Centre for
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CASS

**The Socioeconomic Base of Communities
in the NRMP[1] Area
(Zimbabwe)**

By

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January 1995

University of Zimbabwe

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[1] **Natural Resources Management Project**
(United States Agency for International Development - Project Number 690-0251)

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THE SOCIOECONOMIC BASE OF COMMUNITIES IN THE NRMP AREA

Introduction[2]

This report presents and discusses some of the socioeconomic information collected in the 1991 survey of households done by the Centre for the Natural Resources Management Programme. The NRMP involves areas in the Matabeleland South and Matabeleland North Provinces of Zimbabwe. It is supported by the United States Agency for International Development (project number 690-0251) and is an extension of Zimbabwe's CAMPFIRE programme which extends to local communities the rights to manage and profit from wildlife.

According to the terms of the grant from USAID, CASS was to collect socioeconomic information from the areas involved in the programme. The survey was our response to that mandate.

During 1991, CASS field staff interviewed representatives of more than 3200 households in the program area.

This report briefly describes that process and reports some of the basic socioeconomic information that was collected. It tabulates information by ward in the study area. Because of this format, it is difficult to present anything that is at all analytical. Because we present information ward by ward, there is simply not enough room on the page to contain cross tabulations or other more informative analyses. We are limited to an overall profile and description of some basic socioeconomic information. Other reports using the data take a more analytical approach.

The Survey

Selection of Wards to be Sampled

Twenty six wards were included in the survey. They are listed in each of the tables included in this report. Wards were selected for inclusion for various reasons. All the selections were made in consultation with district government representatives including wildlife committee members. In the case of Binga, there was close consultation with a member of the National Parks staff. We also consulted staff of Zimbabwe Trust. We tried to honor their agendas in the final selection. As a result, there was not necessarily consistency of criteria from one district to another.

We decided at the beginning of the venture that we had the resources to include about six

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[2] An earlier version of this paper was presented and discussed at the conference Lessons of the NRMP sponsored by CASS on 27 to 29 July, 1994 at the Harare Sheraton Hotel.

wards per district. In spite of that stricture, we selected seven in two districts - Bulilima Mangwe and Hwange - in response to advice.

The seven wards in Bulilima Mangwe District were selected because they are all of the wards included in the NRMP/CAMPFIRE area. They are a contiguous group approximately bounded by the Manzamnyama River to the north and the Maitengwe River to the south. The Thekwani River flows through the middle. The west end of the area is the lagisa or traditional grazing area. That region also contains the Maitengwe dam, rehabilitated as part of the NRMP.

In Tsholotsho District, we selected wards 7 and 8 early on and included them in the first stage of the survey that included Bulilima Mangwe. The Zimbabwe Trust area manager for Bulilima Mangwe had been involved in organizing the project there and things were well under way. The other four wards were selected later. They comprise approximately the northern border of the district and are adjacent to areas heavily populated with wildlife - Hwange National Park and Ngamo State Forest. At the time these wards were all those included in the NRMP/CAMPFIRE programme.

In Binga, several criteria were used for selection in response to several sources of advice. We knew that we would be unable to include all of the wards included in the programme. So we selected wards that we and our advisors hoped would shed light on various problems faced by the programme and illuminate different aspects of its implementation.

- Muchesu ward was included as it is on the northwest boundary of Chisarira National Park and is affected by seasonal migrations of wildlife. Our advisors indicated that there was not much of an active CAMPFIRE programme there and that there was considerable hostility to wildlife among the residents.

- Nsenga is between the park on its southern boundary and Chete Safari Area to its north. Like the others it is impacted by wildlife.

- Kabuba and Sinamagonde wards were included because some believed that the heavy immigration to those areas has implications for the success of the programme. They each share part of the southwest boundary of Chisarira National Park and have wildlife populations. It was also pointed out that they were "zoned" together for the purposes of planning wildlife management and sharing the revenues.

- Tyunga was selected because it is especially heavily impacted by wildlife because of its location which shares a boundary with Chete Safari Area. It also had an active CAMPFIRE programme. Our advisors considered its problems to be representative of problems in other areas.

- Saba ward, in the west of the district, was included because it shares a border with

Kavira Forest and is impacted by wildlife from the state land.

In Hwange district, wards were included for various reasons.

- Simangane was especially active in the CAMPFIRE programme.

- Sidinda ward is the location of Sidinda Island which has special potential for tourism and is the site of proposed translocation of impala.

- Mabale, Lupote and Nekatambe wards are adjacent to Hwange National Park and animals move freely into them. Jambezi ward, not currently in the NRMP/CAMPFIRE programme, is adjacent to Fuller State Forest which is the home of crop raiding animals.

- Chikandakui ward, also not in the programme, was included at the suggestion of the wildlife committee.

Conduct of the Survey

From January to early April in 1991, a CASS research team of university students and supervisors conducted household interviews in the seven wards in Bulilima Mangwe district and in Ward 7 and Ward 8 in Tsholotsho district. The interviews were conducted from a questionnaire.[3]

Beginning in July, 1991, interviews were conducted in the selected wards in Binga and Hwange districts and in the remaining four more wards in Tsholotsho. They were done by locally hired interviewers who were trained by he same CASS research team who had done the earlier interviews. A second version of the questionnaire was used which took advantage of our earlier experience and used many more precoded categories than the earlier one.

In each of the wards, interviews were done in each village (or Vidco). There are typically six villages in each ward. In each village, two independent samples of households - clusters - were selected. The selection method varied from district to district and depended on the kind of information that was available and on the structure of traditional leadership. However, the pattern of two independently and identically selected clusters per village was constant throughout the entire exercise.

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[3] Copies of both questionnaires are included in the CASS publication Using Data from the NRMP Socioeconomic Survey (Hawkes, 1994).

Household Residents and Ethnic Backgrounds

To introduce the results of the survey, we begin with a description of residence patterns of household members and of the ethnic background of households.

Numbers of Households and Household Size

Table 1 shows information about the number of households which were interviewed, the numbers of residents in those households and some corresponding information from the Zimbabwe Census conducted in 1992. The first column shows the number of households counted in the census. The third column tells the number of households from which our interviewers collected information. Notice that our sampling method of two clusters per village for each ward did not yield us anything like a fixed proportion of the population of the households reported by the census. For example, compared to the census count, we apparently enumerated only about seven percent of the households in Muchesu ward in Binga while interviewing as many as a quarter of them In Sidinda Ward in Hwange. These discrepancies are not important as our goal was to provide information that represents each ward and not to add them together to represent districts. It may be that our definition of households differed from that used by the census enumerators. For example, in Binga it is often unclear whether to include sons with their fathers' households or to enumerate them and their families separately.

(Table 1 - See page 5)

Table 1. Number of Households and Persons Per Household in the 1992 Zimbabwe Census and in the 1991 NRMP Sample Survey by District and Ward.

District and Ward	Zimbabwe 1992 Census[1] Sample		NRMP 1991 Sample Survey Persons per Household				
	House-holds[2]	Persons per HH[3]	House-holds[4]	Total[5]	Entire Year[6]	Part Time[7]	Unre-corded[8]
BULILIMAMANGWE							
Makhulela	840	5.5	165	9.3	7.7	1.4	0.1
Ndolwane	967	6.1	151	9.3	7.3	1.7	0.3
Huwana	1022	6.0	169	9.6	8.2	1.2	0.2
Gala	800	6.0	170	9.4	7.8	1.5	0.1
Bambadzi	713	5.9	106	8.8	7.2	1.4	0.2
Hingwe	918	6.1	101	8.5	7.0	1.3	0.1
Madlambudzi	808	5.5	107	8.5	7.0	1.3	0.2
TSHOLOTSHO							
Ward 1	658	5.8	82	9.3	6.8	2.2	0.2
Ward 2	950	6.2	174	9.5	7.6	1.5	0.4
Ward 3	895	6.7	136	9.5	7.9	1.5	0.0
Ward 4	593	5.7	142	8.7	7.5	1.0	0.3
Ward 7	978	5.7	78	8.5	7.5	1.0	0.1
Ward 8	1527	6.4	176	8.7	7.8	0.8	0.1
BINGA							
Nsenga	608	3.9	53	10.4	8.4	1.9	0.1
Tyunga	761	4.6	106	8.2	7.2	0.9	0.0
Saba	786	5.2	90	9.5	8.6	0.9	0.1
Kabuba	839	4.4	161	8.4	7.5	0.8	0.0
Sinamagonde	1148	6.9	132	9.2	8.5	0.7	0.0
Muchesu	561	3.9	41	8.5	7.5	1.0	0.0
HWANGE							
Chikandakubi	594	6.3	118	9.2	7.4	1.3	0.5
Jambezi	635	5.8	150	8.2	6.9	1.2	0.1
Lupote	849	5.9	150	9.7	7.8	1.5	0.4
Mabale	573	6.4	129	9.6	8.0	1.0	0.6
Nekatambe	911	5.6	106	10.0	8.4	1.2	0.4
Sidinda	427	5.8	105	8.5	6.8	1.2	0.6
Simangani	646	5.3	116	7.3	6.0	1.0	0.3

1. Census 1992: Zimbabwe Preliminary Report. Harare, Central Statistical
        Office.
2. Number of households reported in the census.
3. Number of individuals per household reported in the census.
4. Number of sample households interviewed.
5. Total number of individuals enumerated in sample households divided by number of
        Households.
6. Number of people reported to be year round fulltime residents per household.
7. Number of people reported to be part time residents per household.
8. Number of people for whom residence pattern was not recorded or who never come
        to the household.

In any case, overall we interviewed in about fifteen percent - or one in six - of the number of households listed by the census.

Both we and the census counted all the people who reside in the selected households. However we used very different rules about whom to include. The census collected information only about people who had actually stayed at the home on the previous night. This makes good sense for the purposes of the census - to get an accurate count of the population of the country. It avoids multiple counting of people reported by more than one household. If someone is away from home, he will presumably be recorded wherever he is and the total count will come out right.

On the other hand, the census method is not a good one for figuring out the economic structure of households. Among other things, it misses people who are away working and contribute to the maintenance of the household. Our strategy, therefore, was different. We invited our respondents to list everyone considered to be a member of the household, regardless of their presence or their residence patterns. Then we established the pattern of residence of each member - whether they were year round, full time residents, part time residents or - in a few cases - if the never came.

This information about the reported number of persons per household is also shown in table 1. Notice that the total number of persons per household that we recorded is considerably higher than that reported by the census. This is to be expected since we counted people who were not present at the time of the interview. The table goes on to separate our survey results into year round full time residents, part time residents and those for whom residence pattern was not recorded. (This last category also includes a few who are reported never to come home.) The column representing year round full time residents should approximate the number of people the census found at home. However, it is consistently larger by one to two people. The discrepancies in Binga are especially large but this may be due to the differences in defining households that was discussed above. Overall, the discrepancy leaves something to be explained. Either the census missed people or our respondents were overly generous in assigning members to their households. At this writing we have not worked out an explanation.

The column that represents the number of part time residents is informative. This is information that the census deliberately set out not to collect. Many of these, as we shall see, are employed workers who contribute to the maintenance of the household. Any discussion of "the population" of an area which does not take these part time residents into account will be giving less than the full picture. According to our results, these people add one to two residents to the average household.

