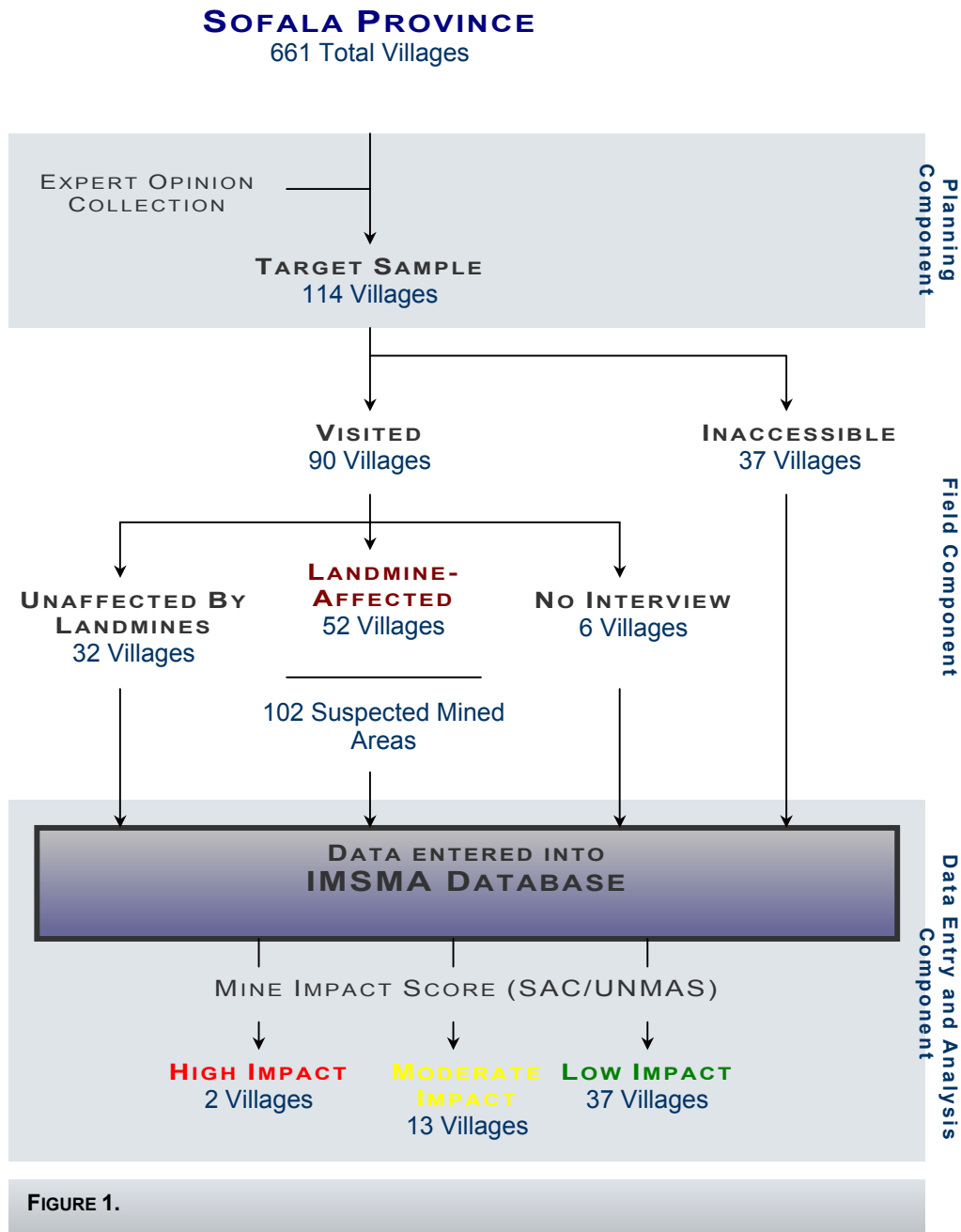


# OVERVIEW FOR SOFALA PROVINCE



The term “village” as used herein has the same meaning as the term “community” used elsewhere.

