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U.S.AID SOFALA RURAL REHABILITATION PROJECT

SOCIAL AND ECONOMIC IMPACT SURVEY

JULY - AUGUST, 1991

Food for the Hungry International
Av. Zedequias Manganhela #520 - 9th Floor, Flat F
Maputo, Mozambique

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DEFINITION OF TERMS AND ABBREVIATIONS

Afectados:	Residents severely affected by the war to the point where their ability to provide for themselves has been seriously jepordized.
Deslocados:	Internal Refugees
Center:	Internal Refugee Center
Block leader:	Leader of a section of the center refered to as a block. Usually consisting of 10 families.
Center Secretary:	Head of the Center
Community worker:	Person hired from community and trained especially in survey work.
Extensionist:	Extensionist assistant hired from the community and given basic training in agricultural extension and survey work.
Machamba:	Family farm.

ABBREVIATIONS

DISTRICTS

DO: DONDO
MA: MARROMEU
NA: NHAMATANDA
NU: NHANGAU

CENTERS

(DO)

BL9: BLOCO-9
MAC: MACHAROTE
MAF: MAFARINHA
SAV: SAVANE

(NA)

JAS: JASSE
MUD: MUDA
NGA: NARUCHONGA
NMP: NHAMPOCA
RMS: RAMOS

(MA)

BAL: BALIERA
CHU: CHUEZA
LMJ: LUABO, MATILDE, 25 DE JUNHO
RMA: RAMA RAMA
SAC: SACASSE

GOM: GOVERNMENT OF MOZAMBIQUE

FHI: FOOD FOR THE HUNGRY INTERNATIONAL

REPORT

U.S.AID SOFALA PROJECT SOCIAL AND ECONOMIC IMPACT SURVEY

INTRODUCTION

As per the grant agreement a baseline data survey was carried out in July and August, 1991 in Sofala Province. The target population was 10,000 families living in the districts of Marromeu (Ma), Nhamatanda (Na), Dondo (Do) and the administrative post of Nhangau (Na). The objectives of the survey were: 1-To get specific data to be used as benchmarks to measure the project's impact in the future; 2-To assess the accomplishments of the first year of the project and to measure that against the objectives set; and 3-To use information gathered as an aid in determining future interventions. Since we didn't have specific baseline data to be used as benchmarks it was not possible to assess the accomplishments of the first year of the project objectively. The other two objectives were fulfilled, however, and the results of the survey are presented herewith.

METHODOLOGY

A list of information to be gathered was presented to the extensionists and community workers who were to do the interviewing. With input from U.S.AID and F.H.I. staff the extensionists and community workers created a questionnaire which all respondents could easily understand. This was accomplished with more than two and a half weeks of pre-testing in which numerous modifications were made. It was decided that the best way to do the interviewing was by pairing up one person to ask the questions with another to write down the answers. This way the average interview time was reduced, the interviewee didn't get bored while waiting for the interviewer to write down the answer and the answer was recorded more accurately. Each extensionist drew a map of his center which was used to allow each team to interview a variety of households. Even though not technically a random sample, this should give good representative coverage.

533 questionnaires were coded, tabulated and entered into the computer for analysis. Coenraad Brand, a consultant from the University of Zimbabwe, designed the program used for analysis. The 533 questionnaires gives us a sample percentage of 5.3%. A sample of this size permits reasonably accurate estimates for the population, except for the smaller centers where sample numbers below, say, 25 require greater caution in generalizing. See table A for reference.

Best Available Document

TABLE A

PERCENTAGES OF TARGET POPULATION INTERVIEWED

CENTER	TOT. # OF FAMILIES	SAMPLE SIZE	PERCENTAGE
DONDO			
BL9	709	39	5.5%
MAC	1000	82	8.2%
MAF	748	50	6.7%
SAV	543	28	5.2%
MARROMEU			
BAL	640	26	4.1%
CHU	694	26	4.1%
LMJ	325	25	7.7%
RMA	272	14	5.1%
SAC	957	43	4.5%
NHAMATANDA			
JAS	1624	65	4.0%
MUD	81	13	16.0%
NGA	219	18	8.2%
NMP	290	17	5.9%
RMS	286	16	5.6%
NHANGAU	1500	71	4.7%
TOTAL	10000	533	5.3%

BL9 = BLOCO 9
MAC = MACHAROTE
MAF = MAFARINHA
SAV = SAVANE

BAL = BALIERA
CHU = CHUEZA
LMJ = LUABO, MATILDE, 25 DE JUNHO
RMA = RAMA RAMA
SAC = SACASSE

JAS = JASSE
MUD = MUDA
NGA = NHARUCHONGA
NMP = NHAMPOCA
RMS = RAMOS

Data from survey of July-August, 1991

In addition to the main questionnaire two other questionnaires were created for local health representatives and Center Secretaries to get information unobtainable from the other questionnaire.

In October we did a house to house verification of inhabitants to improve our seed distribution lists and discovered possible large population shifts since last March. This information is included here also.

