Chapter 6

Planning on 3 sectors in 4 *Comuna*s

6.1 Introduction

Examples of planning by sector and by *Comuna*, which was discussed in Chapter 1.5, and lists of project ideas with their priorities are presented here.

The Study Team conducted a workshop on Participatory Sector Planning in four *Comuna*s as follows:

1. Problem Analysis
   Problems and their causes were identified to grasp the big picture, but the Team did not stick to making a problem tree. *Comuna* administration, NGO staff and community organizations participated.
2. SWOT Analysis
   Participants checked strengths, weaknesses, opportunities and threats by sector. On strengths, which play a significant role in strategy formulation, participants identified the most important strengths by vote. *Comuna* administration, NGO staff and community organizations participated.
3. Proposing Project Ideas
   Referring to problem analysis and SWOT analysis, participants proposed project ideas. *Comuna* administration, NGO staff and community organizations participated.
4. Determining Project Scale
   Participants determined the scale of each project. *Comuna* administration, NGO staff and community organizations participated.
5. Prioritizing Project Ideas
   Participants analyzed each project on (1) target group/areas, (2) priority by related organizations, (3) needs, (4) priority by policy, (5) impact among sectors, (6) profitability and (7) sustainability. Participants set priorities through a vote. *Comuna* administration, NGO staff and community organizations participated.
6. Strategy Formulation
   With reference to SWOT, particularly strength, participants formulated strategies.
7. Balanced Score Card Formulation
   Synergetic effects between strategies were checked through a Balanced Score Card formulation.

In this chapter, planning processes in Canjala and on the agriculture sector are presented. Refer to the appendix for information on other *Comunas* and sectors.

In accordance with project idea lists, the Study Team prioritized project ideas by *Comuna* and by sector. When prioritizing, the Team referred to the results of the planning workshops, development strategy and master plan, which is discussed in Chapter 8. Methods of prioritization are explained in depth in 6.4.

Planners need to prioritize projects for minimum investment and maximum output under the limited budget. That is where the ability of planners is tested most. Thus, the Study Team emphasizes the importance of planners' mastering prioritization methods.

PSP workshops were conducted as follows.

Table 6-1 PSP Workshop Schedule and Participants

		Date	Participants
Comuna	Canjala	Nov. 2007	32 people identified as *Comuna* administration, commercial farmers, small farmers, community organizations, nurse and policeman
	Egyto Praia	Jun. 2008	36 people identified as *Comuna* administration, commercial farmers, small farmers, community organizations, nurse and policeman
	Biopio	Jan. 2008	39 people identified as *Comuna* administration, community organizations, nurse, teacher and power station
	Culango	Jan. 2008	35 people identified as *Comuna* administration, commercial farmers, small farmers, community organizations, nurse and teacher
Sector	Agriculture	Feb. 2008	4 people identified as municipal agriculture staff and extension officer
	Education	Jan. 2008	13 people identified as municipal agriculture staff and teacher
	Health	Feb. 2008	4 people identified as municipal health staff and nurse

6.2 Development Programs in the Canjala *Comuna*

6.2.1 Contexts and General Characteristics of the Canjala *Comuna*

(i) National Context

The Republic of Angola is taking firm steps to make a statement in the international arena as a great economic power.

In the development plan, designated as Angola 2025, the Angolan government has defined the following five policies:

1. Promoting national reconciliation.
2. Sustainable development with economic development and poverty reduction.
3. Stable macro-economy and society.
4. Nationally-unified economic structure.
5. Eliminating regional gaps.

Peace was the main and best achievement for the Angolan people; after this, other results appeared gradually.

In the social-economic sector, in 2003:

- About 1 million children returned to school. The number of primary school registrations increased by 45%, 39% in the secondary level and 49% at the high school level.
- A total of 29,150 educational personnel were recruited, representing an increase of 54%.
- In 2003, 5.2 million children were vaccinated against polio. No new cases of the illness have been registered.
- Regarding de-mining, 10,000km of roads were checked, an area of 3.5 million m^2 was

cleared (1.5 million m^2 by manual de-mining), 14,726 anti-personnel land mines and 1,045 anti-tank land mines were removed, 71,596 undetonated grenades, 95,116 other munitions and grenades and 1 ton of explosive materials were destroyed.

