba town some 100 kilometres away, he hardly paid effective visits to Kanyati as he did not have transport to visit the project area.

The NRDC together with the villagers of Kanyati did register conservation by laws in 1988 and again grazing bye-laws in 1994. The law enforcing agents were to be the villagers themselves through the Natural Resource Conservation Committee at village level. These have not been effective either as the chairman in Kanyati village said:

“How can we be strict on transgressors who are members of the community we live in. Some are our brothers, sisters, friends and even our wives. DNR and the police should be responsible for monitoring.”

⁹ Comprising of project management and various government institutions (not to be defensive)

The Natural Resources Act makes statutory provision for the enforcing of sound resource management practices. The NRB works in consultation with local councils but is not answerable to them. Section 64 clearly states that if a person does not adequately maintain soil conservation works in a communal land he shall be guilty of an offence.

6.10 Environmental Limitations

The pre and post-colonial eras have seen Africans being marginalized in the most non productive areas of the country NR IV and V. The pre colonial agricultural practices of shifting cultivation as the soil became weaker were quashed as villages were allocated permanent arable and grazing lands. This resulted in monoculture which saw the land lose its productive capacity as these farmers did not have adequate credit facilities to purchase fertilizers. This, coupled with droughts resulted in husbands leaving their homes to seek other forms of employment to sustain their families. Dore (1993) shows that crop production levels of female heads of households was 50% less than their male counterparts. He goes on to suggest that communal land should be used full time by settled farmers.

7. RECOMMENDATIONS AND CONCLUSIONS

The ARDA, ULG consultants report (1996 Household and Income survey) concluded that it would appear that the challenges facing the project at inception are still much in evidence and that some of them have even become more complex than before. This is a very discouraging conclusion especially to project management, participating government departments and more so the funders of this project, both the EU and the Government of Zimbabwe (the tax payer's money).

Communal lands have been subjected to land reform on the basis that they perform to the same level with the higher rainfall areas. Consequently people have been resettled and infrastructure provided to service the various needs of the rural folk. What planning has lacked is the assessment of the productive capacity in relation to the Land's carrying capacity so that investments should be proportional to outputs. The result of this is evidenced by the poorly maintained road networks, non functional water points, shortage of drugs in hospitals and books in schools etc. Central government is currently expected to meet maintenance costs though this trend has changed or is being changed in some districts which have amalgamated with rich rural councils.

As shown above, lack of supportive policy framework to operate is one major cause for poor performance of this project. Consequently, the investment was not worth it. The same views have been clearly put across by B Derman in his paper "Careless Development" in his assessment of the Mid Zambezi Valley Land use project Phase II funded jointly by ADB and GOZ. Also as highlighted above, the pre-independence land reform programmes are the root cause of much of the poverty in the communal areas today. The history tends to be too long, hence we tend to forget and repeat the same mistakes.

The question of "who owns and controls" seem not to get enough attention. Rather, lack of community involvement and participation in development planning is being considered as the root cause of programme and project failures in communal areas. Our experiences in this project do not confirm this.

In conclusion, our recommendations are as follows:

Selection of land or areas for Settlement or land reform projects should be guided by the land and climate to be able to sustain production in either cropping, livestock, forestry and wildlife as clearly spelt out by the Natural Farming Agro-Ecological Regions of Zimbabwe. Following the prescriptions given by M.D. Young in his book "*Sustainable Investment and Resource Use*", users of resources should pay for both development and maintenance costs and no subsidies. There will then be an incentive to recycle resources. Hence if users cannot pay for services because production levels cannot meet this demand, then alternative production systems should be sought.

The Land Tenure Commission report recommends community control and management of grazing schemes rather than individual title (this should apply to woodlands and key resource areas such as waterways and wetlands). It emphasizes strengthening of village institutions as the panacea to previous failures. This is contrary to our experiences in Kanyati that local control is ineffective where knowledge and aspirations differ, ownership varies and

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