Schematic of process.



The Mozambique Landmine Impact Survey (MLIS) visited 12 of 13 Districts in Sofala. Cidade de Beira was not visited, as it is considered by Mozambican authorities not to be landmine-affected. Of the 90 villages visited, 52 identified themselves as landmine-affected, reporting 102 Suspected Mined Areas (SMAs). Thirty-seven villages were inaccessible, mostly due to poor road conditions following heavy rains and to the absence of bridges and ferries across rivers. Six villages were either unknown to local people or declined participation. Figure 1 provides an overview of the survey process: village selection; data collection; and data-entry into the Information Management System for Mine Action (IMSMA) database, out of which is generated the Mine Impact Score (Appendix I).

Expert Opinion Collection formed the basis for the selection of villages. Information from 25 Official Interviews, data from organizations active in the Province (Norwegian People's Aid, Handicap International) and from the National Demining Institute (DITERS Database) served as a basis for preparing a target list of 114 villages to be visited throughout the Province.

*Village Survey Questionnaires* were administered in every village found to be landmine-affected to a total of 396 Interviewees. The vast majority of Interviewees (80%) had occupations in agriculture, fishing and related activities, followed by manufacturing, mineral exploration/extraction and the service industry (8%). All age groups were well represented. Twenty-one per cent of Interviewees were aged from 15 to 29 years, and 41% were aged between 30 and 44 years. The remaining 37% was accounted for by Interviewees older than 44 years or of unknown age. Women participated in 52% of group interviews.

Provincial summary indicating number of CIDC village visits, population and reported Suspected Mined Areas and victims.

District	Villages		Population	Mined Areas and Victims		
	Affected Villages	Unaffected Villages	Affected Population	Number of SMAs	Victims in Last 2 Years	Total Victims
BUZI	6	9	9,039	7	0	12
CAIA	7	0	23,791	13	2	9
CHEMBA	3	3	1,717	4	0	5*
CHERINGOMA	1	1	1,233	1	0	0
CHIBABAVA	12	2	14,372	33	4	24*
DONDO	3	0	31,830	11	2	172
GORONGOSA	9	5	24,715	16	2	39
MACHANGA	4	3	1,469	6	4	16
MARINGUE	3	4	8,328	3	0	0
MARROMEU	1	0	1,029	2	0	0
MUANZA	1	2	249	4	0	3
NHAMATANDA	2	3	16,384	2	0	7
<b>Total</b>	<b>52</b>	<b>32</b>	<b>134,156</b>	<b>102</b>	<b>14</b>	<b>287</b>

\* Minimum value: certain communities could not report the precise number of victims

TABLE 1.

Table 1 summarises the principal findings for Sofala by District visited. A further breakdown by village in each District visited can be found at Appendix II.

Landmine-affected villages were identified in each District visited and were most numerous in the District of Chibabava (12), which also reported a high number of victims (24, or 8% of Province total) and the highest number of SMAs (33, or 32% of Province total). Three landmine-affected villages in Dondo District with over 30,000 potentially affected persons (24% of Province total) reported an extremely large number of victims (172, or 60% of Province total), of whom two were reported within the two-year period preceding the MLIS. The District of Gorongosa also reported a large number of victims (39, or 14% of the Province total), including two in the two years preceding the MLIS. Of the 16 (6%) victims reported in the District of Machanga, four were reported within the two years preceding the MLIS.

# VICTIMS AND IMPACTS

## VICTIMS

In total, 34 of 52 (65%) landmine-affected villages reported a total of at least 287 victims since the beginning of the Independence Struggle. Six villages could not specify the number of victims. Five of them, however, reported having had many victims. Victims from three villages, each with at least 11 reported victims, accounted for 195 (68%) of the total victim tally for the Province. The village of Mafambisse Sede (Dondo District) reported 160 victims, of whom about 100 were killed and about 60 were injured.