Ethnic Backgrounds of Household Heads

Each interview inquired about the ethnic or tribal background of the household head. Observers from outside the area usually assume that the Ndebele dominate the western part of the country. When we began the research we knew that not to be true in the project area, but we were still surprised at the great variety that we encountered. Table 2 presents that variety. (Note that the Ndebele are a majority only in one ward - Ward 1 in Tsholotsho - and are a plurality only in one other - Mabale Ward in Hwange.)

Table 2. Ethnic Group of Household Head by District and Ward.[1]

District and Ward	Ndebele	Kalanga[2]	San	Tonga	Dombe	Nambiya[3]	Eastern[4]	Northern[5]	Southern[6]	Other[7]	TOTAL[8]
BULILIMA MANGWE											
Makhulela	6	89	3	-	-	-	-	-	1	1	101%
Ndolwane	4	95	1	-	-	-	-	1	-	-	101%
Huwana	5	92	1	-	-	-	1	-	1	-	100%
Gala	6	93	-	-	-	-	1	-	1	-	101%
Bambadzi	13	82	-	-	-	-	-	3	2	-	100%
Hingwe	3	95	-	-	-	-	1	1	-	-	100%
Madlambudzi	6	91	-	-	-	-	-	2	1	-	100%

Table 2. (Continued)

District and Ward	Ndebele	Kalanga²	San	Tonga	Dombe	Nambiya³	Eastern⁴	Northern⁵	Southern⁶	Other⁷	TOTAL⁸
TSHOLOTSHO											
Ward 1	74	18	-	-	-	-	3	1	3	-	99%
Ward 2	27	47	1	1	-	8	2	3	11	1	101%
Ward 3	20	60	-	1	-	4	-	6	9	-	100%
Ward 4	38	27	-	1	-	5	3	12	15	1	102%
Ward 7	27	30	6	-	-	-	-	11	24	1	99%
Ward 8	31	49	3	-	-	2	1	2	10	1	99%
BINGA											
Nsenga	2	-	-	98	-	-	-	-	-	-	100%
Tyunga	-	-	-	100	-	-	-	-	-	-	100%
Saba	-	-	-	99	-	-	-	-	-	1	100%
Kabuba	15	-	-	83	-	-	1	1	-	-	100%
Sinamagonde	34	1	-	54	-	2	5	2	3	-	101%
Muchesu	-	-	-	100	-	-	-	-	-	-	100%
HWANGE											
Chikandakubi	30	1	-	5	9	36	2	9	4	3	99%
Jambezi	17	1	-	5	42	30	-	3	1	2	101%
Lupote	12	1	-	19	40	17	1	8	1	1	100%
Mabale	34	3	-	18	18	11	2	13	-	1	100%
Nekatambe	2	-	-	3	28	62	-	5	-	1	101%
Sidinda	23	-	-	3	34	22	2	9	1	6	100%
Simangani	8	-	-	13	30	27	3	9	2	8	100%

1. Percent of households. No cases reported indicated by '-'.
2. Includes Households identified as Mnyai and Mtshabi.
3. Includes Households identified as Mnanzwa.
4. Includes various Shona groups and Mozambique.
5. Includes Nyanja, Lozi, Nyasa and others with most recent historical origin to the north of the survey area.
6. Includes Tswana, Suthu, Venda, Shangan, Swazi and others with most recent historical origin to the south of the survey area.
7. Includes cases for which information was not recorded or the information was unrecognizable.
8. Percents do not add to 100 because of rounding error.

As we expected, the major ethnic groups in the project area are Ndebele, Kalanga, Tonga, Dombe and Nambiya. This reflects the history of the area. Before the arrival of the Ndebele early in the last century, The Kalanga (in the Bulilima Mangwe area) and the Nambiya (in the Hwange area) - both linguistically and historically connected to the Shona - were long established. The Tonga had for centuries been riverine farmers along the Zambezi river. In the 1950's they were removed from the river to make way for the water in Lake Kariba and resettled at inland locations. The Dombe are an historically and linguistically connected both with the Nambiya and the Tonga.

We found several instances of reference to other Shona derived groups who antedated the Ndebele. Some of the notes to the table show how we have treated those groups. Notable are the Mnyai and the Mnanzwa. They have been absorbed into the Kalanga and Nambiya for most purposes, but the ethnic identification persists.

We found many other ethnic affiliations - too many to satisfactorily lump together as other. They have been coded into groups that have their historical origin to the east of the project area (mainly Shona), to the south of the area and to the north of the area. We found a few cases we could not identify and coded them as other.[4]

Finally, we have treated the San separately although we interviewed but a few. The ancestors of this group - known pejoratively as "bushmen" - were hunter-gatherers and occupied the area even before the arrival of Bantu speaking people. Now they tend to be poor and at the edges of settled areas. They are often the objects of policy deliberations and intervention by donors. Because of these differences, that have their own column of the table. Notice that they are represented in the northern wards of Bulilima Mangwe and the southern wards of Tsholotsho.

Bulilima Mangwe district is predominantly Kalanga and relatively homogeneous.

Tsholotsho Is much more diverse. Ndebele and Kalanga are both represented there with one group or the other predominant in any particular ward. Notice that there is representation of groups with backgrounds outside the area - especially from north and south. This reflects the history of large scale relocations into the area during the rule of the previous government.

Binga District is largely Tonga and homogeneous. Two important exceptions are Kabuba and, especially, Sinamagonde wards in the southeast and south of the district. Here are a minority of Ndebele settlers and also people of other origins. Their presence has great impact on farming patterns and on the prospects for the CAMPFIRE programme.

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[4] We did not think to include a question about which language is spoken at home. This might have provided us with a simpler set of categories and have indexed assimilation patterns. Any future survey should record this information.

Hwange is the most ethnically heterogeneous of all the districts. Ndebele, Dombe and Nambiya are strongly represented with one or another of them a plurality in the various wards. There is a minority of Tonga in every ward. There are also many representatives of other groups whose roots are from outside the area.

Now a household survey cannot capture the dynamics of ethnicity. Thus we cannot say that the various ethnic mixes are affecting politics and decision making in the various wards and districts. However, this would make a fruitful research project.

Household Economies

Much of the questionnaire focussed on the economy of the household. There were questions about crops, livestock and relation to the cash economy. It asked about the availability of water, firewood and grass for thatching. Questions and observation elicited information about the possession of a variety of amenities. This section will discuss these topics.

Relations to the Cash Economy

Table 3 shows the ways the households generate cash income. For each person in each sample household, our interviewers asked whether the person worked for wages and where the wage work was located. For the purposes of this report we have distinguished only between wage work that is done while staying at home and that which requires the earner to be away. We also asked, for each person, what other ways they generated cash income. In the first version of the questionnaire, we did not have a fixed list of categories but simply took answers as they came. In the second version we had a list of income producing categories generated from our earlier experience. This time the interviewers were able to use the list to remind the respondent of possible ways that people might get cash income. We think that the early part of the survey may have under counted in Bulilima Mangwe and in wards 7 and 8 in Tsholotsho.

(Table 3 - See page 11)

Table 3. Major Sources of Money Income by District and Ward. (Number of people engaging in cash generating activities per 100 Households.)

Source of Money Income

District and Ward	Outside Wage Work	Local Wage Work	Beer Brewing	Agricultural Products	Crafts	Small Animals	Garden Products	Mopane Worms	Knitting, Sewing	Ploughing	Field Work	Poles	Building	Cattle	Other
BULILIMA MANGWE															
Makhulela	106	12	7	1	11	1	-	45	4	*	1	-	-	2	13
Ndolwane	130	5	6	4	9	8	3	7	5	*	-	-	3	2	18
Huwana	104	21	25	15	8	23	2	6	6	*	-	1	1	8	10
Gala	120	13	22	10	13	14	2	2	2	*	2	3	2	2	13
Bambadzi	121	14	19	6	9	16	-	4	5	*	-	1	-	5	23
Hingwe	132	3	13	3	13	24	3	6	3	*	5	-	1	5	20
Madlambudzi	121	5	21	3	18	24	-	3	-	*	2	1	1	6	33
TSHOLOTSHO															
Ward 1	210	26	58	91	29	75	8	45	19	6	23	15	9	54	58
Ward 2	125	119	28	24	28	9	5	24	30	6	2	5	13	6	37
Ward 3	94	34	16	25	12	10	4	1	12	42	6	6	3	5	52
Ward 4	105	27	26	25	25	11	8	-	19	3	1	3	1	2	54
Ward 7	53	18	16	5	10	26	6	19	2	*	2	-	2	11	18
Ward 8	57	13	14	7	19	26	1	13	4	*	3	3	1	14	21
BINGA															
Nsenga	94	6	77	15	48	40	33	-	12	15	17	8	19	-	31
Tyunga	44	32	63	7	20	25	12	2	4	-	10	14	16	2	24
Saba	48	35	38	7	17	34	9	6	3	2	4	2	16	3	16
Kabuba	56	13	58	34	6	21	34	8	4	6	16	9	16	3	19
Sinamagonde	39	11	56	86	8	11	31	2	5	9	23	5	18	3	20
Muchesu	48	14	29	14	14	14	36	-	5	-	21	2	7	-	31
HWANGE															
Chikandakubi	83	24	42	3	18	10	6	3	7	11	14	12	2	-	10
Jambezi	79	15	25	3	15	10	5	1	8	10	8	8	3	1	17
Lupote	67	27	15	3	8	2	9	1	7	22	17	9	4	-	14
Mabale	55	35	19	9	9	5	4	3	12	8	12	12	9	2	23
Nekatambe	60	19	23	1	15	10	29	2	6	13	10	7	7	1	19
Sidinda	42	26	16	1	15	10	6	4	2	12	8	12	6	1	10
Simangani	51	13	19	-	6	7	2	1	3	12	3	10	1	1	12

- No cases reported.

* Not coded in version 1 questionnaire. See text.

Table 3 presents this information calculated as the number of persons per hundred households who engage in each activity. So, for example, Makhulela ward in Bulilima Mangwe district has 106 people per hundred households who are reported to be working for wages away from home. That was calculated by taking the total number of people reported to be working away (there were 175 of them), dividing by the number of households interviewed in the ward (165 from table 1) and then multiplying by 100 to put the figures on an easy to use scale. Other numbers in the table were calculated the same way.

First we will turn our attention to the numbers of people working away from home. There is considerable variability in this column. The number per hundred households working away from home varies from a low of 39 in Sinamagonde ward of Binga to a high of 210 in Ward 1 of Tsholotsho. (At this writing, we are not convinced that the latter figure is not a consequence of erroneous recording. This possibility is being explored.) In general, the wards in Bulilima Mangwe have a relatively high rate of working away. Those in Tsholotsho vary from high to fairly low. In general, the wards in Binga and Hwange are among the low ones.

It is to be observed that even the lowest rates do not fall much below 40 people per hundred households. Most are considerably above that. In ten wards there are over 100 people per 100 households working away from home. Other tabulations, not included in this summary report, indicate that most of the employment is of men. They also indicate that most of the outside employment in Bulilima Mangwe is in South Africa while that in other areas is mainly in Zimbabwe.

Generally, the NRM programme wards are heavily dependent on wage labor done away from home. We did not inquire about the amounts of money that reach home. Informal observation suggest that it varies. Observation also suggests that in most areas, the poorest households do not have members working away.