- There was an 82% reduction in mine accidents in 2003 compared with 2001.
- Global funding for the government was lowered from 8.8% of the GDP to 6.8%.
- Inflation decreased from 106% in 2002 to 77% in 2003.
- The value of the Kwanza increased by about 20.4% to the dollar in 2003.
- Production in the primary sector grew by about 12% in 2003.
- The construction sector increased by 13% in 2003.

The policies in Angola 2025 have been already been implemented, and the above-mentioned indicators have already shown some achievements. To this effect, they must be implemented in every national territory aiming for integrated and sustainable development.

(ii) Provincial Context

The province of Benguela is located in the central west area of the Republic of Angola and covers an area of 39,826.83 km^2 (3.19% of the national territory). It borders the province of Kuanza Sul to the north, Huambo to the east, the province of Namibe to the southwest and the Atlantic Ocean to the west. Its population is estimated to be about 2 million.

Administratively, the province of Benguela is divided into nine municipal districts and 27 *Comuna*s. The capital city is Benguela and the remaining municipalities are Lobito, Baia Farta, Cubal, Ganda, Caimbambo, Chongoroi, Balombo and Bocoio.

In the social–economic and production sector, the province indicates good development in terms of education, in spite of children that are still not part of the educational system, lack of teachers and schools, and stubbornly high rates of illiteracy. There are improvements in the health sector with the construction and rehabilitation of hospital units in the main cities of the province and the construction of medical centers and posts and nurses' houses for the whole province. The cholera problem is already under control, and voluntary testing centers for HIV/AIDS have also been installed, mainly for pregnant women. Even so, the province still has enormous challenges to surpass; many of these will be overcome with the creation of better sanitary conditions in the *Comuna*s, of which Canjala is an integral part.

Agriculture is also one of the strong activities at the provincial level, as 70% of its population is farmers. This is due to the structure of its soil, the diversity of its climate and the good water conditions of its territory.

With the ongoing de-mining work in the country and particularly in the province, about a million hectares of favorable land are available for agricultural activity. In spite of its operation being below 20% and the presence of large companies, the industrial side could be of more value for the province.

It is hoped that the Canjala *Comuna*, with their agricultural and livestock potential, will contribute to the province through its tax payments for the fast development of the country.

(iii) Municipal Context

The municipal district of Lobito, with an area of 2,100 km^2 and a population estimated at 736,978, is one of the most important municipalities in the province. To the north it borders the Kuanza Sul Province, to the south the municipal district of Benguela, to the east the municipal district of Biópio and to the west the Atlantic Ocean. Also known as the "postcard city" of the province, Lobito is one of the economic poles of the province. It is home to the regional headquarters of CFB and the port, infrastructures that give the province and municipal district greater importance in the strategic plan for national and provincial development. The installation of an oil refinery also creates another challenge for the municipality.

The agricultural sector is prominent because the area presents favorable climatic conditions for agricultural practice and cattle breeding. Besides this, the Catumbela, Balombo and other rivers with permanent flow favor agricultural activity for the region.

For these and other reasons, Lobito is recognized as a development pillar for the country in general, particularly for the province.

(iv) Communal Context

Historical Context

Until 1930, the area depended administratively on the Egito Praia district. Given the agricultural potential, many farmers settled in the area and created the Administrative post of Balabaia.

This hub came to be a post for a corporal punishment center at the time. The original name, "Mbalavaya,"comes from the local language, Umbundu, which means hitting palms. On August 25, 1930, a post was created out of administrative necessity, known today as Canjala.

The name is actually derived from two important facts: the presence of water that makes the area fertile and productive, considering that the area has little hunger. The term hunger in the local language is "ondjala," associated with an area of little hunger. It was then given the diminutive prefix in Umbundu, "ka." This creates the word little hunger, or "Kandjala."

Another reason for such a denomination was the birth of a baby when the mother went to the river Balombo, looking for water. The presence of water and the birth of the baby close to the river gave the area a symbol for double fertility, which its residents remember.