I. POPULATION STATISTICS

A. Population Movement

As mentioned above we discovered possible large population shifts in the target areas. As can be seen in table 1 the population of the 4 centers in Dondo increased by 3,638 while Nhamatanda and Marromeu remained relatively unchanged (except for Pandue where no one has been for over 6 months due to the security situation and so it is not known if anyone is there or not). Nhangau had a substantial decrease. This is probably due in part to false reporting in the past but mostly due to the increased number of attacks in the past year. Many people from Nhangau now live in Beira and only go to Nhangau when there is a distribution of food or clothes. In Dondo the information from table 1 conflicts with the information we have on the reported length of residence (see table 2). It is likely that the data from March 1991 is incorrect and that most of the increase of 3,638 actually happened before 1991. We believe only a small portion of the increase happened between the time of the survey (July 1991) and the time of the verification of inhabitants in October. We were unable to get confirmation of this data from Center Secretaries as the data presented by them was inconclusive and conflicting, without documentation.

B. Average Household Size

As can be seen in table 3 the average household size is 6.2 persons with the highest average being 6.9 in Nhangau and the lowest being 4.5 in Marromeu. This difference is probably due to the security situation and a high infant mortality rate in Marromeu. It is likely that the security problems of Marromeu cause families to be split up while the relative security of centers along the Beira corridor leads to a "congregation" of families.

The average number of rooms per household is 1.7 (see table 4). An average rectangular thatched house was calculated to be equal to 2 rooms. Separate huts (usually round) were calculated to be equal to 1 room.

TABLE 1

USAID SOFALA PROJECT - NUMBER OF FAMILIES - COMPARISON 10/19/91

	MARCH 1991	OCTOBER 1991	DIFFERENCE
NHAMATANDA:			
Jasse	1624	1076	-548
Nharuchonga	219	220	+ 1
Ramos	286	347	+ 61
Nhampoca	290	456	+166
Muda	81	137	+ 56
TOTAL:	2500	2093	-407
DONDO:			
Macharote	1000	2716	+1716
Mafarinha	748	1068	+ 328
Bloco-9	709	1254	+ 545
Savane	543	1600	+1057
TOTAL:	3000	6638	+3638
MARROMEU:			
Sacasse	957	952	- 5
Chueza	694	670	- 24
Baliera	640	640	0
Rama-Rama	272	268	- 4
Matilde	150	140	- 10
25 de Junho	102	102	0
Luabo	73	50	- 23
Pandue	112	0	- 112
TOTAL:	3000	2822	- 178
NHANGAU:	1500	684	- 816

TABLE 2

LENGTH OF RESIDENCE

CENTER	LESS THAN 1 YEAR	1 TO 2 YRS.	3 TO 5 YEARS	OVER 6 YEARS
DONDO				
BL9	0%	11%	19%	70%
MAC	7%	42%	51%	0%
MAF	4%	65%	31%	0%
SAV	7%	23%	70%	0%
MARROMEU				
BAL	0%	11%	89%	0%
CHU	0%	0%	0%	80%
LMJ	4%	28%	64%	4%
RMA	0%	14%	86%	0%
SAC	0%	39%	58%	3%
NHAMATANDA				
JAS	8%	39%	52%	0%
MUD	8%	15%	77%	0%
NGA	6%	83%	6%	5%
NMP	0%	22%	78%	0%
RMS	25%	50%	25%	0%
NHANGAU	0%	25%	51%	24%
TOTAL AVERAGE:	4.6%	31.2%	50.5%	12.4%

NB - NO ANSWER WAS REGISTERED FOR 20% OF CHUEZA RESPONDENTS. THIS IS 1.3% OF TOTAL AVERAGE.

DONDO:

BL9 = BLOCO 9
MAC = MACHAROTE
MAF = MAFARINHA
SAV = SAVANE

MARROMEU:

BAL = BALIERA
CHU = CHUEZA
LMJ = LUABO, MATILDE & 25 DE JUNHO
RMA = RAMA RAMA
SAC = SACASSE

NHAMATANDA:

JAS = JASSE
MUD = MUDA
NGA = NARUCHONGA
NMP = NHAMPOCA
RMS = RAMOS

Data from survey of July-August, 1991

TABLE 3

Average Household Size, each Center

		Dist. DO	MA	NA	NU	ALL
Centro	BL9	6.6				6.6
	MAC	7.0				7.0
	MAF	7.6				7.6
	SAV	4.6				4.6
	BAL		5.0			5.0
	CHU		4.6			4.6
	LMJ		3.8			3.8
	RMA		4.0			4.0
	SAC		4.8			4.8
	JAS			7.1		7.1
	MUD			8.2		8.2
	NGA			5.8		5.8
	NMP			5.5		5.5
	RMS			6.2		6.2
	NU				6.9	6.9
	ALL	6.7	4.5	6.7	6.9	6.2

DO = DONDO
MA = MARROMEU
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NU = NHANGAU

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Data from survey of July-August, 1991