The second column of table 3 reports the number of local wage workers per thousand households. We instructed our interviewers to count work that could be done while staying at home. Our intention was to count steady employment. Perhaps our enumerators and respondents mixed this category with income from casual labour tabled in subsequent columns. Nonetheless local work represents an important contribution to the household economy.

The remaining columns of table 3 report the numbers of people (per hundred households) who get cash income from various other activities. They are arranged in the order of their frequency of occurrence. Note that there were some differences in the two versions of the questionnaire. These are indicated in the notes to the table.

The single most frequently mentioned source of cash income (except wages discussed earlier) is the brewing and sale of beer. Again, there is considerable variation from one area to another. In five wards there are more than 50 people per hundred households who are reported to generate income in this way. In spite of the variability, we can see a tendency for beer brewing to be more important in Binga district and less important in Bulilima Mangwe. In every area it is among the most frequent cash generating activities.

Other tabulations as well as experience and observation indicate that it is overwhelmingly women who do it. So, the brewing and sale of beer emerge as an important way that money circulates in communities. And it is an important way that money income flows to women.

The next most frequent method of generating cash income is the sale of agricultural products. However, almost everywhere the number of people getting income from this source is much less than the number working for wages. There is one notable exception - Sinamagonde ward in Binga. Also, Kabuba ward in Binga has a fairly high number of people - thirty four per thousand - with income from the sale of agricultural products. As we will see below, the pattern of farming in these two wards is quite different than other wards in the survey. The residents are growing crops for the market. They are - or are trying to be - peasant farmers in the classic sense of the word. They are growing for the market and not just for consumption at home.
The rest of the area has relatively fewer people with income from the sale of agricultural products. As we shall see these areas are growing crops largely for consumption at home. To use the term peasant to apply to them is a misnomer.

The next most frequently reported activity is the selling of crafts. In this category we included baskets, carving and the like. We did not distinguish locally sold and used items from those intended for the "tourist trade". With some exceptions, these numbers are on the order of ten to twenty five persons per hundred households. The one notable exception is Nsenga ward in Binga where 48 people per hundred households report income from crafts. This is most likely due to the marketing outlet provided by the Binga Craft Shop. However, it doesn't seem that its influence has spread to the other wards in Binga.

The next most frequently reported cash generating activity is the sale of small animals. This includes mostly poultry and goats. We did not attempt to distinguish between them in our data recording. Other tabulations show that it is often women who get income from these sales.

Next is the sale of mopane worms or amacimbi. These edible caterpillars (Gonimbrasia belina and Gynanisa maia are prized as food and are sold in a nationwide distributing system to all areas of Zimbabwe (see Hobane 1994a and 1994b). They are found with the mopane tree which only grows in some of the areas covered by the NRMP and the survey. They are most important as a source of income in the parts of Bulilima Mangwe and Tsholotsho where there is extensive mopane woodland. However there are reports of their sales in most wards. Some of this is because people travel some distance to gather and process the caterpillars.

Other tabulations and all our experience show that the overwhelming majority of the people involved in this activity are women. We also know that many more women gather them than market them. They represent an important link in the food security system. There are indications that there are problems of over exploitation in some areas outside the boundaries of NRMP (see Hobane, 1994b).

The rest of table 3 shows activities that occur with lesser frequency. This includes fieldwork for others, selling construction materials and the like. It is important to notice that very few people get income from the sale of cattle. Although there are cattle in most of the wards studied, few are sold. This will be studied in more detail below. It is important to note that in our experience it is virtually all men who make decisions about cattle sales. They are often men who are working away from home. Thus, cattle sales are not the province of women nor even of resident members of the household.

The Cultivation of Crops

Next, we turn our attention to table 4 and questions about the cultivation and sale of crops. We restrict our attention in this report to crops grown in the rainy season. Our interviewers asked questions about the total size of each households fields, each type of crop grown, the yield of each and the amount, if any, that was sold. Some of this information is summarized in table 4.

Table 4. Size of Cultivated Fields, Food Crops Grown and Sold by District and Ward

Median size of cultivated fields (acres)
Percent of Households which:
Grow maize / Grow sorghum / Grow millet / Grow groundnuts / Grow sunflower / Grow finger millet / Grow vegetables / Grow beans / Grow other crops / Sell any crop

District and Ward	Median size	Grow maize	Grow sorghum	Grow millet	Grow groundnuts	Grow sunflower	Grow finger millet	Grow vegetables	Grow beans	Grow other crops	Sell any crop
BULILIMAMANGWE											
Makhulela	10	84	88	93	58	0	2	2	13	80	5
Ndolwane	9	82	65	91	65	3	7	5	13	68	9
Huwana	10	91	89	88	66	4	4	2	16	78	21
Gala	10	87	75	84	53	1	6	1	15	71	12
Bambadzi	10	94	90	96	81	3	2	2	35	89	13
Hingwe	10	96	91	94	74	5	7	2	15	81	3
Madlambudzi	10	94	91	95	77	6	21	0	21	83	1
TSHOLOTSHO											
Ward 1	10	95	73	85	59	23	6	1	43	13	13
Ward 2	10	84	65	89	41	5	2	1	46	42	10
Ward 3	6	87	49	89	21	4	1	1	21	25	8
Ward 4	8	85	76	51	4	9	1	1	11	51	14
Ward 7	10	91	90	86	71	6	1	4	3	77	5
Ward 8	10	88	81	91	66	2	2	2	13	78	6

Table 4 (Continued)

Median size of cultivated fields (acres)
    Percent of Households which:
    Grow maize
       Grow sorghum
          Grow millet
             Grow groundnuts
                Grow sunflower
                   Grow finger millet
                      Grow vegetables
                         Grow beans
                            Grow other crops
                               Sell any crop

District and Ward	Median size	Grow maize	Grow sorghum	Grow millet	Grow groundnuts	Grow sunflower	Grow finger millet	Grow vegetables	Grow beans	Grow other crops	Sell any crop
BINGA											
Nsenga	3	74	83	81	2	0	2	15	13	13	14
Tyunga	3	84	42	79	6	1	1	6	5	8	7
Saba	4	49	62	98	4	0	0	3	3	9	1
Kabuba	3	91	64	40	17	16	2	4	12	6	6*
Sinamagonde	6	93	39	50	47	51	6	2	30	4	33*
Muchesu	3	83	85	78	2	0	0	7	5	2	2
HWANGE											
Chikandakubi	3	51	18	80	4	0	0	0	3	0	1
Jambezi	3	32	19	83	4	0	0	2	2	2	1
Lupote	3	38	62	75	2	1	0	0	3	1	4
Mabale	4	62	60	60	1	0	0	0	2	1	3
Nekatambe	2	11	22	84	2	1	1	3	1	8	1
Sidinda	3	30	41	63	1	0	0	0	0	0	0
Simangani	2	19	29	69	2	0	0	0	1	0	0

*   Cotton is grown and sold in Kabuba and Sinamagonde wards of Binga District. This is discussed in the text of the paper.

The first column shows the median size of fields in acres. The median is one kind of statistical average. It is simply the middle value of a set of observations. For example, the median size of reported fields in Makhulela ward is ten acres. That means that the typical household in the ward cultivated ten acres in the sense that there were as many households having less then ten acres as there were having more than ten.

The most prominent feature of the size of fields is the systematic difference between Bulilima Mangwe and Tsholotsho, on the one hand, and Binga and Hwange on the other. In the former two districts the median size of fields is ten acres in most cases. It drops to eight and six in two wards in Tsholotsho. In contrast, in the other two districts it only rises as high as six in one ward - Sinamagonde in Binga. Otherwise in those two areas, the typical size of fields is about three acres - about a third of that in Bulilima Mangwe and Tsholotsho.

Turning to the crops that are grown, the table shows the percent of households than grow each of a list of common crops. Heading the list are maize, sorghum and millet. Some combination of these three provide the staple crops of households in every ward we surveyed.

Groundnuts are grown in areas where the soil is suitable. That is mostly in Bulilima Mangwe and Tsholotsho. Groundnuts are also grown in Sinamagonde ward in Binga.

Sunflower, mainly a commercial crop, is extensively grown only in a few wards. These are in Ward 1 of Tsholotsho and in Sinamagonde and Kabuba wards in Binga. We will return to consider these last two below.

Finger millet is grown everywhere but only by a few households. (The exception is in Madlambudzi ward in Bulilima Mangwe. We know of no reason why thai should be so and are open to suggestion.) According to all the information we have been able to collect, finger millet (Ndebele;uphoko) is used in this part of the country only for beer brewing. However, most beer is made from sorghum.

Vegetables, too, are grown by a small number of households everywhere.

Beans are grown in a minority of households. A principle difference among the wards is between Hwange district and the rest of the area. There very few households grow beans. In Binga district, There is much variation in Binga. The high rate for Sinamagonde ward in Binga will be commented on below.

In Tsholotsho and Bulilima Mangwe the majority of households grow other crops as well. We did not record information on them individually but the include watermelon, hard melon (Ndebele; ijodo) and pumpkin grown in fields among the staple crops.

Overall, there are broad patterns of difference in food growing among the areas we studied. All the wards in Hwange grow very few food crops and cultivate small fields. The overwhelming pattern is to grow sorghum and millet. Some households grow maize but they are fewer than in any other area we studied. Almost nothing else is cultivated.

A similar but not so pronounced pattern is seen in the Binga wards, excluding Kabuba and Sinamagonde. More maize is grown there. There is a little higher frequency of the other crops. But the general pattern is similar - Mainly a few staple crops grown in small fields. Again we postpone the discussion of Kabuba and Sinamagonde.

The general pattern in Bulilima Mangwe and in Tsholotsho is of a more diverse set of food crops and larger areas under cultivation.

The last column of table 4 shows what percent of the households sell any of these food crops. It is a minority of households everywhere. In Tsholotsho and Bulilima Mangwe it goes above ten percent in six of the thirteen wards. In Hwange district, for all practical purposes, nothing is sold. It does not rise above a few percent anywhere. In Binga, except Sinamagonde, the pattern is similar though the percent of households selling any crop rises to fourteen percent in Nsenga ward.

Overall, the pattern that we see is of crops grown to be consumed at home. There are differences in the sizes of fields and the diversity of crops but the general picture is of subsistence agriculture. People in these areas are often loosely called peasant farmers but in its classical usage that term is reserved for family farmers that sell crops in the market

economy. That is mostly not done in the NRMP area.

The important exception is in Kabuba and Sinamagonde ward in Binga. There is a different kind of farming there. It is most apparent in the growth and sales of cotton. Cotton is grown exclusively as a cash crop and is never consumed at home. In Kabuba ward twenty eight percent of the sampled households reported growing cotton. In Sinamagonde thirty one percent grew it. The percents selling cotton were thirteen percent and twenty three percent respectively. The lower numbers indicate that many were unsuccessful with their cotton crops. Nonetheless, there are an important number of people in these areas who are trying to be peasant farmers in the classic meaning of the word. They are growing for the market as well as for subsistence.

Other evidence not reported here suggests that these farmers for money tend to be migrants to the area. Refer back to table 1 to see that there are fewer part time residents in these wards than elsewhere. Table 3 reports that in Sinamagonde there is a lower number of people working outside for wages. For both wards, the census reports a higher proportion of males at home than in the surrounding areas. All this indicates that men are there and trying to make a living by farming and that they tend to be new settlers to the area.