Political–Administrative Context

Canjala is one of the four *Comuna*s of the municipal district of Lobito, located 82km north of the municipal center. Administratively, Canjala is composed of 82 villages contained in six zones and seven populations[1]. It covers an area of approximately 10,312 km^2. Due to its vast size and the variation in its altitude, it is subdivided locally into two areas: the low and the

[1] According to local administration, a zone is a group or concentration of neighborhoods, while a population is a group of several villages.

high. Its borders Eval Guerra to the north (province of Kuanza Sul) and the *Comuna* of Gungo (municipal district of Bocoio), the *Comuna* of Culango (municipal district of Lobito) to the south, the *Comuna* of Chila (municipal district of Bocoio) to the east, the *Comuna* of Egito Praia (municipal district of Lobito) to the west and Chiumbambo (*Comuna* of Culango) to the southeast.

Table 6-2 Administrative Divisions of the Canjala *Comuna*

Zones		Provinces	
Zones	**Villages of Zones**		Cambanga
	Ngangula		Tala
Zone 1	Gika	**Province 1**	N´gando/Tchinendele
(Gika)	Tapela		Evange
	Calochapa		Sungo e Tchilundo
	Ahango		Cuhula
Zone 2	Cuio		Toyo
(Ahongo)	Ayombo	**Province 2**	Lemba
	Liro		Cuhula alta
	Imbondeiro		Lonietie
	1º de Junho		Cacupa
Zone 3	N´gouaby	**Province 3**	Cavitinga
(N´gouaby)	Calonama		Tchingonguele
	Calochapa	**Province 4**	Cuvombo
	Ilha Cangupe)		
	Aluico		
Zone 4	Capele		
(Kaenda)	Manga		
	Pedreira		
	Cahenda		
	Montarroio		
Zone 5	Hissapa		
(Montarroio)	Camama		
	Chiyo		
	Hoyi - ya- Henda		
	Cerâmica		
	10 de Dezembro		
	4 de Fevereiro		
Zone 6	Cateque		
(4de Fevereiro)	Dundo		
	Lonjimbo		
	Aquelewa		
	Lonjombe		

Source: *Communal* Administration

Geographical Aspects

Table 6-3 Geographical Aspects

Aspects	Indicators
Geographical location	North of the headquarters of the municipal district
Geographical area in km^2	10312 km^2
Estimated population in 2007	57,903
Altitude measured in relation to sea level	915
Distance from the headquarters of the municipal district	82 kilometers
Limits with other areas	Sumbe, Egito Praia, Biopio, etc
Predominant Soil	Arid and loamy soils
Vegetation	Steppe, open forests, forests and savanna
Hydro graphics	Balombo River
Climate	Sub tropical, humid
Temperature	Average Temperature 25 degrees
Precipitation	70% humidity
The inhabitants' denomination	Ovimbundu
Main economic activities	Agriculture-cattle
Origin of the name of Canjala	Expression in Umbundu that means: little hunger
Coordinates	Latitude 12 084 longitude 13 35
Founding Date	August 25, 1930
Administrator	Luís Gonzaga Lino

Source: Municipal Administration

The name is based on the history of the people from the area when it was occupied by Portuguese farmers, to minimize the problems of hunger. As there was a lot of hunger in other areas while there was little in this area, the name of Canjala was given to this area.

Social-Economic Context

The massive presence of settlers who opened farms made the area into a production area for palm oil, beans, corn and horticultural plants. This brought people to Canjala from different areas to work for the colonial farms. With time, the people built their families and today they constitute the population of Canjala.

Today, according to the population census of 2007, the *Comuna* of Canjala has about 57,903 inhabitants. The picture below presents the distribution of the population by age group.