AVERAGE NUMBER OF ROOMS PER HOUSEHOLD

DONDO		MARROMEU		NHAMATANDA		NHANGAU	
BL9	2.2	BAL	1.6	JAS	1.8	NU	1.6
MAC	2.3	CHU	1.1	MUD	2.5		
MAF	1.7	LMJ	1.1	NGA	1.4		
SAV	0.9	RMA	1.2	NMP	1.2		
		SAC	2.1	RMS	3.4		
AVERAGE:	1.8	AVERAGE:	1.4	AVERAGE:	2.0	AVERAGE:	1.6

TOTAL AVERAGE: 1.7

DONDO:

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NHAMATANDA:

JAS = JASSE
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NHANGAU:

NU = NHANGAU

Data from survey of July-August, 1991

C. Length of Residence

Again looking at table 2 we can see that the great majority have lived in their center for more than a year with 31.2% residing for 1 to 2 years and 50.5% residing for 3 to 5 years. Only 4.6% have lived in the center for less than a year.

D. Deslocados versus Afectados

Ninety percent of the respondents are Deslocados. The only centers which do not have over 93% deslocados are:

Bloco-9 (DO): 38% Afectados, 62% Deslocados
Chueza (MA): 80% Afectados, 20% Deslocados
Nhangau (NU): 25% Afectados, 75% Deslocados

32% of the deslocados in Bloco-9 have lived there over 6 years. All said they would return home after the war.

With a few notable exceptions (Rama Rama from Marromeu and Jasse from Nhamatanda) the great majority of the Deslocados plan to return home after the war. Overall less than 25% indicated they would remain in the center after the war. In Rama Rama 79% plan to stay on because the center is very close to their home of origin and the soil is more fertile around the center. In Jasse the main reason given by the 57% who say they'll stay is that the soil is more fertile.

E. Age Distribution

The average age distribution per household is as follows:

Age 0 to 5:	1.4 persons
Age 6 to 17:	2.2 persons
Age 18 to 55:	2.4 persons
Age 56 and over:	.2 persons

The average number of children under age 5 per household is 1.4 with the largest number being 1.7 in Nhamatanda and the smallest number being .9 in Marromeu. This indicates a higher infant mortality rate in Marromeu. One can also note that few people reach age 56. See table 5 for more detailed information.

TABLE 5

AVERAGE AGE DISTRIBUTION PER HOUSEHOLD

CENTER	AGE 0 TO 5	6 TO 17	18 TO 55	56 AND OVER
DONDO				
BL9	1.6	2.5	2.4	0.1
MAC	1.6	2.7	2.4	0.2
MAF	1.8	3.0	2.5	0.2
SAV	1.0	1.3	2.1	0.2
MARROMEU				
BAL	.8	1.7	2.3	0.3
CHU	.6	2.0	1.8	0.2
LMJ	.9	1.0	1.8	0.1
RMA	.9	1.0	1.8	0.3
SAC	1.1	1.3	2.3	0.1
NHAMATANDA				
JAS	1.9	2.5	2.4	0.2
MUD	2.0	3.0	2.7	0.5
NGA	1.1	2.5	2.0	0.2
NMP	1.5	1.7	2.3	0.0
RMS	2.0	1.7	2.4	0.1
NHANGAU	1.5	2.3	2.9	0.2
TOTAL AVERAGE	1.4	2.2	2.4	0.2

AVERAGE NUMBER OF PERSONS PER HOUSEHOLD IS 6.2

Data from survey of July-August, 1991

F. Literacy Rates

The average number of literate persons per household is 1.3. When compared with the average number of persons per household over age 5 we get an overall literacy rate of 27.1%. The extremes are Marromeu with only 16.7% and Dondo with 41.2%.

G. Indicators of Standard of Living

People were asked the quantities they owned of the following items: radios, tables, chairs, beds, plates, pots, cups and others. A point of note is radio ownership. 28% overall own radios with Nhamatanda being the greatest at 40% and Marromeu being the lowest at 10%. All of these items were given a weighted numerical value to derive an index of household possessions (see table 6). Comparing this data with household size, literacy and age distribution we get a rough ranking of standard of living.

Dondo and Nhamatanda have a higher ratio of small children to household size than Nhangau and Marromeu. Dondo and Nhangau have a higher number of household possessions and literates. This is probably because they are closer to Beira. Bloco 9 and Macharote (DO) are generally better off than the other centers. Employment in the sugar factory near Bloco 9, the large number of Afectados in Bloco 9 and the large amount of donor hand outs in Macharote are all contributing factors. Marromeu is lower in most categories.

II. MENS' AND WOMENS' ACTIVITIES

A. Agriculture

One hundred percent of the families are involved in agriculture. One hundred percent of the women are involved in agriculture. Most of the men are involved in agriculture only at the "peak demand" times of land preparation, planting and harvest. It was not possible to calculate exact percentages but we estimate based on discussions with our extensionists and families that the women do 80% of the work in the machamba and men do 20%.