We are told that there is much resistance to the NRMP/CAMPFIRE initiative in these wards. Other CASS research reports hostility to wildlife and resentment of authorities who fail to control it. (See for example Dzingirai, 1993.) We suspect that the root of this antagonism lies in the pattern of cash cropping. Crop destruction by wild animals can be a large and serious financial loss. Combine this with the observation that many of the cash farmers came there explicitly looking for land to farm and the antagonism is no surprise. It may be that the CAMPFIRE programme cannot generate enough income to properly compensate cash crop farmers in this area for wildlife damage. If that is true, the programme has no prospects here.

Cattle and Grazing

Querying households about their cattle holdings is an exercise that is almost certain to yield unreliable information. Despite reassurance about our benign intent and the promise of anonymity, we were often suspected of being the harbingers of a destocking scheme or some even more evil mischief. Nonetheless, we tried to collect information anyway. Other informal evidence - and even intuition - from our observation of the communities tells us that we have probably underestimated the large cattle holdings. Some householders with large and clearly used cattle pens would tell us they had none or few cattle. Very large cattle herds are usually kept at some remove from the household and their traces are not seen at home.

In spite of the difficulties, we are convinced that we collected useful information. We believe that we got the general picture right. Some of that picture is drawn in table 5.

The first shows the percent of households who report owning no cattle. The difference between those who own cattle and those who do not is a fundamental social and economic distinction. Those without do not have draught power to prepare their fields.

They are without a source of cash income. They are without an important store of wealth - economic and cultural. So we begin by concentrating on them.

There is much variability in the percent of households who are without cattle. As few as fourteen percent in Makhulela ward in Bulilima Mangwe lack cattle. At the other end of the scale, in Tyunga ward of Binga district almost everyone is without cattle - ninety seven percent. Generalizing across the surveyed wards, typically about a third of households have no cattle.

That number is lower in Bulilima Mangwe. The Bulilima Mangwe NRMP wards, as a group, are relatively well endowed with grazing land. As we have seen, they are quite strongly connected to the cash economy through the migrant labour system. We suspect that the combination of grazing and cash to be invested is the root of the relative abundance of cattle here.

It is higher in Binga with a lot of variation. Cattle have not been traditionally owned in Binga. The indigenous Tonga were riverine farmers until relocated four decades ago to make way for Kariba Dam. Cattle were not a part of that economy. Perhaps a more cogent reason is that until recently the tsetse fly was rampant there and cattle could not prosper. Tyunga is the most remote of the wards and cattle have been introduced only recently. Sinamagonde in the southwest and Saba in the west have cattle ownership patterns that are typical of Bulilima Mangwe and Tsholotsho.

The next column tabulates the percent of households that own one to five beasts. This will include those homes that have enough cattle to get ploughing done but are not ahead of the game in terms of accumulating wealth. Generally, this is about another 20 percent to a third of households. The numbers follow a generally similar pattern as the earlier ones. The next two columns report owners of six to fifteen and sixteen or more respectively. These are the numbers that we trust least. However taken overall they probably represent the patten of ownership of large herds though the numbers may be understated. As a group, these households are the ones that have cattle in numbers beyond those barely necessary to get ploughing done. Of course, this is a heterogeneous group - some have very large herds while other numbers are smaller. Overall, these two groups comprise about forty percent of households. The general pattern is that the number is higher in Bulilima Mangwe and Tsholotsho while being lower in Hwange and Binga.

(Table 5 - See Page 19)

Table 5. Ownership, Grazing Patterns, Health, Sales and Slaughter of Cattle by District and Ward.

District and Ward	Percent Owning				Percent of Households Reporting Cattle Were:				
					Grazed at Another Place By Season		In Good Health	Sold	Slaughtered
	None	1-5	6-15	16+	Wet	Dry			
BULILIMA MANGWE									
Makhulela	14%	31%	37%	19%	7%	52%	71%	21%	*
Ndolwane	27%	32%	35%	5%	2%	31%	67%	22%	*
Huwana	25%	24%	34%	17%	24%	31%	95%	27%	*
Gala	31%	28%	34%	8%	91%	9%	79%	9%	*
Bambadzi	20%	24%	45%	11%	21%	32%	94%	29%	*
Hingwe	23%	29%	35%	14%	13%	17%	94%	19%	*
Madlambudzi	18%	26%	43%	13%	19%	8%	93%	26%	*
TSHOLOTSHO									
Ward 1	18%	20%	35%	27%	-	1%	97%	42%	15%
Ward 2	35%	28%	22%	16%	7%	-	91%	35%	11%
Ward 3	31%	25%	28%	16%	2%	-	78%	34%	14%
Ward 4	40%	20%	29%	11%	24%	-	82%	49%	19%
Ward 7	43%	19%	26%	12%	15%	28%	82%	38%	*
Ward 8	36%	21%	28%	15%	6%	16%	82%	40%	*
BINGA									
Nsenga	64%	11%	17%	8%	32%	11%	79%	21%	0%
Tyunga	97%	2%	1%	-	33%	-	100%	0%	0%
Saba	32%	20%	28%	20%	8%	11%	69%	61%	26%
Kabuba	50%	20%	19%	12%	5%	2%	63%	31%	16%
Sinamagonde	25%	21%	30%	24%	17%	2%	59%	29%	17%
Muchesu	37%	29%	27%	7%	23%	8%	92%	27%	8%
HWANGE									
Chikandakubi	37%	34%	25%	4%	21%	11%	67%	26%	11%
Jambezi	36%	24%	24%	16%	3%	24%	77%	29%	21%
Lupote	36%	28%	26%	11%	7%	16%	92%	48%	31%
Mabale	44%	30%	21%	6%	19%	22%	73%	46%	28%
Nekatambe	59%	16%	17%	8%	11%	13%	76%	31%	20%
Sidinda	43%	22%	19%	16%	8%	37%	81%	41%	32%
Simangani	65%	13%	11%	11%	17%	26%	85%	50%	33%

* This information was not recorded in version 1 of the questionnaire.

Whatever, the limitations of the figures, it seems that the owners of very large herds - sixteen and over - are a minority everywhere although the size of the minority varies. However a large portion of the cattle are in these large herds. Herein lies a basic challenge to NRMP and CAMPFIRE programmes that attempt to promote sustainable use of environment for the benefit of communities. There is a potential divergence of interest between those who own none or a few cattle and those with more. Cattle must be grazed, and the large herds of the few place the most stress on the environment and conflict most with wildlife for access to land.

The next two columns bear on the issue of grazing. They tabulate the percent of cattle owners who graze their herds in a location away from the homestead in the wet season and in the dry months. The great majority of respondents reported that in the wet season they grazed their cattle "around the place." The predominant answer for the dry season was "in the fields." However a minority everywhere used grazing areas away from home for part of the year. Inspection of the two columns reveals no consistent pattern. The pattern varies with local conditions that cannot be captured in a general tabulation. For example in Huwana ward in Bulilima Mangwe ninety one percent graze cattle away in the wet season. Most of this is along the Manzamnyama River. However, the cattle are around home for the dry season, grazing in the fields after harvest.

In nearby Makhulela ward, the pattern is reversed. The cattle are nearby in the rainy season and a majority are away in the dry season. This pattern is an indicator of the sparser settlement pattern there and the its nearness to the traditional lagisa area which includes Mabhongane, of interest to NRMP.

An more informative discussion of grazing awaits detailed reports about local areas. However, the tabulations reported here establish that there is demand for seasonal grazing at some remove from homes. It must be taken into account in planning and promoting programmes that have consequences for land use.

We asked a series of questions about the diseases that afflict cattle (as well as other livestock). They are too detailed to be tabled in this general report. However a useful indicator is provided by the answer to a general question we asked: "Are your cattle generally healthy?" The percent of cattle owning households who told us "yes" is shown in table 5. There is much variation but the number never falls as low as a half.

The next column tabulates the percent of cattle owning households that reported that cattle had been sold in the past year. The first thing to note is that many more households report the sale of cattle than was implied by answers to the question about sources of cash income that was discussed earlier. Overall about a third of cattle owners report sales with a large amount of variation. That would imply that about twenty percent to a quarter of all households have income from the sales of cattle.

Finally, the percent of cattle owning households who slaughtered cattle in the last year is tabulated. We did not ask in the first version of the questionnaire so the information is incomplete. In most places cattle were slaughtered. However in information not tabled here, we found that often the reason given was that the beast was in poor health Many others report that slaughter occurred to meet traditional ritual obligations. It does not seem that cattle are a major intended ingredient in domestic food security.

Other Domestic Animals

Table 6 displays the other holdings of domestic animals. We recorded the numbers owned of donkeys, goats, sheep, pigs, poultry and dogs. For each of these, the table lists the percent of households that own any and the average number owned of those who do.

Donkeys, where they are owned are important for carrying burdens and drawing carts. They are rarely used for ploughing. The major differentiation is between Bulilima Mangwe and Tsholotsho on the one hand and Binga and Hwange on the other. In the former, typically about forty percent of households own donkeys. In the latter districts, the number is usually below ten percent. This conforms to the pattern seen above of fewer resources in hwange and Binga districts. The generalization seems to be confirmed by the observation that Sinamagonde ward in Binga stands out with twenty five percent owning donkeys. This conforms to out argument that there are farmers in this area who are or are trying to be prosperous.

Those who own donkeys generally have four or five. The notable exceptions are a few wards with very few owners in the first place. The high numbers may, then, be an anomaly of small sample size.

Goats are ubiquitous. The portion owning them rarely falls below a third. The size of flocks is generally about ten or a dozen. The lowest percents owning goats is in Kabuba and Sinamagonde wards in Binga. I have no what that means except that these two wards have often emerged as different at several points in this discussion. Goats are important in local economies because they represent a way of building up wealth in small packages. Also they tend more than cattle to be under the control of women.

The table shows that there are sheep and pigs in some areas. This seems to depend on local conditions and practice.

Counting chickens in rural households is an exercise that is best informed by a sense of humour on the part of the householder and the interviewer. The question is always met with laughter. With most respondents, the answer is an estimate rather than an elect count. (An exception is when a small child actually tasked with the care of poultry is at hand. She or he will know exactly.) When the answers are tabulated, five, ten, fifteen, &c. are common answers. Few report nine or eleven. Nonetheless, the answers can be averaged to give approximations of the typical size of flocks. The great majority of households everywhere own poultry. Typically, those who own them have between ten and fifteen. Poultry are generally consumed at home and are an important component in the food security system. Moreover they are in the domain of women who may sell them and otherwise have command of their use.

Dogs complete the list. Everywhere the majority own them. Typically two or three are owned. They chiefly function as security against intruders and small wild animals. It is constantly alleged that in some areas they are used for illegal hunting. We have no useful information about that.