Table 6-4 Distribution Map of the Population of the *Comuna* by Age Group

		Nº of Population per Age																											
		0..4		5..9		10..14		15–19		20–24		25–29		30–34		35–39		40–44		45–49		50–54		55–59		60–64		65 e +		TOTAL	
No.	Location	MF	F	MF	F	MF	F	MF	F	MF	F	MF	F	MF	F	MF	F	MF	F	MF	F	MF	F	MF	F	MF	F	MF	F
1	Gika	383	164	589	224	788	374	871	365	213	96	143	57	103	46	440	262	432	267	464	254	431	258	427	234	538	298	414	255	6251	3154
2	Ahongo	409	182	665	296	803	386	974	475	215	100	163	75	101	44	495	239	603	244	511	265	509	356	1090	504	469	247	571	263	7966	3076
3	Nguabi	497	256	377	192	428	222	438	222	288	156	184	92	186	87	392	204	389	202	558	265	597	263	377	191	445	230	586	299	5692	2871
4	Kaenda	244	124	378	198	388	198	253	153	213	124	143	87	151	91	433	186	516	230	407	182	555	248	377	173	497	236	493	218	5048	2448
5	Montarren	390	173	432	186	524	265	366	197	404	186	229	109	249	116	528	334	481	305	625	385	593	359	516	300	494	314	421	236	6252	3465
6	4 de Fevereiro	300	96	346	163	304	152	325	142	334	161	293	140	272	123	513	288	639	340	613	321	581	309	531	289	389	213	354	201	5794	2938
7	Kuhula	159	89	172	99	222	119	232	129	265	149	262	139	247	132	183	104	174	112	169	99	161	89	153	92	148	93	146	84	2093	1529
8	Kuvombo	64	25	52	23	86	47	40	21	75	36	22	17	43	32	49	26	57	30	76	40	37	16	41	23	29	14	29	16	700	366
9	Kakula	254	131	234	121	257	131	277	141	337	171	337	171	386	190	250	120	266	126	221	99	224	97	246	110	213	97	193	87	3675	1792
10	Santa Teresa	159	72	173	84	169	81	186	88	164	81	119	54	180	87	166	90	164	86	168	89	159	87	151	81	147	81	133	77	2235	1138
11	Londjombo	437	220	591	234	785	384	989	482	219	112	171	94	102	52	403	208	423	217	444	228	463	236	383	190	374	190	235	187	6019	3034
12	Kambanga	159	94	133	79	161	97	140	88	171	97	136	91	175	100	280	110	270	102	296	120	324	130	313	140	246	80	193	79	2994	1407
13	Evanga	154	58	125	52	148	66	126	57	149	67	128	64	162	66	234	118	246	120	232	119	262	126	207	103	209	108	176	109	2558	1233

Source: *Comunal* Administration

In economic terms, the *Comuna* of Canjala, the pair of Biópio and Catumbela, constituted the main pillars for development of the municipal district of Lobito due in the first place to their geographical location (along the national highway Benguela-Luanda) and secondly due to their agricultural potentials. It is an area with favorable climatic conditions for raising palms because the land along the Balombo River is rich in alluvia that fertilize the land. Besides the palm farms where they also produce beans, the region has coffee plantations with cattle

breeding.

The agricultural-livestock activity in the area works about 16,000 hectares of the available 36,700 hectares.

Besides agriculture, the people are also devoted to other activities such as fishing, hunting, coal making, and collecting firewood and wood.

With the insurgence of the civil war, the farmers' agricultural structures were abandoned and the people failed to develop for lack of financial resources, due to the following constraints related to the war:

1. Exodus of the people from their villages to areas considered safe;
2. Reception of people from other *Comuna*s, municipal districts or provinces searching for safety and establishing themselves in Canjala;
3. The emigration of people to other places, creating instability in the *Comuna*, etc., and
4. Social and economic infrastructures abandoned and destroyed.

In retrospect, these and other factors make the *Comuna* of Canjala a sleeping giant, considering its contribution to the country in the past.

6.2.2 Results of the Participative Planning Workshop

This chapter presents the work accomplished during a two-day workshop in November 2007. There were 32 participants, made up of representatives from all of the *Comuna*s in Canjala (traditional authorities, teachers, nurses, religious heads as well as local and other entrepreneurs).

The analyses were made on three sectors considered fundamental for restarting development at the *Comuna* level, namely: **Agriculture, Education and Health.**

The analyses will be presented as follows: the analysis of problems, SWOT, the project ideas, and strategies according to the participants' analytical point of view.

After the completion of the three parts, the participants could express their projects in a more logical and viable way, instead of being limited to just presenting their needs as occurred in the beginning of the first session.