Fourteen landmine victims were reported in eight villages during the two-year period preceding the MLIS, of whom four were killed and seven injured. Information on the type of wound was not available for the remaining victims. The village of Matongua (Machanga District) reported four victims during that period. Additional information was available for 11 victims during the two years preceding the MLIS. Three were below 30 years of age (two below 15 years) and all of them were engaged in playing at the time of the accident. All three female victims reported were above 45 years of age. One was reportedly collecting food or water, one farming and the third travelling at the time of the accident.

## IMPACTS ON RESOURCES AND INFRASTRUCTURE

Figure 2 displays the number of villages in Sofala with blocked access to roads, infrastructure (bridges, airstrips, railroads, and powerlines), services (educational, cultural, and health facilities) and a variety of resources (water, agricultural land, pasture land and non-agricultural land).

Blockage impacts on resources were reported as follows, in descending order of frequency: agricultural land (34 of 52 villages, or 65%); non-agricultural land (used for hunting, gathering fruit and medicinal plants, and collecting firewood and building materials) (12 of 52 villages, or 23%); and pasture land (three of 52 villages, or 6%).

Blockage to roads was reported by 24 of 52 villages (46%), followed by blockage to services (15%) and infrastructure points (15%).

Fifteen villages (29%) reported seasonal variation in the severity of impacts: 10 reported greater severity during the rainy season; two reported greater severity during periods when the fields are burned for preparing the ground; one reported greater severity during the season when the grass is growing; and one indicated that the impacts are severe during both the rainy and dry seasons. The majority of villages (36 of 52, or 69%) reported that there was no particular season during which landmines had a greater impact on their village.

Number of villages reporting blockage impacts by type.

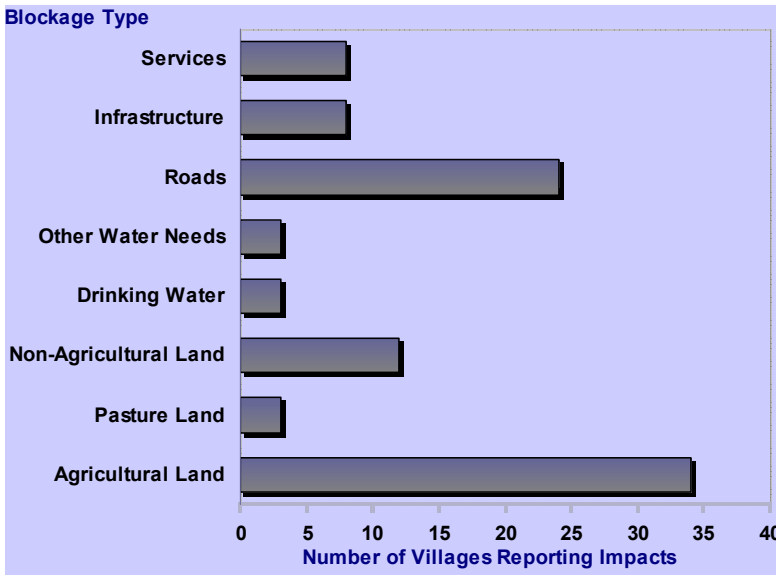


FIGURE 2.

For 46 of 52 (88%) villages, at least one-half of interviewees reported that they worry a great deal about the presence of landmines, while for the remainder of villages (12%), the majority of interviewees worry moderately or not at all. In total, 388 of 396 (98%) interviewees reported that they worry about landmines in their village, with 345 (87%) who reported that they worry a great deal. Overall, 382 of all

interviewees (96%) reported that the presence of landmines changes their behaviour.

### MINE IMPACT SCORE

The Mine Impact Score developed by the Survey Action Centre and the United Nations Mine Action Service distils a number of important variables (presence of landmines/UXO, blockage impacts and recent victims) into a single index that permits comparisons among villages. The weights used by the CIDC to generate the scores can be found at Appendix I.