(Table 6 - See Page 22)

Table 6. **Ownership and Average Numbers Owned of Domestic Animals by District and Ward**

District and Ward	Donkeys %	Donkeys No	Goats %	Goats No	Sheep %	Sheep No	Pigs %	Pigs No	Poultry %	Poultry No	Dogs %	Dogs No
BULILIMA MANGWE												
Makhulela	36%	3.7	83%	10	20%	6.1	16%	2.3	90%	9.7	68%	2.5
Ndolwane	52%	4.6	91%	10.3	9%	5.8	10%	3.1	93%	9.5	70%	1.7
Huwana	46%	5.2	92%	12.5	9%	5.3	14%	1.7	91%	10.4	73%	1.7
Gala	32%	4.2	90%	11.4	2%	3.8	8%	1.3	93%	10.8	74%	1.6
Bambadzi	32%	3.5	89%	9.9	3%	5.3	17%	2.6	91%	9.3	74%	1.8
Hingwe	40%	4.7	94%	15	6%	6.2	29%	3.3	93%	9.2	83%	1.9
Madlambudzi	27%	5.3	95%	14.4	7%	6.9	11%	2.8	92%	9.6	84%	1.8
TSHOLOTSHO												
Ward 1	44%	6	80%	11.4	-	-	1%	13	95%	14.6	82%	3.4
Ward 2	41%	5.7	79%	8.4	-	-	17%	1.6	89%	14.9	74%	2.5
Ward 3	56%	5.8	71%	8.5	-	-	14%	1.8	85%	14.3	75%	2.5
Ward 4	39%	4.2	68%	7.3	-	-	10%	1.4	88%	12.1	58%	1.9
Ward 7	18%	4	67%	8.9	3%	3.5	21%	4	81%	10.8	60%	1.8
Ward 8	31%	4.5	69%	8	3%	2.4	8%	4.5	82%	9.4	65%	1.8
BINGA												
Nsenga	9%	11	83%	16.9	13%	7.4	0%	0	79%	16.3	75%	3.2
Tyunga	3%	5.7	85%	12.1	14%	12	2%	5.5	85%	11.9	64%	2.7
Saba	4%	7	83%	15.1	11%	17.2	10%	6.4	79%	19.6	67%	3
Kabuba	11%	5.1	49%	7.7	12%	5.6	11%	3.4	82%	14.8	74%	3.2
Sinamagonde	25%	4.2	39%	7	6%	5.3	39%	4	89%	17.2	73%	3
Muchesu	2%	3	78%	11.6	29%	13.3	0%	0	83%	21.5	73%	3.5
HWANGE												
Chikandakubi	15%	9.3	73%	9.6	-	-	-	-	87%	15	64%	2.2
Jambezi	12%	11.3	62%	10.6	7%	14.6	4%	1.8	89%	14.2	57%	2.8
Lupote	5%	4.3	63%	9.1	9%	13.3	1%	1	83%	13.6	56%	2.3
Mabale	16%	3.6	73%	6.6	3%	2.5	2%	1	81%	14.9	62%	2.6
Nekatambe	1%	2	70%	12.5	7%	19	1%	2	85%	11.5	50%	4.1
Sidinda	8%	5.6	61%	14.3	6%	18.2	5%	2	83%	12.2	61%	3.4
Simangani	5%	2.6	64%	10	8%	4.2	2%	5.3	79%	11	60%	2.2

- No cases reported

1. The first column for each animal shows the percent of households in the ward that own at least one. The second column shows the average number owned by those that report owning at least one.

Living Conditions

Our interviewers asked several questions about the material goods owned by households. We asked them to note some other visible things about the amenities of the home. Some of the information is presented in table 7.

Table 7. Percent of Households Which Possess Various Home amenities, Agricultural Tools and Household Goods and Level of Living by District and Ward.

Home Amenities
Toilet
| Brick Building
| | Iron/Asbestos Roof
| | | *Agricultural Tools*
| | | Plough
| | | | Scotchcart
| | | | | Wheelbarrows
| | | | | | *Household Goods*
| | | | | | Sewing Machine
| | | | | | | Radio
| | | | | | | | Bicycle

District and Ward	Toilet	Brick Building	Iron/Asbestos Roof	Plough	Scotchcart	Wheelbarrows	Sewing Machine	Radio	Bicycle	Level of Living[1]
BULILIMA MANGWE										
Makhulela	2	26	2	94	41	*	13	45	53	2.5
Ndolwane	8	23	4	89	46	*	19	50	47	2.6
Huwana	6	21	2	89	43	*	12	53	51	2.7
Gala	10	19	2	82	30	*	9	39	42	2.6
Bambadzi	6	42	4	93	44	*	15	41	52	2.5
Hingwe	9	25	8	89	32	*	20	48	66	2.5
Madlambudzi	8	25	9	92	25	*	10	48	59	2.4
TSHOLOTSHO										
Ward 1	35	4	1	92	62	18	29	48	8	2.9
Ward 2	27	3	2	88	46	16	14	31	21	3.1
Ward 3	16	2	-	82	44	10	6	24	7	3.1
Ward 4	3	4	2	83	25	8	8	27	10	2.6
Ward 7	15	15	4	68	32	*	16	30	26	2.3
Ward 8	30	8	-	77	30	*	11	37	29	2.2
BINGA										
Nsenga	4	2	-	30	-	4	8	11	15	2.3
Tyunga	8	-	3	5	1	4	6	13	23	2.3
Saba	7	2	0	59	8	8	7	16	22	2.5
Kabuba	5	6	0	50	14	8	7	17	24	2.4
Sinamagonde	6	7	0	80	26	17	14	23	29	2.8
Muchesu	15	0	0	49	7	22	12	32	24	2.3
HWANGE										
Chikandakubi	26	5	15	65	27	21	16	16	13	2.6
Jambezi	32	6	13	74	24	24	12	22	13	2.7
Lupote	52	13	11	72	15	28	13	17	22	2.6
Mabale	45	12	11	67	14	15	11	23	22	2.6
Nekatambe	26	6	37	49	4	12	5	9	16	2.2
Sidinda	18	4	9	61	16	29	8	22	16	2.7
Simangani	21	9	20	35	8	30	8	15	12	2.5

- No cases reported.
* Not coded in version 1 questionnaire (See text).
1. Interviewer's rating of level of living (See text).

In almost every ward, only a minority of households are equipped with toilets.[5] However there is variation between the wards and districts. Hwange and Tsholotsho are relatively toilet rich while Bulilima Mangwe and Binga lack them. Within the districts there is variation, too. We suspect that there is relatively little concern with toilets in Bulilima Mangwe because of the amount of open space that will serve in their absence. That is probably true in Binga, too but augmented by the general poverty of the area.

We noted the existence of a brick building or an iron or asbestos roof. Tsholotsho and Binga are largely lacking in these signs of modernity. There are generally more brick buildings in Bulilima Mangwe but most roofs are still thatched with grass. In Hwange there are fewer brick buildings but - though they are still a minority - more use of iron or asbestos for roofing. Our guess is that much of the difference in building and roofing materials is a matter of availability.

We recorded the ownership of agricultural implements. Table 7 shows three of them - ploughs, scotchcarts and wheelbarrows. As a rule, the wards in Binga are less well equipped with these tools than those in other districts. Tyunga ward in Binga has almost no owners of ploughs or scotchcarts which require the draft power that these households lack. As a rule, the Bulilima Mangwe and Tsholotsho wards are quite well equipped.

Interviewers recorded the ownership of sewing machines bicycles and radios. Everywhere a small minority own sewing machines - the otherwise more prosperous wards including a larger minority than the others. Radios are most frequent in the Bulilima Mangwe ward and almost as common in Tsholotsho. Binga and Hwange have the lowest rates of radio ownership. Bulilima Mangwe has the highest rates of bicycle ownership. The others, including Tsholotsho, tend to be a lot lower. This is probably due to several reasons. One is the general level of prosperity of the areas. However observation shows that the bicycles in Bulilima Mangwe have been imported by workers in South Africa. Observation also shows that Much of Tsholotsho is too sandy for bicycling even for the prosperous.

Finally we note the last column of table 7 which records average level of living of households. We asked interviewers to record their general impression of the living level of the household in numerical categories as follows:

> 1 - very poor
> 2 - below average
> 3 - average
> 4 - above average
> 5 - very good

Then the numbers assigned to the categories were simply averaged across households in the various wards.

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[5] Virtually all of these are pit toilets. Hence Blair toilets are not tabulated separately.

There are a number of reasons to suspect this procedure. In the first place our instructions to interviewers were imprecise. In the second place, we used different locally hired interviewers in the various areas and we have no reason to expect that standards of judgement are the same from one locale to another.

However, there are a few interesting points to be gleaned from the numbers. Notice that all but one of the numbers is between two and three. This range corresponds to between below average and average. Our interviewers in whatever circumstances saw the typical circumstances of respondents to be somewhat below average. Also, although the table does not show it, there is considerable variation within wards. This suggests that further analysis of the data using this indicator could differentiate between households in useful ways.

Water, Firewood and Thatching Grass

Table 8 reports about sources of drinking water, firewood and thatching grass and levels of satisfaction with them. The provision of these to households is the province of women. Understanding the patterns of supply can help us to understand the burdens and constraints of women's lives.

(Table 8 - See page 26)

Table 8. Sources of Water, Firewood and Thatching Grass and Satisfaction with Supplies by District and Ward.

District and Ward	Drinking Water / Dry Season Water Borehole or Tap	Average Distance	Rainy Season Water Borehole or Tap	Average Distance	Satisfied	Firewood Local Source	Average Distance	Satisfied	Thatching Grass Local Source	Average Distance	Satisfied
BULILIMA MANGWE											
Makhulela	81%	1.9	62%	1.3	23%	72%	1.7	75%	2%	41	37%
Ndolwane	79%	1.8	72%	1.4	32%	52%	4.1	60%	1%	54	44%
Huwana	38%	1.6	31%	0.9	29%	73%	1.7	71%	1%	61	32%
Gala	72%	1.8	72%	0.9	40%	76%	2.1	61%	10%	33	31%
Bambadzi	53%	1.7	46%	1.1	21%	94%	1.6	84%	0%	27	39%
Hingwe	17%	2.1	13%	1.3	43%	91%	1.3	85%	2%	59	38%
Madlambudz	31%	1.9	18%	1.2	23%	86%	1.3	84%	9%	46	22%
TSHOLOTSHO											
Ward 1	95%	0.7	51%	0.8	9%	98%	0.4	90%	77%	6	42%
Ward 2	91%	1	72%	0.9	9%	92%	1.1	92%	72%	13	50%
Ward 3	99%	1.5	72%	1.1	3%	91%	1.3	75%	93%	9	48%
Ward 4	99%	1.1	91%	1	31%	89%	1.9	89%	31%	18	60%
Ward 7	52%	1	48%	0.6	48%	99%	0.7	94%	33%	23	69%
Ward 8	91%	1.3	81%	0.8	11%	99%	1.2	94%	60%	16	57%
BINGA											
Nsenga	47%	2	23%	0.8	8%	94%	0.8	79%	96%	1	95%
Tyunga	30%	1.1	20%	0.8	67%	82%	1.2	88%	67%	3	95%
Saba	8%	2.5	3%	1	19%	86%	0.9	92%	32%	8	54%
Kabuba	45%	1.7	19%	1	20%	90%	0.7	86%	84%	3	78%
Sinamagond	62%	1.6	40%	1.1	11%	94%	0.5	94%	46%	7	59%
Muchesu	66%	0.8	49%	0.7	46%	78%	1	78%	15%	8	66%
HWANGE											
Chikandakubi	88%	1.2	86%	1.1	63%	72%	1.3	75%	40%	15	41%
Jambezi	85%	1.2	85%	1.1	61%	63%	1.7	73%	65%	17	50%
Lupote	79%	1.5	58%	1.1	46%	72%	1	70%	46%	12	45%
Mabale	90%	1	77%	0.8	39%	66%	1.1	72%	37%	14	48%
Nekatambe	59%	1.1	45%	1	51%	77%	1	74%	22%	19	46%
Sidinda	63%	1	62%	0.9	60%	92%	0.6	98%	50%	10	64%
Simangani	42%	1.1	41%	1.2	74%	87%	0.6	81%	30%	24	29%

- No cases reported.