(i) Agricultural Sector

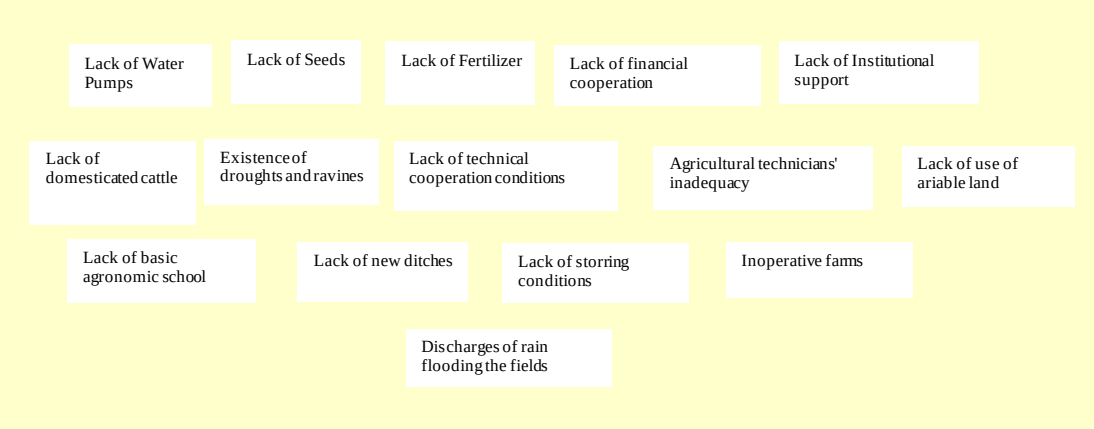
Problem Analysis

Agriculture constitutes the key for development in rural areas. In the participants' forum, the majority was tied to field activities, justifying the previous statement.

The participants began by raising the problems experienced in the sector, each participant presenting only one problem with no repeats.

When a problem was presented and confirmed by the participants, it was written legibly on a poster and put up for all to see. All of the problems raised, as shown in the figure below, are

presented and confirmed by the participants as problems at a communal level.



Source: The Study Team

Figure 6-1 Problems Raised for the Agricultural Sector

SWOT Identification

From basic knowledge of **SWOT**, the *Comuna* forum of Canjala made a deep analysis of the factors that constitute **STRENGTHS** (the main internal factors (local strong points) for development); **WEAKNESSES** (internal factors that can hinder the development process); **OPPORTUNITIES** (external factors that can impel the development process); and **THREATS** (uncontrollable external factors that can create obstacles for development).

SWOT analysis
Strength
Weakness
Opportunity
Threat

Figure 6-2 SWOT Analysis

Following the same methodology, the participants identified the Strengths, Weaknesses, Opportunities and Threats (**SWOT**) that were later confirmed and agreed to by the other participants, which were also written on posters and viewed by all. The process of selecting Strengths was considered the most important. For this, the participants had to vote individually for the strength that they considered as the main strength, and this methodology was then used to demonstrate the road for solving previously presented problems. After vote counting, the total number of votes was written in red next to the strengths on the posters. The strength with the highest number of votes was considered to be the most important.

The following illustration presents the SWOT identified by the participants and the strength with the most votes.

Table 6-5 SWOT Identification for the Agricultural Sector

No.	Strength	Weakness	Opportunity	Threat
1	Permanent Flow River (13)	Lack of quality seeds	The government has plans to look over the productive capacities in the region	Torrential Rains
2	Existence of ariable land in the community (9)	Inadequate technical means (humans, material e financial)	Presence of Banco Sol	Climatic Conditions
3	National paved highway that passes the community (6)	Lack of support infrastructures for agriculture work	Existence of Katito farm that employs people	Land Conflict
4	Favorable land for beans, bananas, peanuts and palms (1)	Lack of technical strength for bovine	Presence of JICA	A possible revison of the law for actual land
5	Majority of the farming population wanting to farm (1)	Weak movement of associativeness		Curses
6	Existing recognized farmers' cooperatives and associations (1)	Defiency in the application of government programs		
7	Existing irrigation ditches (4)	Weak participation of the people in community activities		
8	Facility of bovine production (1)	Lack of animal population for strength		
9	Forest Resources	Bad state of secondary and terciary roads that access the villages		