B. Womens' Skills and Daily Activities

All women reported that they work in the machamba and do domestic work. A typical day includes sweeping the area around the house, preparing the meals, cleaning the house, child care, washing the clothes and dishes, gathering firewood and working in the machamba. The machamba work occupies most of their time. Besides working in the machamba and domestic work, 24% reported having skills in basketmaking and 18% in clay pot making. As can be seen in table 7, Marromeu has a greater prevalence of craft skills. No other skill is mentioned more than 5% of the time.

TABLE 6

AVERAGE INDEX OF HOUSEHOLD POSSESSIONS

CENTER	DISTRICT → DO	MA	NA	NU	TOTAL AVE.
BL9	67				67
MAC	35				35
MAF	20				20
SAV	21				21
BAL		16			16
CHU		18			18
LMJ		16			16
RMA		23			23
SAC		15			15
JAS			20		20
MUD			24		24
NGA			32		32
NMP			14		14
RMS			22		22
NU				25	25
TOTAL AVERAGE	35	17	22	25	26

DO = DONDO
MA = MARROMEU
NA = NHAMATANDA
NU = NHANGAU

DONDO:

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MAF = MAFARINHA
SAV = SAVANE

MARROMEU:

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NHAMATANDA:

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NMP = NHAMPOCA
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Index created from data compiled from survey of July-August, 1991

C. Mens' Skills and Daily Activities

· Generally men spend most of their time in activities which cause deforestation. These activities include making charcoal and cutting firewood as well as cutting wood for use in construction of traditional houses. In addition to this and to a lesser degree they help the woman in the machamba. 20% reported having the skill of fishing. However, when asked how they are currently obtaining money only 6% said they were obtaining money from fishing. This doesn't necessarily mean they're not fishing. It could mean they're fishing for their own use. Over 56% obtain money from deforestation activities! Of all skills mentioned outside of fishing and deforestation activities basketmaking was the most frequent at 8%.

· Many of the mens' activities are site specific. In Marromeu no one makes charcoal and less than 2% cook with wood. They all gather dried sugarcane stalks for fuel since Sena Sugar Estates' large sugar mill is not operating and the sugar cane is much closer than any trees. They also spend much of their time drinking local brew. Here also it is not possible to quantify any data but we saw many more inebriated men in Marromeu than in any other area. The highest percentage of persons admitting to the making of local brew is in Marromeu at 11%. In Marromeu 33% mention fishing as a skill but only 5.2% report fishing as an income generating activity. The major income generating activity in Marromeu is Sena Sugar employment (46.6%) although they don't have much work because the mill is shut down. In the center of Jasse over 66% of the men make charcoal which is sold for use in Beira. In Dondo the most mentioned income generating activity is wood selling at 45.5% yet most of this is sold locally amongst themselves. The level of employment is another indicator of the level of economic activity in an area. Table 9 shows that 25% report earning money from employment. For Bloco 9 (DO) and Marromeu this is related to the sugar factories. For the other areas it is indicative of the overall economic situation and will be used as a benchmark of change in the future.

The above data was obtained from tables 8 and 9.

D. What People Buy

The most common items purchased are (from table 10):

68% - Protein items (fish, beans, chicken, etc.)
58% - Salt
44% - Clothing and Cloth
30% - Soap
29% - Cooking Oil
28% - Sugar
23% - Vegetables
24% - Maize meal

TABLE 7

PERCENTAGES OF DIFFERENT WOMEN'S SKILLS REPORTED

CENTER	POTTERY	BASKETRY	CROCHET	SEWING	OT	NA	NR
DONDO							
BL9	2.7	14.0	5.4	5.4	11	3	58
MAC	8.5	8.5	7.3	4.9	21	1	49
MAF	9.8	7.8	14.0	2.0	16	2	48
SAV	30.0	37.0	0.0	3.7	15	0	15
MARROMEU							
BAL	33.0	56.0	0.0	0.0	19	0	8
CHU	8.0	32.0	0.0	0.0	8	4	48
LMJ	36.0	44.0	0.0	0.0	12	8	0
RMA	7.1	79.0	0.0	0.0	7	7	0
SAC	19.0	28.0	4.7	4.7	5	0	39
NHAMATANDA							
JAS	18.0	15.0	1.5	0.0	17	0	49
MUD	54.0	31.0	7.3	0.0	0	8	0
NGA	17.0	11.0	11.0	5.6	5	0	51
NMP	11.0	0.0	5.6	0.0	6	0	77
RMS	25.0	31.0	6.3	0.0	6	0	35
NHANGAU	28.0	36.0	2.8	4.2	10	1	18
TOT. AVERAGE:	18.0	24.0	4.7	2.6	13	2	35.7

OT = OTHER

NA = NO WOMAN IN THE FAMILY (USUALLY INDICATIVE OF A WIDOWER)

NR = NO OTHER SKILL REGISTERED OTHER THAN WORKING IN MACHAMBA AND DOMESTIC WORK

BL9 = BLOCO 9
MAC = MACHAROTE
MAF = MAFARINHA
SAV = SAVANE

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Data from survey of July-August, 1991