Source of drinking water was asked separately for the dry season and the rainy season. During the rains, water is more easily available in rivers and in dams and pans. For each season we tabulate the percent of homes that rely on boreholes for water. The great majority use borehole water in the dry season. There are some striking local differences. For example, Hingwe ward in Bulilima Mangwe ward and Saba Ward have very little access to boreholes. These same wards travel longer distances for water than their neighbouring wards, indicating the low level of availability of boreholes.

In the rainy season, the use of boreholes is always lower. The distance traveled for water is generally shorter, too.
The percent of homes that report that they are satisfied with their water supply is generally higher in Hwange than elsewhere. However, in all the areas there is variation between wards within the districts.

In the project area, firewood is generally abundant. Table 8 records the percent of homes that get their firewood from a local source - this include responses of "nearby", "around the place" and the like. In most of the survey wards three fourths and more are thus coded. A notable exception is Ndolwane ward in Bulilima Mangwe. There, the distance travelled for firewood is 4.1 kilometres - nearly twice that of the next highest average distance. Consequently, the percent of respondents satisfied with their firewood supply is at sixty percent the lowest of any ward. Gala ward in Bulilima Mangwe shows a similar pattern but less extreme. Except for these wards, women travel an average of 1.0 to 1.5 kilometers for firewood and some less than that. Generally three fourths or more are satisfied with their supply.

The location and distance of thatching grass varies very much between districts. In Bulilima Mangwe, very few get grass from nearby. Distances travelled are substantial. The two major sources of grass are Mabhongane Forest and commercial farms at Marula and Figtree. Both these places are at some remove from the wards as the average distances reflect. The wards in Binga, on the other hand, travel relatively short distances for thatching grass - the highest average is only eight kilometres. Tsholotsho and Hwange are between these two extremes with distances varying with local conditions. The level of satisfaction with grass supply ranges from ninety five percent in Nsenga and Tyunga wards in Binga where the distance travelled is very short down to values in the thirties in Bulilima Mangwe where the distances are much higher than anywhere else.

Some Observations on Children and Youth

One aim of NRMP is to advance the fortunes of children. The two main indicators we have are about health and illness and about school enrollment.

The Health of Young Children

First we consider the health of young children. One of the broad goals of the programme is to increase the general health level of the affected areas. So it is appropriate to take it up at this point.

Table 9.   Health Indicators of Children Born Since 19851 by District and Ward.

Number of Children Born After 1985

Percent of Children Who Were:
Born in Hospital or Clinic
Immunized
With None or Few Health Problems
Without Disease or Symptoms

Percent of Children With:
Cough
Flu
Malaria
Stomach Problems
Diarrhea
Headache

District and Ward											
BULILIMA MANGWE											
Makhulela	209	40	94	87	76	9	2	1	4	1	-
Ndolwane	138	46	99	94	70	10	1	1	7	-	1
Huwana	221	47	93	92	69	6	3	2	5	2	3
Gala	226	46	93	94	72	11	3	2	4	1	1
Bambadzi	117	43	95	92	59	13	3	3	10	2	3
Hingwe	127	27	95	86	54	19	6	4	6	2	2
Madlambudzi	123	39	97	87	42	25	9	2	11	6	3
TSHOLOTSHO											
Ward 1	124	61	90	90	48	16	24	14	13	6	1
Ward 2	280	58	95	91	59	10	9	3	7	2	1
Ward 3	237	54	97	89	57	9	8	1	9	1	-
Ward 4	197	76	95	99	58	9	9	1	6	1	-
Ward 7	73	53	89	92	67	11	3	3	4	4	5
Ward 8	187	58	96	90	60	10	5	1	4	3	2
BINGA											
Nsenga	108	50	95	87	40	9	5	10	3	11	12
Tyunga	161	28	98	80	32	14	6	7	2	12	5
Saba	144	71	99	81	30	17	2	8	5	20	3
Kabuba	306	44	99	82	49	12	4	10	4	13	5
Sinamagonde	262	51	98	85	55	18	6	4	5	8	3
Muchesu	74	70	100	84	47	12	5	4	1	11	4
HWANGE											
Chikandakubi	192	78	88	94	76	8	3	5	1	1	-
Jambezi	195	84	95	90	73	4	2	6	2	3	3
Lupote	250	81	93	90	68	9	8	12	2	2	2
Mabale	215	62	92	94	67	7	6	10	3	5	0
Nekatambe	189	83	92	89	65	6	4	11	2	5	2
Sidinda	135	80	93	89	58	7	4	7	7	6	2
Simangani	136	82	87	92	71	3	4	10	3	1	1

- No cases reported   1. These children reached the age of five in the year of the survey.

Table 9 shows some of the information we gathered about the health of young children. It is based on all the children we enumerated who were born after 1986. Since the data were gathered throughout 1991, this group can be taken to represent the children under five years of age.

The first column of the table shows the number of children in that age group in each ward. They are the numbers on which the percents in the other columns are based.

The next column represents the percent of young children who were born in hospital or at a clinic. It varies from less than thirty percent to more than eighty percent. If there is a pattern it seems that the numbers vary with distance and availability of hospital or clinic care. It can be taken as an index of the availability of medical care.

The next column shows the percents of children who have had the basic immunizations. (These are against diphtheria, whooping cough, tetanus, polio and measles.) They are regularly available at "baby clinic." There are mobile clinics that cover the areas more remote from established clinics. The percents in this column are uniformly high and probably vary between wards within the expected bounds of sampling error. They are well above the levels of public health requirements to eradicate these diseases. This is a major accomplishment of the health system of post-independence Zimbabwe. It is also a major accomplishment of the mothers of children who bring them long distances to be immunized and to have their growth monitored. (In the United States, the level of immunization is considerably less. In this respect, perhaps USAID should consider turning its attention inward.)

Next is reported the answer to the question we asked about the general level of health of each person enumerate. The answers were coded into those who had no health problems, those who had a few, those with many health problems and those who are chronically ill. This is a subjective judgement on the part of the respondent supplying information for the household. It gives an impression of the perception of good and ill health. The tabled percents combine the first two categories - those with none or a few health problems. The numbers generally vary from eighty five to ninety five percent with a few outside this range. There is probably no variability that could not be attributed ta sampling error. As a rule the perception of child health is that it is good.

We also inquired what illnesses and health problems each had in the previous year. In the first version of the questionnaire we recorded the answers and coded them later on. On the basis of that experience, we used a precoded set of categories for the subsequent. the rest of the table reports about the specific illnesses we recorded.

The immediately next column reports the percent of children for whom no illnesses or health problems were reported. The numbers generally in the range of forty to seventy five with a few outside. There is a tendency to report a lower level of health in Binga than in the other areas of the study.

The remaining columns tabulate the rates of occurrence of the six most frequently reported illnesses of children. Coughing heads the list. This is, of course, a symptom and not a disease. However all the health workers in the area identify it as a symptom of chronic upper respiratory infection. It is locally common in parts of Bulilima Mangwe, Tsholotsho and Binga. Outbreaks of flu were common and varied from one ward to another with no clear pattern.

The next most common disease of young children is malaria. It is, of course, life threatening and serious. It is present everywhere. However higher rates occur in Hwange and Binga and in Ward 1 in Tsholotsho. The occurrence of the disease depends on the presence of the anopheles mosquito which carries the Plasmodium parasite. There is very little a household can do to protect itself and control depends on larger scale and coordinated public health measures.

The next complaint is of stomach problems. This is a loose and general reporting category. It varies in no particularly interesting way. Diarrhea is common in Binga - about as frequent as upper respiratory infection there. We are told by health workers that it stems from using water from contaminated sources.

Finally, headache is the next most frequent complaint. It also is a symptom and not an identifiable disease. We are not sure what it means. There is a possibility that some is the consequence of untreated malaria.

There are other illnesses that are locally common but not frequent enough to show up in our table. Notable is the presence of Bilharzia in areas of Binga. This is a parasite that cycles through a snail after being deposited in water by human feces. It is then retransmitted to humans who come in contact with the water. If untreated it is debilitating.

The pattern of children's illnesses shows that a large part is environmental. Eliminating malaria and water that contains bacteria and parasites would make a large impact on the well being of young children.

Whether the situation is good largely depends on whether one is inclined to see the cup as half full or half empty. Around half of women giving birth use medical assistance. The major communicable diseased have been eradicated by an aggressive and thorough programme of immunization. A large majority of young children are perceived to be essentially in good health. On the other hand, disease remains - much of it attributable to environmental causes.

School Attendance

Table 10 reports school enrollment of children and youth. Three age groups are reported. The first group was born in 1977 to 1984 and turned seven to fourteen years old in the year of the survey. They are approximately of primary school age. The percent of them who are in school is generally eighty percent and more except in Binga. There it varies roughly in the sixty to seventy percent range - noticeably lower than in the other districts.

Table 10.   Percent of Children Attending School by Year of Birth by District and Ward.[1]

District and Ward	Year of Birth 1977 to 1984[2]		1973 to 1976[3]		1969 to 1972[4]	
BULILIMA MANGWE						
Makhulela	82%	-180	32%	-103	10%	-75
Ndolwane	85%	-189	42%	-84	10%	-70
Huwana	79%	-198	32%	-86	7%	-78
Gala	85%	-186	34%	-87	7%	-86
Bambadzi	86%	-210	41%	-97	16%	-87
Hingwe	83%	-196	36%	-65	3%	-63
Madlambudzi	90%	-177	43%	-74	16%	-65
TSHOLOTSHO						
Ward 1	94%	-159	77%	-49	41%	-32
Ward 2	88%	-404	41%	-167	14%	-120
Ward 3	84%	-304	46%	-126	13%	-94
Ward 4	87%	-268	51%	-122	14%	-100
Ward 7	80%	-216	40%	-96	9%	-66
Ward 8	82%	-185	30%	-97	7%	-74
BINGA						
Nsenga	59%	-129	32%	-53	9%	-43
Tyunga	64%	-229	33%	-72	13%	-79
Saba	66%	-185	27%	-83	21%	-89
Kabuba	70%	-337	29%	-99	16%	-90
Sinamagonde	73%	-288	40%	-108	15%	-117
Muchesu	72%	-95	48%	-33	7%	-27
HWANGE						
Chikandakubi	81%	-175	61%	-75	17%	-78
Jambezi	87%	-172	47%	-77	17%	-68
Lupote	80%	-210	45%	-86	29%	-87
Mabale	83%	-226	46%	-94	20%	-67
Nekatambe	82%	-179	50%	-106	21%	-89
Sidinda	84%	-160	45%	-92	23%	-75
Simangani	81%	-157	48%	-70	19%	-57

1. Numbers of children in each age group are preceded by a dash.
2. These children became seven to fourteen years old in the survey year
3. These children became fifteen to eighteen years old in the survey year.
4. These children became nineteen to twenty two years old in the survey year.

The next group are those of about the age to be in the first four years of secondary school. Not surprisingly, enrollment rates are uniformly lower averaging about half that of their younger siblings. If there is a pattern it is that Tsholotsho and Hwange have slightly higher rates that Bulilima Mangwe and Binga. The advantage that Bulilima Mangwe had over Binga in the earlier years seems to have vanished.