Source: The Study Team

Among the strengths presented, the participants needed to identify the three most important strengths from the point of view of development promotion. This was accomplished through individual voting, which resulted in the classification - through the number of votes – that is shown in the table above. In order of first to third were the following strengths:

1. Existing rivers with permanent flow
2. Availability of usable land in the *Comuna*
3. Paved national highway that travels through the *Comuna*

Presentation for Project Ideas and Indicators

A cross analysis of the problems and SWOT presented the following key questions:

1. What strength can we use to solve a certain problem?
   Example: The strength of the existing usable land in the *Comuna* can be utilized to solve the problem of the lack of new ditches, which means that the existing fertile lands can constitute the base for the construction of new ditches.
2. Which opportunity do we have in order to solve problem X?
   Example: The presence of the Study Team creates an opportunity for the *Comuna* because they are actually financing the ditch rehabilitation of Cuvelo.
3. What weakness do we have to decrease in order to solve problem Y?
   Example: How can we reduce our weak participation to solve the lack of financing for the cooperatives?

From this base, the participants began to look for project ideas, or actions that can solve their problems using their strengths and actions to reduce problems caused by their weaknesses, as well as the best form to take advantage of the opportunities. The project list and possible indicators was a result of this effort, as shown in the following illustration.

Table 6-6 Project Ideas Presented for the Agricultural Sector

No.	Project Ideas	No. of Votes	Indicators
1	Aquistition of reprocing livestock	166	Close to 1000 hectares of land is cultivat for animals in every agricultural campaign
2	Restarting of cattle, goats, and swine livestock	151	A total of 800 babies of 3 species are born every year
3	Construction of a mini-dam	138	Establishing electric energy for public illumination and for small transform industries
4	Aquistion of technical means for agricultural production	131	Increase in corn production by 120 tonnes to 250 per cycle, increase in bean production by 50 tonnes to 100 tonnes per cycle
5	Creation of a seed bank	130	The community conserves 5 varieties of seeds of each principal product (corn, beans)
6	Rehabilitation of Irrigation ditches	130	More than 2500 hectares of cultivatable and irrigatible land for ditches
7	Organizational Strengthening of the ditch committee	129	A water distribution system is created and functional
8	Construction of new irrigation ditches	127	150 km of new ditches are built at the community level
9	Technical training for agriculturists	126	Better quantative and qualitative agricultural fruit production for better accompaniement by agronists and introduction of new technicals
10	Acquisition finances with Banco Sol	125	Strenthening associations and financial growth of the cooperatives
11	Construction of Agricultural installations	120	The data related to the agricultural sector is regularly relayed to superiors due to the presence of CDA with structures and equipment
12	Acquisition and distribution of credit for water pumps	100	Almost 500 heactares of land are irrigated by water pumps

Source: The Study Team

The table above shows the project ideas and the respective indicators presented by the workshop participants. Considering the constraints and primarily the financial backers, the participants were requested to analyze each project idea using nine selected criteria, with a maximum score of 3 points, with a medium score being 2 points and 1 point being the lowest. The result was the organization of project ideas according to the largest number of points (shown in red). The form in which they are presented in the illustration follows the logical sequence.

(ii) Education Sector

Education

The education sector has made firm steps in terms of expanding access to school. Primary education has been expanded to all villages, while at the high school level, or secondary education, is only functioning in the communal center. Before the end of the ceasefire, the *Comuna* had only one school with 35 teachers. The situation has gradually improved after five years of peace because now the *Comuna* actually has 26 schools built of adobe bricks and seven of solid construction, and two teachers' houses, employing 69 teachers. Even so, problems still exist. The number of children out of school is still high, as a result of the limited number of classrooms and teachers attributable to the fragile school-community relationship, such as the high illiteracy rate, in spite of some efforts being made.

Table 6-7 shows the number of children outside the education system, according to data from the *Comuna* school coordinator, collected in 2007.