Except in the improbable event that large numbers of recent victims (victims reported within two-year period preceding the MLIS) are widespread, the Mine Impact Score assigns a large number of villages to the low-impact category. The need has therefore been expressed in Mozambique for a tool that would assist in establishing priorities among those low-impact villages. Some alternative indices are discussed in the national report.

Two villages in Sofala Province, both of them in Chibabava District, fell into the high-impact category (Figure 3). A total of 13 moderately impacted villages were identified, three of which were found in Dondo District in the center of the Province. The aggregate population of the highly and moderately impacted villages totals over 48,000 persons, with populations ranging from 98 persons to over 30,000 persons. Low-impact villages, of which there were 37, were found to be somewhat concentrated throughout the west of the Province and in the northern part of Caia District, bordering Zambézia Province.

Of the 52 villages impacted, 15 (29%) identified the impacts of landmines as becoming more severe with time, while 19 (36%) reported the impacts as becoming less severe with time.

Map of Sofala Districts illustrating the distribution of group interviews and their Mine Impact Score.

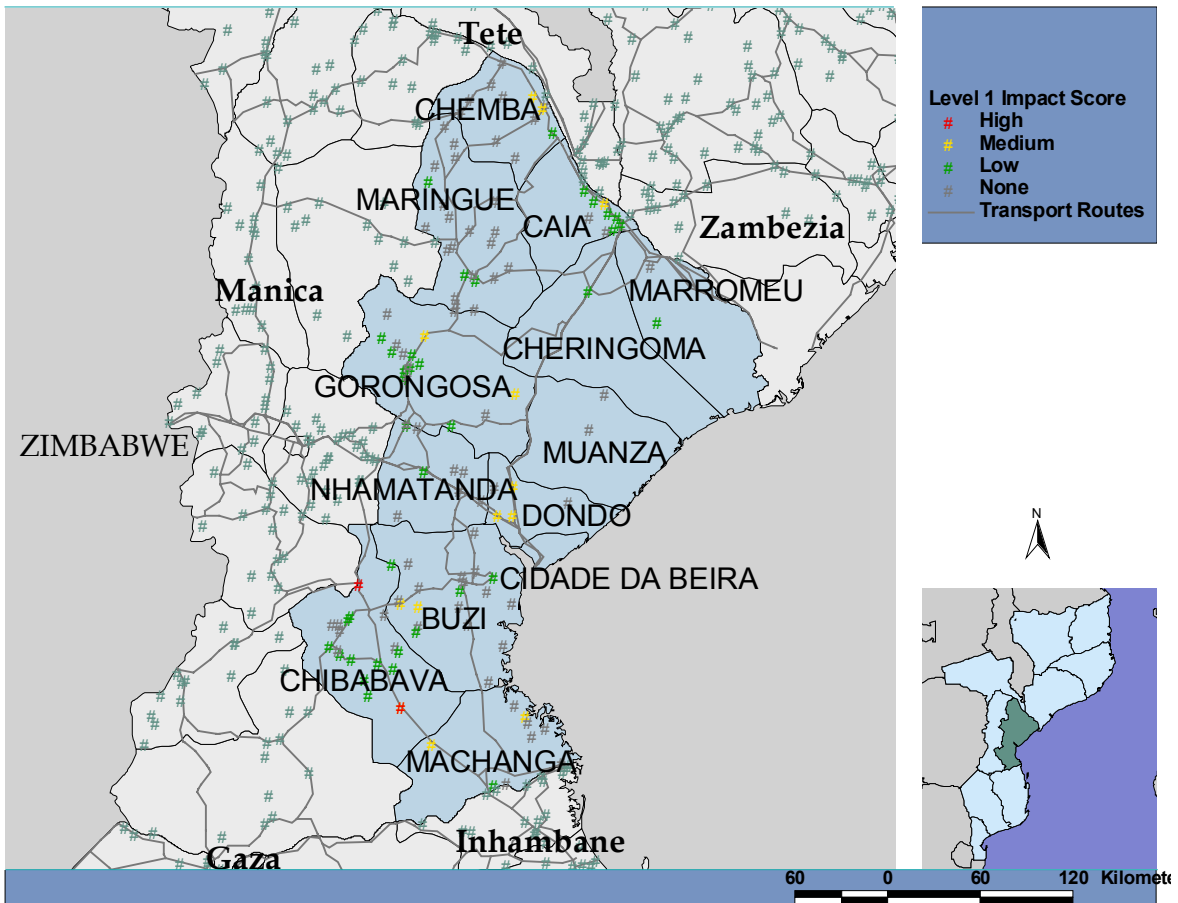


FIGURE 3.

# MINE CONTAMINATION

## DISTRIBUTION OF SUSPECTED MINED AREAS

Figure 4 illustrates that landmine contamination appears highly concentrated along the border with Zambezia in the north (Caia and Chemba Districts), along the Beira corridor in Dondo District, and throughout Chibabava and Gorongosa Districts.

Map of Sofala Districts and administrative centres, illustrating the distribution of Suspected Mined Areas.