The next category represents youths of about nineteen to twenty two years old. The group is of upper secondary school age and beyond. Thus it casts a broad net in trying to capture students still completing their education. There is variation between wards in the same district but there are some discernable difference among the districts, too. Generally, Hwange has higher enrollment rates in this age group. As a general rule, Binga has the next highest rates - overcoming its low rates of enrollment of young children. Tsholotsho is next and, finally, Bulilima Mangwe is lowest of the four.

We can speculate what these numbers mean about the tendency to stay in school. Bulilima Mangwe and Tsholotsho have high enrollment rates in the early years but fairly low in the later years. This may indicate that students do not persist in school in these areas. In Hwange, rates are among the highest in both periods. In Binga they start low but end relatively high. In these two districts, there may be more persistence to stay in school.

This pattern may be due to differences in the availability of secondary schools (But Binga is demonstrably low on this dimension). It may be related to differences in wealth and status of families with the (few) relatively privileged staying in school and others not. The analysis presented here has been excessively informal. However further analysis of the data - perhaps with synthetic cohort methods may be revealing.

Relations to Wild Plants and Animals

The NRM and CAMPFIRE programmes are about the management of wildlife. Accordingly, we asked a series of questions about how households and their members relate to wild plants and animals. The first version of the questionnaire asked the questions in an open ended fashion. Code categories were developed from inspection of the responses and these categories appeared on the second version to be used by the enumerators. We report some of that information in this section.

Uses of Plant and Animal Products

Interviewers asked a series of questions about how each member of the household uses plant and animal products. Table 11 reports the number of persons per hundred households for whom the various uses were reported.

(Table 11 - See page 33)

Table 11. Uses of Wild Plants and Animals by District and Ward. (Number of people reporting each use per 100 Households.)

Uses of Wild Plants and Animals

District and Ward	Uses of Plants								Uses of Animals			
	Building Materials	Crafts and Carving	Basketry	Tools and Implements	Firewood	Food	Medicine	Other	Mopane Worms	"Meat, Hide"	Medicine	Other
BULILIMA MANGWE												
Makhulela	43	16	1	1	26	30	9	5	115	3	3	1
Ndolwane	43	11	2	1	29	26	23	13	52	-	1	-
Huwana	66	18	-	1	39	55	28	7	49	-	2	1
Gala	64	14	4	4	13	36	41	6	37	-	3	-
Bambadzi	51	22	-	1	58	44	30	7	61	1	2	-
Hingwe	72	25	-	2	53	57	21	5	53	-	-	2
Madlambudzi	66	28	3	2	45	32	30	4	55	1	4	1
TSHOLOTSHO												
Ward 1	118	73	42	74	274	279	216	5	316	-	136	3
Ward 2	79	17	3	11	79	56	41	1	32	-	8	1
Ward 3	47	22	12	29	129	116	27	1	45	-	53	-
Ward 4	22	14	11	21	28	24	18	10	6	1	1	1
Ward 7	51	30	-	-	40	44	35	33	90	1	4	1
Ward 8	79	42	1	1	44	54	114	25	58	-	8	-
BINGA												
Nsenga	129	38	2	19	156	213	8	4	29	60	-	4
Tyunga	103	36	2	3	130	207	24	4	5	30	8	7
Saba	66	22	-	4	106	149	42	-	11	40	6	8
Kabuba	84	25	2	7	145	170	31	2	13	25	6	2
Sinamagonde	80	32	11	8	109	105	35	-	14	34	10	5
Muchesu	74	43	14	-	133	162	21	-	-	7	-	2
HWANGE												
Chikandakubi	22	10	3	3	31	22	17	9	5	1	3	1
Jambezi	28	13	5	3	33	18	13	3	5	1	1	1
Lupote	15	16	9	1	32	44	1	3	-	-	-	-
Mabale	33	26	19	2	36	21	16	8	2	2	3	1
Nekatambe	27	21	11	3	78	52	7	2	10	2	4	3
Sidinda	19	18	4	2	35	21	5	2	1	2	1	1
Simangani	16	5	-	-	21	10	3	13	1	-	1	-

- No cases reported

The columns on the left report the uses of plants. A common reported use is of trees for poles and other building purposes tabled in the first column. Overall, most homes seem to have someone that uses trees this way.[6] However, the numbers in Hwange are, as a group, noticeably lower. This is probably because of availability as the area is not so forested as some other areas.

Every ward has people who use wood for crafts and carving. Overall, this is a bit higher in Binga than elsewhere.

The use of plant material for basketry is practiced by small numbers as is its use for tools and implements.

Reports of using firewood present an anomaly. Our experience tells us that every home uses firewood. On the other hand, many wards have less than one person per household tabulated. It is explainable in Bulilima Mangwe and in Wards 7 and 8 in Tsholotsho as the information was volunteered by the respondent. Gathering firewood is such a commonplace and taken for granted activity that it is a use of plant material may escape notice altogether. However, that does not explain several wards in Tsholotsho and all of Hwange where the numbers are surprisingly low. At this writing, it is an anomaly. In general, there seem to be many users of plants for food in Binga. Everywhere there are a few who use plants for medicine.

The single most commonly used animal product is the "mopane worm" an edible caterpillar. There are users in most wards, but the heaviest use is in some wards of Bulilima Mangwe and Tsholotsho where the mopane forests flourish. This caterpillars primarily gathered by women. It is an important seasonable source of protein and is being increasingly commercialized. (See the papers by Hobane for discussions of these issues.)

Reports of the use of animals for meat are common only in Binga. As most of these uses are illegal, it is a surprise that there are any reports at all. In any case we must conclude that however the rates are distorted that probably poaching is common in Binga.

Benefits and Disadvantages of Wild Plants and Animals

Respondents were asked a general set of questions about the benefits and disadvantages of plants and animals. Again, interviewers using the second version of the questionnaire had a checklist at hand which was developed from the unstructured responses to the first version. Table 12 sets out the percents of respondents who mentioned each category. The table is different from the others in that it tabulates results by district. That is for two

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[6] Here and in the other columns, the numbers for Ward 1 in Tsholotsho are much higher than other wards in the district. At This writing, we do not understand if this is due to the households in the ward or to a zealous enumerator. For now we treat the ward with caution.

reasons. First there seem to be no interesting differences between wards. The second is that there are so many categories that a tabulation by ward would be busy beyond comprehensibility.

Table 12: **Percent of Respondents Mentioning Various Benefits and Disadvantages of Wild Plants and Animals by District.**

	Bulilima Mangwe	Tsholotsho* (south)	(north)	Binga	Hwange
PLANT BENEFITS					
a - Construction Material	87	92	93	95	93
b - Crafts, Carving	10	17	46	32	36
c - Baskets, Household Utensils	1	0	7	5	8
d - Tools, Work Implements	2	1	24	18	9
e - Clothing	0	0	0	3	2
f - Firewood	55	65	83	82	89
g - Food	12	17	47	67	40
h - Medicine	8	9	29	25	20
i - Shade	13	15	54	37	45
j - Erosion Prevention	2	0	4	8	8
k - Windbreaks	9	4	11	16	20
l - Oxygen	2	2	11	8	9
m - Beauty, Aesthetics	13	0	1	6	1
n - Sales of Timber	0	3	11	2	0
o - Other Uses	5	8	3	3	0
PLANT DISADVANTAGES					
a - Poison Animals	10	12	7	8	2
b - Tree Danger in Storms	2	1	2	9	10
o - Other	3	2	1	4	0
ANIMAL BENEFITS					
a - Mopane Worms	3	4	22	2	4
b - Meat, Skin, Hides	6	2	12	30	8
c - Tools, Crafts	0	0	2	4	1
d - Medicine	0	0	13	6	1
e - Hunting Fees	1	3	21	14	2
f - Beauty, Aesthetics	15	0	2	8	1
o - Other Uses	1	1	3	2	1
ANIMAL DISADVANTAGE					
a - Crop Damage	74	92	80	91	66
b - Kill Livestock	39	29	67	60	51
c - Threaten Humans	9	2	22	66	18
o - Other	2	1	4	5	0
NUMBER OF HOUSEHOLDS	(974)	(255)	(582)	(584)	(823)

* Tsholotsho district is reported in two parts according to which version of the questionnaire was used. Version 1 was used in wards 7 and 8 (south). Version 2 was used in the other wards (north).

The strongest pattern of perceived benefits of plants is for construction material and firewood. With some variation between districts, there are also strong tendencies to nominate crafts and carving, tools food and medicine. Provision of shade was a not uncommon answer. The perceptions of any disadvantages to plants was uncommon. Some point out that some plants poison their livestock. A creative few say that trees fall on people during storms. The overwhelming pattern is of seeing many utilitarian benefits and without many disadvantages.

With animals it is the opposite. Few benefits are perceived. Some mention Mopane worms and meat. In Tsholotsho North and in Binga where revenues from safari hunting were beginning to develop, a few say that the receipt of hunting fees makes animals beneficial. On the other side Large Majorities everywhere cite crop damage as a disadvantage of wild animals. Large numbers mention livestock predation. In Tsholotsho North and Binga many cite the threat of wild animals to humans - more than are mollified by the hunting fees. The general picture is that wild animals provide few benefits and many serious threats to life and livelihood.

If programmes like CAMPFIRE are to have an impact on these areas, they must address this orientation by demonstrating real benefits and curtailing the real and palpable threats from wildlife.

Predation and Crop Damage by Wild Animals

The threats to livelihood by wild animals is real. We asked about predation of livestock and damage to crops by wild animals in the year preceding the survey. Some of the information is in table 13. The table is necessarily limited in what it can present. For more detailed uses of the data see Hawkes (1991) and Madzudzo(1994).

(Table 13 - See page 37)

Table 13. **Predation and Crop Damage by Wild Animals by District and Ward.**

(Percent "of households reporting various animal losses, types of predators and crop" damagers.)

District and Ward	Cattle	Donkeys	Goats and Sheep	Hyena	Leopard	Lion	Jackal	Elephant	Buck or Buffalo	Birds	Other
BULILIMA MANGWE											
Makhulela	30	5	42	32	1	-	43	30	15	69	40
Ndolwane	5	-	22	5	-	-	22	3	6	57	50
Huwana	5	-	41	4	-	1	42	1	6	70	46
Gala	-	-	28	-	-	-	28	1	4	59	46
Bambadzi	27	3	46	29	-	-	47	71	14	44	25
Hingwe	8	-	51	9	1	1	49	19	28	62	55
Madlambudzi	2	-	57	2	-	-	56	26	32	64	56
TSHOLOTSHO											
Ward 1	40	22	28	51	2	7	20	26	50	38	51
Ward 2	6	9	8	13	-	1	8	11	10	13	26
Ward 3	15	9	12	9	1	18	8	19	10	7	10
Ward 4	1	1	8	8	1	-	2	-	11	9	18
Ward 7	30	3	27	32	-	-	22	35	32	37	26
Ward 8	7	4	26	10	-	1	26	41	42	56	47
BINGA											
Nsenga	19	11	34	20	9	32	6	79	11	43	26
Tyunga	-	-	43	41	7	3	3	95	20	32	48
Saba	20	-	22	32	3	4	2	34	7	29	26
Kabuba	11	4	41	36	11	14	1	85	17	19	28
Sinamagonde	18	3	21	23	5	14	-	8	8	11	24
Muchesu	27	2	39	41	2	24	-	63	5	29	22
HWANGE											
Chikandakubi	15	3	6	9	1	11	-	26	5	2	14
Jambezi	7	-	2	6	2	1	-	3	16	-	11
Lupote	7	-	23	23	3	2	-	3	7	3	15
Mabale	12	2	25	21	6	8	2	8	18	8	40
Nekatambe	11	-	21	21	3	6	1	9	2	10	42
Sidinda	7	1	4	6	1	4	-	12	15	3	31
Simangani	5	-	2	3	-	2	2	2	10	5	47

Column grouping: *Animal Killed by Predator* — Cattle, Donkeys, Goats and Sheep. *Predator Animal* — Hyena, Leopard, Lion, Jackal. *Animal Damaging Crops* — Elephant, Buck or Buffalo, Birds, Other.