TABLE 8

Percentage of Different Men's Skills reported

		Men's skills								
		..F.	..BU	..CH	..W.	..B,	..T,	..BL	..D.	..OT
Centro	BL9	3	8	3	3	8	11	3	5	81
	MAC	9	20	0	12	2	5	4	2	54
	MAF	14	31	0	14	2	12	12	0	55
	SAV	30	26	11	30	4	0	4	4	37
	BAL	59	7	0	4	15	0	0	0	48
	CHU	28	0	0	0	0	4	12	12	76
	MJ	36	0	0	0	12	20	4	0	72
	RMA	43	7	0	0	29	7	7	0	50
	SAC	0	5	0	5	9	7	2	14	67
	JAS	5	11	66	8	11	5	0	3	47
	MUD	8	62	0	0	23	0	8	0	38
	NGA	6	11	11	0	6	0	11	6	67
	NMP	28	11	33	11	0	6	11	0	22
	RMS	6	6	56	56	31	6	0	0	50
	NU	44	29	40	39	8	8	3	1	21
	ALL	20	17	17	14	8	7	5	3	51

F = FISHING

BU = CUTTING POLES, GRASS,ETC. FOR USE IN TRADITIONAL HOUSE BUILDING

CH = MAKING AND SELLING CHARCOAL

W = CUTTING AND SELLING FIREWOOD

B = BASKETRY

T = TAILOR

BL = SKILLED HOUSE BUILDER

D = DRIVER

OT = OTHER

Data from survey of July-August, 1991

TABLE 9

HOUSEHOLDS EARNING MONEY FROM PARTICULAR ACTIVITIES

DISTRICT	CH	W	F	L	H
DONDO	1.7%	45.5%	2.0%	26.2%	18.3%
MARROMEU	0.0%	2.2%	5.2%	46.6%	39.8%
NHAMATANDA	30.0%	43.6%	0.0%	26.2%	20.8%
NHANGAU	38.0%	67.0%	28.0%	4.0%	25.0%
TOTAL AVERAGE	17.0%	39.0%	6.0%	25.0%	26.0%

CH = MAKING AND SELLING CHARCOAL

W = CUTTING AND SELLING FIREWOOD

F = FISHING

L = LABORER

H = HAWKING

Data from survey of July-August, 1991

TABLE 10

MOST COMMON PURCHASES REPORTED FOR THE PAST YEAR

DISTRICT	PROT	SALT	CLOTH	SOAP	OIL	SUGAR	VEGET	MEALY
DONDO	68%	52%	48%	37%	35%	29%	26%	30%
MARROMEU	42%	84%	60%	33%	25%	24%	1%	9%
NHAMATANDA	82%	46%	37%	25%	25%	18%	40%	5%
NHANGAU	83%	50%	31%	26%	31%	43%	24%	51%
TOTAL AVERAGE	68%	58%	44%	30%	29%	28%	23%	24%

PROT = FISH, CHICKEN & BEANS

CLOTH = CLOTHING & CLOTH

SOAP = BODY SOAP

OIL = COOKING OIL

VEGET = VEGETABLES, COCONUT & PINEAPPLE

MEALY = MAIZE FLOUR

Data from survey of July-August, 1991

Purchases of luxury items such as soap, cooking oil and sugar should normally increase as living standards increase. These percentages may have been higher if there were no food aid. Only 1/5 reported purchasing maize meal. This is likely due to the impact of food aid and their own production.

III. FUEL USE

A. Wood and Dried Sugar Cane

In Nhamatanda, Nhangau and Dondo 100% of the respondents use wood as a cooking fuel. In Marromeu 10% use wood, 90% use dried sugar cane and 21% use both. Only 2.4% overall use charcoal. Apart from Marromeu over half of the people travel over 5 kilometers to obtain wood for cooking purposes. Most of these people have to leave the protection of the Beira Corridor to obtain their wood. Many report traveling over 10 kilometers. In Macharote on the days they go to get wood they leave at 5 in the morning and return at 4 in the afternoon. Each month the distances traveled increase as deforestation increases. The high incidence of wood selling reported is indicative of the market that shortage creates.

IV. AGRICULTURE

A. Seed Storage

It was learned that 100% of the respondents save seeds. The 2 methods of seed storage are: 1) In a clay vase with ash to protect from insects and 2) In a sack hung over the smoke of the fire, also to repel insects. These methods result in a relatively low seed loss. When asked about problems with seed storage they mentioned problems with seed which was stored for eating purposes and not for planting. The problem most mentioned (45%) was with insects. The next most mentioned problem (25%) was with rats. 69% reported obtaining seeds from donations and 71% reported obtaining seeds from their own machamba, while 11% reported purchasing seeds. The quantity which respondents reported saving of each type of seed varied greatly from person to person. We feel this variance was due to two factors: 1) A reluctance to give correct answers to us because we donate seed and 2) Many don't weigh or measure their stored seeds.

B. Crops Produced

For the same reasons stated above it was not possible to obtain accurate data on amounts and length of time a particular harvest lasted them. It was also impossible to ascertain which people if any produced a surplus crop due to the large amounts of uncoordinated food aid received in each center. In addition, many were confused about which year and which location we were asking them. Many gave information from this year which was a drought year.