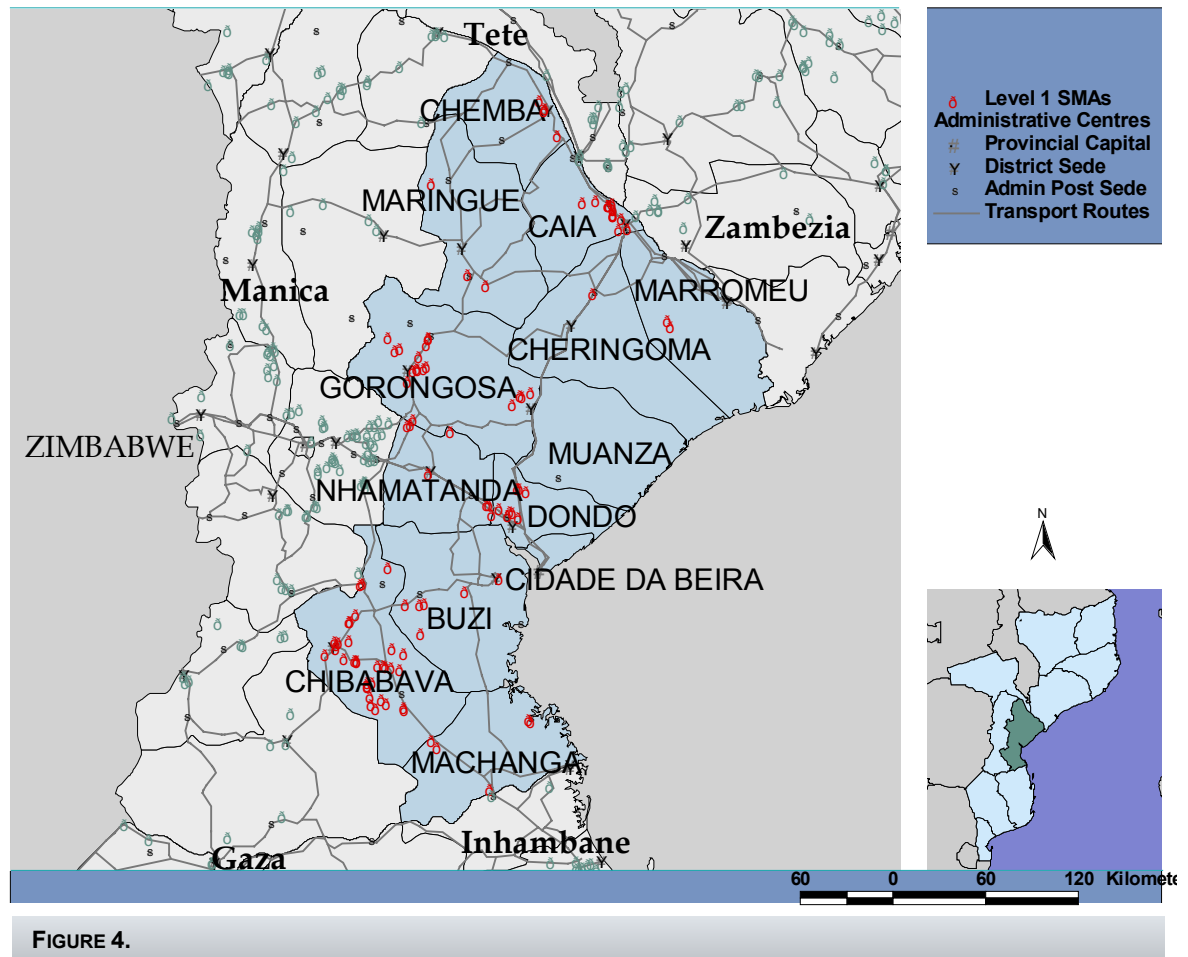


FIGURE 4.

Of the 52 landmine-affected villages identified in Sofala, 52% reported a single SMA and 37% reported two or three SMAs. Four villages (8%) identified four or five SMAs, and the villages of Mafambisse Sede (Dondo District) and Sede (Chibabava District) both reported six SMAs.

Information on the year in which landmines were first laid and the year in which they were last laid was reported for 64% and 58% of SMAs respectively. Landmines in one SMA were first reportedly laid in Sofala in 1969, after which SMAs were reportedly created every year between 1979 and 1987. The majority of mine-laying took place between 1982 and 1985, accounting for 70% of all SMAs. Landmines were last reportedly laid in individual SMAs as early as 1979 and as late as 1992.