- No cases reported.

The first set of columns show the percents of households that lost various kinds of animals to predators. Cattle losses are common in many areas. The wards in Bulilima Mangwe and in Tsholotsho that are nearest to uninhabited areas and to Hwange National Park are particularly vulnerable. Binga has lower rates than the highest of the previous ones but some of that is due to there being fewer cattle there. Similarly, some of the wards in Hwange stand out despite lower cattle holdings.

The loss of donkeys is highest in Tsholotsho. It is lower in Binga where, again, there are fewer donkeys. In Bulilima Mangwe there are only spotty reports of the loss of donkeys. High rates of losses of goats (or sheep, but there are few of these) appear in all the districts. As a rule more households suffer these losses than of cattle.

The next set of columns tabulate the animal held to be responsible for the predation. The biggest offenders are hyenas. However in Bulilima Mangwe, their misdeeds are outweighed by those of the jackals. In Tsholotsho, the jackals run a strong second to hyenas.

Lions and leopards are active predators. This includes ward three in Tsholotsho where predation by lions affected eighteen percent of the households. Many wards in Binga suffer from both lions and leopards. Lions and leopards harass Hwange too, but on a smaller scale.

Crop damage by animals is the most common complaint. The last set of columns reports the percent of households suffering crop damage from various animals. Elephants are the most dramatic offenders although not the most common. Their activities vary by locality. The wards in Bulilima Mangwe that are next to the uninhabited area generate frequent reports of damage by elephants. The pattern in Tsholotsho is similar. In Binga the destruction of crops by elephants as a way of life. Only Sinamagonde ward in the south escapes the pattern. Tyunga ward - where protective electric fences have since been installed - ninety five percent reported damage by elephants. Chikandakubi in Hwange has a high rete of elephant damage.

Buffalo and Buck damage at a rate that sometimes rivals that of the elephants. The general pattern seems to be that the areas that are vulnerable to elephants also are areas where buck and buffalo roam into the fields.

Birds take a toll on crops, too. In Bulilima Mangwe especially, people's fields were plagued by them. Only Hwange seems to escape them. We do not know why.

Finally, the category of other does a lot of damage. These are mainly springhares and jackals. Springhares are fond of groundnuts and are common in the sandy soils of Bulilima Mangwe and Tsholotsho. Jackals eat watermelons and even maize.

The biggest generator of complaints in this department is the elephant. The complaints frequently are about the ineffectiveness of problem animal control on the part of the various agencies that are supposed to provide it. If elephants cannot be brought under control, the CAMPFIRE programme will fail to be credible to their victims.

The Problems and Needs of Communities

Respondents were asked what problems the people of their community faced and what was needed for improvement. We turn to a summary of those results. The next two tables were constructed from responses to those questions. They tabulate the percent of households whose respondents mentioned each problem and need category.

Water

The most pressing problem everywhere is water in one form or another. The most pressing need is for the provision of water. These include water for human consumption and water for livestock. Often no differentiation is made between the two and the cry is simply for amanzi in unspecified form. table 14 records that welter of responses.

Table 14. **Percent Mentioning Various Needs for Water for Humans and Cattle.**

District and Ward	Boreholes[1]	Water for People	Water for Cattle	Dams and Pans	Other Water	All Mentions
BULILIMA MANGWE						
Makhulela	53	12	15	36	69	89
Ndolwane	41	10	12	12	66	89
Huwana	60	30	40	44	41	84
Gala	42	14	34	45	49	86
Bambadzi	67	38	55	51	58	96
Hingwe	47	31	35	47	26	73
Madlambudzi	62	44	31	37	42	89
TSHOLOTSHO						
Ward 1	79	88	74	38	7	92
Ward 2	51	90	86	18	1	95
Ward 3	64	82	69	18	25	95
Ward 4	48	65	62	32	10	84
Ward 7	57	24	20	41	67	90
Ward 8	68	39	17	34	50	93
BINGA						
Nsenga	34	83	66	51	8	100
Tyunga	24	22	7	7	11	50
Saba	43	65	34	24	11	82
Kabuba	57	55	34	23	12	87
Sinamagonde	54	70	70	36	8	92
Muchesu	44	34	17	24	20	66
HWANGE						
Chikandakubi	44	34	35	18	14	63
Jambezi	40	33	48	25	12	71
Lupote	59	56	50	41	9	83
Mabale	42	52	43	30	9	88
Nekatambe	49	49	42	25	25	73
Sidinda	47	23	14	8	16	62
Simangani	33	23	14	4	10	45

1. This includes the need for existing boreholes to be repaired in addition to the need for new boreholes to be provided.

The reader can gauge the mix of the answers from the percents mentioning the various categories. It is clear that water for people and for livestock is a pressing and central concern everywhere. The last column of the table shows the percent of households that made any mention of water. Most in Bulilima Mangwe and Tsholotsho exceed eighty percent of the interviewed households. With few exceptions the percents in other districts are over sixty percent. Water is the primary constraint on rural life on the project area. A project which is not seen to be addressing the provision of water for people and their animals will doom itself to irrelevance.

Other Needs and Problems

Other problems and needs are presented together in table 15. From left to right they are in approximate order of their overall frequency of mention.

Table 15. Percent of Respondents Indicating Various Problems and Needs

District and Ward	Clinic	Schools	Employment	Drought Relief/Food for Work	Transportation	Store	Grinding Mill	Roads	Problem Animals
BULILIMA MANGWE									
Makhulela	64	47	27	15	31	15	11	30	10
Ndolwane	66	51	38	17	9	12	5	11	3
Huwana	51	42	21	17	49	20	15	21	2
Gala	46	27	21	19	13	15	11	5	-
Bambadzi	80	26	18	17	23	16	3	8	25
Hingwe	74	52	31	12	30	11	5	23	4
Madlambudzi	28	59	36	30	43	12	3	10	7
TSHOLOTSHO									
Ward 1	65	78	76	38	61	38	56	47	6
Ward 2	38	26	62	11	32	9	17	51	16
Ward 3	55	47	41	15	28	15	18	32	4
Ward 4	15	13	32	11	16	17	40	12	1
Ward 7	29	5	32	13	16	8	4	14	42
Ward 8	59	16	34	23	36	6	9	11	26
BINGA									
Nsenga	77	72	34	36	34	28	49	70	47
Tyunga	25	25	26	61	12	21	20	26	75
Saba	68	36	20	66	13	20	38	2	24
Kabuba	66	57	21	57	27	54	45	30	66
Sinamagonde	77	55	14	4	23	38	17	30	14
Muchesu	24	34	46	49	24	56	61	29	37
HWANGE									
Chikandakubi	32	20	6	22	26	12	8	-	4
Jambezi	11	37	17	47	7	22	20	5	3
Lupote	41	11	8	52	15	9	20	3	1
Mabale	57	18	18	39	30	45	32	20	1
Nekatambe	15	14	13	48	7	8	9	12	11
Sidinda	40	34	6	43	10	32	28	8	2
Simangani	29	33	13	34	15	11	20	2	3

The most frequent (after water) is the expressed need for a clinic ar hospital. The wards that are lower than the others seem to be those where medical services are already available.

This is followed by the need for schools. This category combines responses that range from the need for preschools to that for secondary schools. It includes complaints that existing schools are too distant and inaccessible and that school fees are excessive. Generally the pattern of variation follows what we know about the availability of schools in the project area.

A common concern was for the provision of employment. People commonly complained - especially in wards in Binga and Hwange - about the absence of food for work and drought relief programmes. (This was a year before the devastating drought of 1992.) These were followed by transport, need for a store, for a grinding mill and for roads.

The final column of the table gives us the percents of households that said that predation and crop damage from wild animals is a problem to be addressed. It varies almost exactly with the extent of predation and damage discussed above. Where wild animals are a problem they are seen to be so. It is clear again that CAMPFIRE in these areas will not be credible if the problems generated by wildlife are not addressed.

The other list of problems and needs are often only addressed by large scale programmes with infrastructure and investment. If CAMPFIRE promises to address these community problems it may be creating expectations on which it cannot deliver.

Some Conclusions

We have presented some of the socioeconomic bases of households in the NRMP area. We have been necessarily constrained by the format of ward by ward tabulation. More analytical reports exist and are forthcoming. However, some generalizations emerge:

-      There are apparently many part year residents in these areas that the census method does not count.

-      The area is ethnically diverse. This may have implications for the character of its politics.

-      The economies of the area are heavily dependent on migrant wage labour. These are not the isolated and self contained rural communities that are sometimes imagined by development theorists.

-      There are many other sources of cash income. These sources circulate money within the communities and probably from outside.

- Crops are mainly grown for consumption. With few exceptions subsistence agriculture is practiced to feed people at home.

- The majority of homes have no cattle or enough for plowing. For cattle owners, their sale is a source of income.

- There is a varied population of other domestic animals. Donkeys in some areas provide draft power. Other animals provide food and income.

- Living conditions and the affluence of households varies considerably across the programme area.

- Access to water is difficult and sometimes distances to it are long. Firewood is available and abundant in most areas. The supply of thatching grass is highly variable from one district to another.

- Many children have medical attention at birth. The system of immunization seems to be an unqualified success. On the other hand, disease persists and part of it is environmental.

- Young children in Binga have lower school enrollment rates than in other districts. On the other hand, they along with school children in Hwange seem to persist into secondary school compared with other districts.

- People use plants and animals in a variety of ways. Even illegal poaching seems to persist.

- Perception of the benefits and disadvantages of wild plants and animals shows that plants are seen to have many utilitarian benefits and are benign in that they are seen to have few disadvantages. Wild animals, on the other hand, are only threats and problems without compensating benefits.

- Predation of livestock and damage of crops by wild animals is a central fact of life in much of the project area.

- The primary need and problem everywhere is water. Water for people is a problem. So is water for livestock.

- People perceive other community problems and needs which often require infrastructure and investment for their solution

This report has necessarily been constrained by its format of tabulating statistics ward by ward and making a recitation about them. Every one of the tables discussed here suggests more research to be done from the survey data. Each of these projects will require that the information be tabulated in new and creative ways. This research programme has already begun as evidenced by reports by Hawkes (1991, 1992), Madzudzo (1994) and Hawkes and Madzudzo (1994). The work will continue.

The data are available for use by interested researchers in the form of computer files designed to be used by the SPSS/PC+ computer programme. Documentation is provided in Hawkes (1994). Inquiries about use of the data can be directed to the chairman of CASS.

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