In Marromeu there was no drought this year and the people were relatively honest in their responses because they haven't had the experience of receiving so many donated items as the Beira Corridor inhabitants have.

Many crops are used as emergency "filler" crops and are worth mention. The most popular is cow pea. They eat the leaves as well as the seed. Sweet potatoes are another crop where leaves are eaten in addition to the tuber. Pigeon pea grows year round even during times of drought. Velvet bean is sparsely planted amongst the sorghum and is cooked three times before being eaten. These crops figure into the daily diet of the people and are of great importance in times of widespread crop failure.

C. Land Size

It was difficult to ascertain the exact land size due to a number of reasons. First, the center secretaries who keep records and the block leaders who allocate plots are overworked and not paid and sometimes give more land to friends or people who pester them. Some people have land in addition to what they are allocated and do not report it. Many people don't report what they have in hopes of getting more food or seed aid. Many truly don't know the size of their machamba.

Knowing this, we present the following data with doubts as to its' accuracy:

Average Machamba size in Hectares:

Dondo:	0.8
Marromeu:	0.9
Nhamatanda:	1.0
Nhangau:	1.0

We discussed the above information with Department of Agriculture representatives and they feel that the average in Dondo and Nhangau is actually only .5 hectares. They said they did a study in three centers in Nhamatanda and found the average to be .7 hectares.

V. SMALL ANIMALS

As can be seen from table 11, small animal ownership is low. Only 2% report owning any guinea pigs and only .4% report owning pigs. For ducks it's 10% and for goats it's 1%. The largest ownership category is chickens at 37%. No large animal ownership was reported.

The average number of chickens per households who own is 4.5, with Nhangau at 5.2 and Nhamatanda at 3.6. More households in Marromeu report owning chickens and the average number per household is 5.1.

TABLE 11

PERCENTAGE OF HOUSEHOLDS WHICH OWN SMALL ANIMALS

DISTRICT	GOATS	DUCKS	GUINEA PIGS	PIGS	CHICKENS
DONDO	2%	13%	4%	0%	36%
MARROMEU	0%	3%	4%	0%	57%
NHMTANDA	2%	18%	1%	1.5%	42%
NHANGAU	0%	7%	0%	0%	12%
TOTAL AVERAGE	1%	10%	2%	.4%	37%

DISTRICT/AVERAGE # OF CHICKENS PER HOUSEHOLDS WHO OWN THEM

DONDO	4.5
MARROMEU	5.1
NHMTANDA	3.6
NHANGAU	5.2
TOTAL AVERAGE	4.5

Data from survey of July-August, 1991

The greatest single problem reported by those who own small animals is disease, at 38%. However the next three largest problems (which are all war related) total 45%: 1) Frequent movement due to the war (15%); 2) Direct loss during RENAMO attacks (13%); and 3) Local theft (17%), which was said not to have been a problem before the war.

VI. HEALTH

A. Main Reported Health Problems

The two most frequently reported health problems are gastrointestinal problems (parasites, stomach pain, diarreah) at 84% and fever and headache at 83%. Chest, sinus and the common cold were reported by 50% of the respondents. No other problem was mentioned more than 10% of the time.

B. Water Sources

39% do not have access to a protected water supply. 100% in the centers of Chueza, Ballera, Rama Rama and Sacasse in Marromeu do not have access to a protected water source. In Nhamatanda 93.6% do have access to a protected water source. In the Dondo centers of Macharote, Mafarinha and Savane an average of 89.3% obtain water from a protected source while in Bloco-9 only 5.4% do (from table 12).

C. Latrines

Latrine numbers as reported by Center Secretaries are:

Dondo:		Nhamatanda:	
Macharote:	25	Nharuchonga:	25
Mafarinha:	29	Nhampoca:	0
Savane:	0	Ramos:	9
Bloco-9:	0	Jasse:	67

Marromeu:	
Rama Rama:	0
Ballera:	0
25 de J.:	0
Matilde:	0
Luabo:	0
Sacasse:	10
Chueza:	16 on mainland, 0 on islands

N.B.: The population of Chueza is living on 3 islands until the rains come due to frequent RENAMO attacks.

TABLE 12

Percentage access to different Water Sources

		Water sources			
		O	P	R	ALL
Centro	BL9	84	5	11	100
	MAC	46	72	0	100
	MAF	10	96	0	100
	SAV	15	100	0	100
	BAL	0	0	100	100
	CHU	0	0	100	100
	LMJ	8	88	4	100
	RMA	50	0	79	100
	SAC	98	0	0	100
	JAS	7	100	2	100
	MUD	8	92	0	100
	NGA	20	100	0	100
	NMP	53	78	0	100
	RMS	56	100	0	100
	NU	49	56	0	100
	ALL	36	61	13	100

O = OPEN WELL
P = PROTECTED WELL
R = RIVER

DONDO:
BL9 = BLOCO 9
MAC = MACHAROTE
MAF = MAFARINHA
SAV = SAVANE

MARROMEU:
BAL = BALIERA
CHU = CHUEZA
LMJ = LUABO, MATILDE, 25 DE JUNHO
RMA = RAMA RAMA
SAC = SACASSE

NHAMATANDA:
JAS = JASSE
MUD = MUDA
NGA = NARUCHONGA
NMP = NHAMPOCA
RMS = RAMOS

NU = NHANGAU

Data from survey of July-August, 1991

In Macharcte there is an average of 108.64 households per latrine. In Mafarinha it's 95.2 per latrine. In Ramos it's 38.5 and in Jasse it's 16.