## TERRAIN AND TYPES OF ORDNANCE

SMA were predominantly described as having a flat ground profile (84%). Mixed vegetation was reported as the most common vegetation cover, accounting for 65% of SMAs, followed by grasses accounting for 26% of SMAs.

Most commonly, SMAs were classified as being proximate to roads (18%) or trails (11%). Eleven SMAs (13%) were classified as former military installations.

The majority of SMAs (69 of 102, or 68%) were reported to have no marking (signs or fences) that would indicate the area to be landmine-contaminated.

Of 52 landmine-affected villages, six (12%) reported harbouring solely unexploded ordnance (UXO), and an additional 14 (27%) reported harbouring both landmines and UXO. The remainder consisted solely of landmines.

## SIZE AND DISTANCE OF SUSPECTED MINED AREAS

A vast range of SMA sizes were reported, from several reports of single

Frequency histogram of various Suspected Mined Area sizes

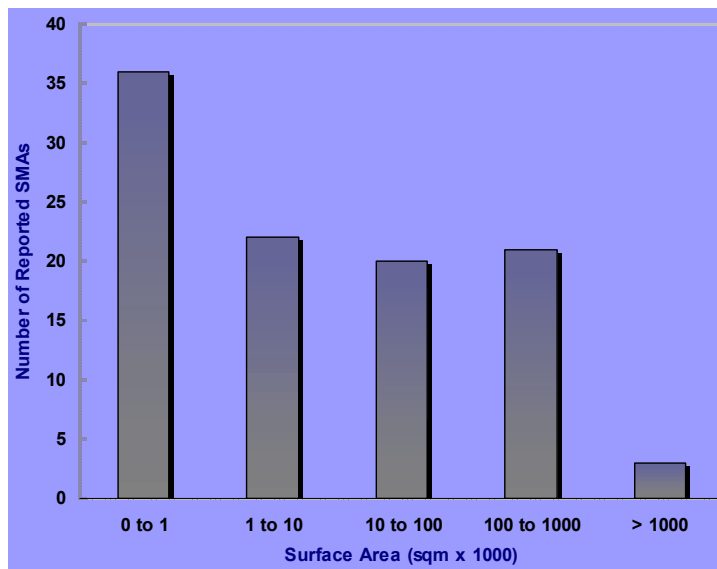


FIGURE 5.

UXOs to the largest SMA covering 1.3 square kilometers reported in Giromo/Chironga (Chibabava District). Figure 5 shows the range of size estimates for the reported SMAs in Sofala. Thirty-five per cent of SMAs were reported to be less than or equal to 1000 m<sup>2</sup>, many of which are mined infrastructure points.

Seventy per cent of SMAs were reported to occur within 4 km of the affected village, and 96% were estimated to occur within 10 km. The most distant SMA was reported at a distance of 12.5 km from the affected village.



# CONCLUSION

The principal findings of the MLIS in Sofala are as follows:

- Chibabava District reported the most landmine-affected villages and SMAs. The Districts of Dondo and Gorongosa reported large numbers of SMAs and victims. The District of Caia also identified a large number of SMAs;
- Almost 135,000 persons out of a total of 757,333 live in villages harbouring landmines, with at least 287 reported victims, 14 of whom were reported within the two years preceding the MLIS;
- Two villages were considered highly impacted and 13 villages were considered to be moderately impacted based on the Mine Impact Score;
- Blocked access to agricultural land was the most commonly reported impact of landmines on villages, followed closely by blockage to non-agricultural land and roads.

# APPENDIX I – MINE IMPACT SCORE WEIGHTS

Variable	Weight
<b>Types of Ordnance</b>	
Landmines	2*
Unexploded Ordnance (UXO)	1*
<b>Blockage Impacts</b>	
Rainfed cropland	2
Irrigated cropland	0
Fixed Pasture	2
Migratory pasture	0
Non-agricultural land	1
Drinking Water	2
Other water uses	1
Housing area was blocked	0
Roads	1
Other infrastructure	1
<b>Victims</b>	
Victims within last 24 months	2*

Weightings Assigned to Variables in Calculation of the Village Mine Impact Scores

Fixed Weights value cannot be changed

# APPENDIX II – VILLAGE VISITS

## LANDMINE-FREE VILLAGES:

District	Villages
<b>CHEMBA</b>	CHAPO
	REGULO CHIMBWE
	REGULO MULIMA
<b>CHIBABA</b>	A.MAMBA
	REGULO HODE
<b>GORONGOSA</b>	DOMBA
	MAGOE
	NHANDARE
	NHANTACA
	NHAUSSEMBE
<b>MACHANGA</b>	CHIROMO
	CHITEVE
	MACANGUICA

District	Villages
<b>MARINGUE</b>	FERNANDO THAIMO
	PALAME
	SAPANDA GRAVATA
	VERNIJO JONE
<b>MUANZA</b>	CHINAPAMIMBA
	R. NHANTAZA
<b>NHAMATANDA</b>	MBIMBIRI-MECUZI
	MUDA
	NHANCHOPO

District	Villages
<b>BUZI</b>	CHIRONDA
	CUDJE
	GUENDJE
	GURENGUIRE
	HAIJA
	MATACA
	MAVUMASSUCUE
	PARANGE
	REGULO MATIRE
<b>CHERINGOMA</b>	REGULO MACIAMBOSE