D. Hospital and Health Clinic Information

The information obtained from the local hospitals and health clinics is inconclusive and more investigation needs to be done. One observation of note: It appears that the methods of keeping records are not standardized throughout the Province. In the hospital in Nhamatanda, for example, we observed that they keep records on respiratory infections and STDs but not on gastrointestinal problems. In Marromeu we observed that they keep records on parasites, diarreah and fever as well as malaria while in Nhamatanda the only one of these categories they keep records on is malaria.

E. Venereal Disease

No one reported venereal disease as being a problem, yet in Nhangau the nurse said that gonnoreah was the main health problem he was dealing with. This most likely is due to an unwillingness to report STDs. The hospital in Nhamatanda reported 288 cases of STDs in the last 3 months. AIDS was not mentioned by anyone contacted. This could be due to a lack of knowledge about AIDS.

VII. TRANSPORTATION

A. Travel Constraints

The greatest problem area for transportation is Marromeu where RENAMO attacks make it very risky to travel outside of the district. Plane travel is too expensive, land and river travel are very dangerous. In July over 20 people were killed by RENAMO while trying to go to Chinde by canoe. The main items they could sell in Chinde if they could reach there are Cassava, Fish, Chickens and Tomatoes.

B. Cost

In Dondo, Nhamatanda and Nhangau transportation is readily available. Due to the large number of night attacks in Nhangau many people now live in Beira with relatives and "commute" to Nhangau every day using public transport which costs mt200 one way. A trip from Nhamatanda to Beira by train costs mt3,600 and by bus it costs mt3,000. From Dondo to Beira by train it's mt1,025 and by bus it's mt1000

C. Percentage of Respondents Who Travel

97% of the respondents from Nhangau reported having traveled during the past year. In Marromeu it was only 64%, with the majority of travel being inside the district. Nhamatanda reported 83% and Dondo 89%. The percentages for travel outside of the district are: Dondo - 86.6%, Nhamatanda - 68.1%, Marromeu - 24.2%. Nhangau is considered by most to be a part of Beira and so the 97% is for travel to Beira. The above data indicates the level of stability of each district (except in the case of Nhangau). This information is derived from table 13.

D. Reasons for Travel

The major reported reason for traveling is to visit family members. 66% reported this as a reason. Trade (buying and selling) was reported by 22%. Nothing else was reported more than 5% of the time.

VIII. PEOPLES' PERCEPTIONS AS TO WHAT THEIR MAJOR PROBLEMS ARE

No matter how we asked the question the response over 99% of the time was always the same: "The greatest problem that affects my family is the war". Even when we asked the question in the plural form using the word "problems" they still mainly mentioned only one problem: THE WAR.

When asked how can the problem be solved the answer was, of course "by ending the war". They also, of course, feel powerless to cause that to come about.

IX. CONCLUSIONS AND RECOMMENDATIONS

The greatest determinant in all aspects of life here in Mozambique is the war. When drawing up conclusions and recommendations the war must be kept in the forefront. This is especially true when deciding on recommendations since over 75% of the target population say they will return home after the war.

A. Donor Coordination

We were unable to obtain in-depth information on goods and services provided by the GOM and other NGOs. This was due in part to lack of personnel and time constraints, but also to the fact that much of the information available is limited, conflicting and therefore unreliable. This is especially true with the GOM and local Administrators and Center Secretaries. An attempt being made to deal with this problem is the monthly meeting of

TABLE 13

% OF RESONDENTS WHO HAVE TRAVELLED INSIDE OR OUTSIDE OWN DISTRICT DURING THE PAST YEAR

DISTRICT	OUTSIDE DIST.	INSIDE DIST.	DID NOT TRAVEL
DONDO	86.6	2.5	10.9
MARROMEU	24.2	39.8	36.0
NHAMATANDA	68.1	14.9	17.0
NHANGAU	43.0	54.0	3.0
TOTAL AVERAGE	60.3	22.0	17.7

NOTE: SOME (16%) OF THE RESPONDENTS WHO REPORTED TRAVEL OUTSIDE OF DISTRICT REPORTED TRAVEL INSIDE DISTRICT AS WELL. ALL IN COLUMN "INSIDE DIST." REPORTED ONLY TRAVELING INSIDE OF DISTRICT.