## LANDMINE-AFFECTED VILLAGES:

District	Admin Post	Village	Village Population	Number of SMAs	Total Victims	Recent Victims	Mine Impact Score
<b>BUZI</b>							
<b>BUZI</b>							
		CHICUMBUA	156	1	2	0	Low
		BANDUA	2192	1	4	0	Low
		GRUJA	2520	1	5	0	Low
<b>ESTAQUINHA</b>							
		RICONDE	1907	1	0	0	Medium
		NHANJEDJE	1306	2	1	0	Medium
		CHISSINGUANE-1	958	1	0	0	Low
<b>CAIA</b>							
<b>CAIA - SEDE</b>							
		R.CAMBA	5011	3	4	0	Low
		R. GONCANDE	1827	1	1	0	Low
		SOMBREIRO	2259	1	0	0	Low
		TANGA-TANGA	2983	1	2	1	Low
<b>MURRAÇA</b>							
		NHACUECHA	3433	1	1	0	Low
		NHARUGUE	3443	1	0	0	Low
		SACHOME	4835	5	1	1	Medium
<b>CHEMBA</b>							
<b>CHEMBA</b>							
		CHEMBA	Unknown	2	N/A	0	Medium
		REGULO NSUSSO	1717	1	5	0	Low
		GABOA	Unknown	1	0	0	Medium
<b>CHERINGOMA</b>							
<b>INHAMITANGA</b>							
		REGULO GUMA	1233	1	0	0	Low
<b>CHIBABAVA</b>							
<b>CHIBABAVA</b>							
		SEDE	1767	6	N/A	0	Low
		CHICADUANHE	1443	1	0	0	Low
<b>GOONDA</b>							
		GOONDA	2192	3	N/A	3	High
		GIROMO/CHIRON	604	2	7	1	Medium
		MASSANE	39	1	2	0	Low
		TRONGA	579	2	N/A	0	Low
<b>MUXUNGUE</b>							
		CHICUXA/CHICUA	1130	4	3	0	Low
		NHABOA	Unknown	3	9	0	Low
		MEXUNGUE3	Unknown	3	N/A	0	Low
		MEXUNGUE	Unknown	2	0	0	Low
		PANJA	Unknown	2	0	0	Low
		REGULO MUCHEV	6618	4	N/A	0	Low

CONTINUED ON NEXT PAGE

District	Admin Post	Village	Village Population	Number of SMAs	Total Victims	Recent Victims	Mine Impact Score
<b>DONDO</b>							
<b>DONDO</b>							
		NHAPIRIPIRE	881	3	7	0	Medium
		MILHA 6	265	2	5	1	Medium
<b>MAFAMBISSE</b>							
		MAFAMBISSE SEDE	30684	6	160	1	Medium
<b>GORONGOSA</b>							
<b>GORORNGOSA-SEDE</b>							
		MUCUNAMBIRA	3958	1	3	0	Low
		SIXPENGE	1977	1	0	0	Low
		MANGARA	2627	1	1	0	Low
		CHARLES	3263	3	5	0	Low
		NHAMISSONGORA	3975	1	0	0	Low
		MUGARAMAGIUA	481	3	0	0	Low
<b>NHAMADZI</b>							
		MALULO	3267	1	0	0	Low
		NHAMADZI	468	2	24	0	Low
<b>VANDUZI</b>							
		CAVALO	4699	3	6	2	Medium
<b>MACHANGA</b>							
<b>DIVINHE</b>							
		DIVINHE	Unknown	2	3	0	Medium
<b>MACHANGA</b>							
		MATONGUA	98	1	11	4	High
		GUENJE	458	2	0	0	Medium
		ZIMUALA	913	1	2	0	Low
<b>MARINGUE</b>							
<b>CANXIXE</b>							
		CATIQUE KIRAMR	Unknown	1	0	0	Low
<b>SUBUI</b>							
		REGULO NHAMAC	4247	1	0	0	Low
		REGULO MANETO	4081	1	0	0	Low
<b>MARROMEU</b>							
<b>CHUPANGA</b>							
		REGULO THOZO	1029	2	0	0	Low
<b>MUANZA</b>							
<b>MUANZA</b>							
		FLORINDO RAZAO	249	4	3	0	Medium
<b>NHAMATANDA</b>							
<b>NHAMATANDA</b>							
		NHAMATANDA	Unknown	1	6	0	Low
		AUGUSTO	Unknown	1	1	0	Low