Data from survey of July-August, 1991

all NGOs working in Sofala Province which started in October of this year. It is known that many entities are donating food and clothing to these centers without knowing how much other entities are donating. It is also known that local officials rarely inform one entity what another is doing, hoping to receive more this way. It appears it is up to the NGOs to inform and coordinate with one another, especially when it comes to food and clothing donations. In the future it will be desirable to invite representatives from the DPA, DPCCN and Ministry of Health to some of these meetings so they can also be informed and contribute.

B. Crop and Seed Production

As mentioned before, due to the difficulty of a donor receiving accurate and true responses from beneficiaries about items donated to them, finding accurate information regarding crop or seed production is beyond the scope of a survey. We will attempt to ascertain this information by doing measurements of crop yields in the following manner: We know from the survey that the average household size is 6.2 persons. Before next harvest time we plan to measure the size of a number of randomly selected machambas in each center and compare the findings with the data received from the questionnaires. Then we plan to spot measure the harvests of a number of randomly selected machambas and compare this with family size to get a rough estimate of household needs versus actual harvests. This information will be analyzed with data available on the amounts of food aid received in each center. This will be used to help decide how much food aid is necessary. It will also be used to determine the necessity of seed donation for the next planting season.

Using this data we will then make recommendations on the necessity and feasibility of stimulating private traders to produce and distribute seeds.

C. Health Care Information

As previously stated, further investigation in this area is needed. We propose contracting a Health Consultant to do a more detailed investigation into the health care situation in Sofala province. This will be based on information gathered from the survey and Health Consultant Catherine Toth's 3 day consultancy in May of 1991. Mrs. Toth found that the Ministry of Health places health worker training high on its list of priorities but as of May, 1991 had not decided upon a plan of training. She also observed that "Basic sanitation and basic knowledge of disease transmission/prevention are sorely lacking" and that "while there is some outreach work undertaken, a subject area untouched is human hygiene and its relation to diseases that result in high levels of morbidity." So the Health Consultant would determine what the status of MOH plans are as well as what

primary health care systems are in place now and how they are functioning. The same consultant would then be assigned to write up a proposal with FHI staff for a project for appropriate health care support. Based on the fact that 75% of the target population plan to return home after the war, building new health posts or hospitals is not appropriate, so this is an area the Health Consultant will not be expected to look into. The most appropriate activities would address the most common health problems - gastrointestinal diseases and fevers. The research should therefore focus primarily on these two areas. Attempting simply to supply existing centers with medicine is inadequate. Developing a comprehensive health worker program primarily concerned with prevention would have a greater impact in the long run. Training should focus on using locally available resources such as the diarreah solution which has proven to be more effective than the foil packet solutions. This approach takes longer but will offer more lasting benefits.

D. Possible Future Interventions

Because health and agriculture are the only two things that 100% of the people are involved in, the interventions which can reach the most people are related to these two fields. Again, due to the temporary status of the target population the most appropriate types of activities would be those mostly involving training. Collective income generating activities will usually benefit only a small portion of the population. Consider for example that basketmaking is practiced by 28% of the women as compared to 100% of them who work in the machamba. Income generating activities also take a lot of resources and support from outside and often fail as soon as the outside support stops. Since most of the people plan to return home after the war, training activities should take precedence over handouts or construction activities, and health and agriculture interventions should take precedence over other activities. Some activities not related to health or agriculture could, however, be looked into:

1. Improved Cook Stoves

This activity could have more success than reforestation because the people who would be expected to plant and care for the trees do not plan to stay in the centers after the war and thus would not be able to harvest the fruits of their labor. Most reforestation projects fail because the beneficiaries do not see early results for themselves. A reforestation project for people who see themselves as temporary residents would have all the more chance of failing.

2. Literacy Campaigns

Literacy campaigns would have both direct and indirect benefits. It's estimated that 10% of the population would benefit directly from village level literacy classes The remaining portion of

the 73% of the illiterate population that may initially be unable or unwilling to attend literacy classes would indirectly benefit from the increased level of literacy in their community. Not only are individual lives enhanced through literacy training, but it also reduces a community's susceptibility to negative outside manipulations.

E. List of Tables to be used as Benchmarks

The following is a list of tables which will be used as benchmarks to measure the impact of the project in the future:

Table 4 - Average number of rooms per household.
Table 6 - Household possession index.
Table 9 - Households earning money from particular activities
Table 10 - Most Common Purchases
Table 11 - Small Animal Ownership
Table 13 - Percentage of Respondents who Travel

The data received from the previously mentioned crop yield measurements will also be used as benchmarks for measuring impacts the following year.

It should be noted that if there is an improvement in the standard of living of the target population it will be documented by changes in the above benchmarks. However it will be difficult to ascertain to what extent these changes are attributable to project interventions. Many other factors such as a change in the security situation, the agricultural season, the national and regional economic situation and other NGO and GOM interventions will certainly influence trends in the above data.

F. The Next Baseline Data Survey

FHI staff in consultation with Mr. Brand have decided to recommend that the next survey be done in July 1993, since one years' time is not a long enough period to measure changes which would give an indication of impacts.

Prepared by: Tim Stock
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