Table 6-7 Number of Children Out of the Education System in the *Comuna*

	Nº of Children per Age																													
	5 years		6 years		7 years		8 years		9 years		10 years		11 years		12 years		13 years		14 years		15 years		16 years		17 years		18 years		TOTAL	
Grades (*)	MF	F	MF	F	MF	F	MF	F	MF	F	MF	F	MF	F	MF	F	MF	F	MF	F	MF	F	MF	F	MF	F	MF	F	MF	F
Pre-school	950	316	1167	175	1083	198	1133	495	391	216	245	103	184	112	236	127	242	114	354	216	173	109	223	96	136	78	126	94	6643	2449
1st grade					403	106	430	109	378	111	183	120	202	184	263	128	211	136	201	103	159	105	112	109	206	106	195	109	2943	1426
2nd grade							261	132	356	133	256	103	336	76	131	64	123	68	146	83	157	75	124	64	133	63	124	57	2147	915
3rd grade													212	190	321	110	489	217	324	125	336	106	132	76	127	61	184	66	2125	951
4th grade													231	167	304	189	333	210	329	189	316	178	131	99	130	100	129	88	1903	1220
5th grade															130	131	204	157	308	180	317	264	117	109	164	115	124	115	1364	1071
6th grade																	312	211	324	188	337	238	131	114	560	190	500	254	2064	1195
7th grade																					426	264	480	238	510	356	448	288	1864	1145
8th grade																					133	132	201	123	97	73	79	56	510	384
TOTAL	950	316	1167	175	1486	304	1824	736	1125	460	684	326	1165	729	1385	749	1914	1113	1986	1084	2354	1421	1651	1028	2063	1142	1909	1126	21663	10710

(*) The last concluded grade

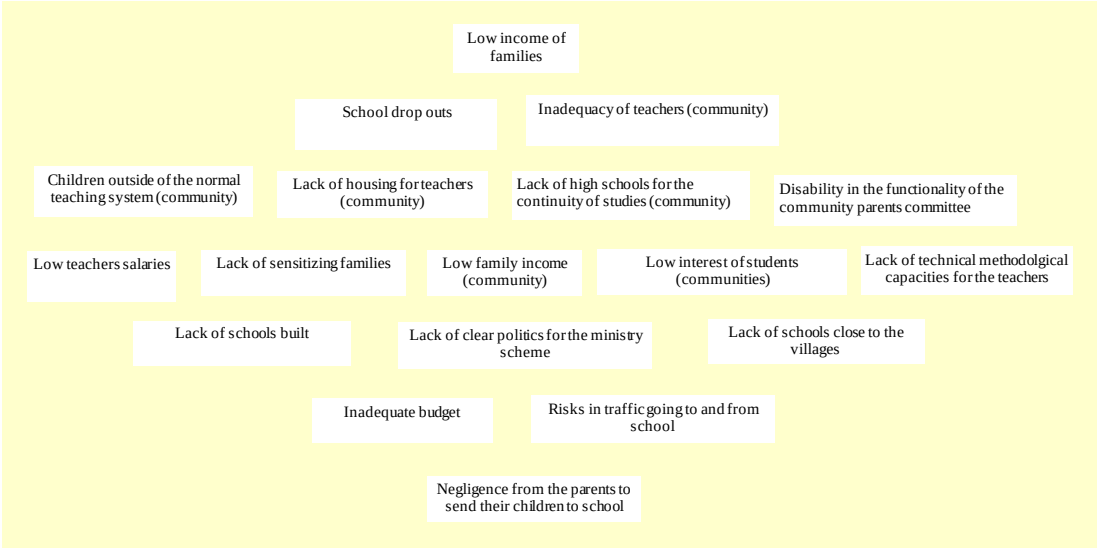
Source: *Comunal* Administration

In the field of vocational teaching, youth looking for professions are forced to leave the *Comuna* for the cities of Lobito or Luanda. The *Comuna* cannot offer any options for this problem.

Problem Analysis

Acknowledging the reality of the sector, the participants focused on the main problems using the same methodology as in the previous work.

The participation of everyone and the presentation and confirmation of the problems in a *Comuna*, the participants raised the following ideas in no specific order:



Source: The Study Team

Figure 6-3 Problems Raised for the Education sector

SWOT Identification

Verifying that the participants had no more new problems to present, SWOT identification proceeded and the participants selected the most important strength through by vote. This voting process was the same as that used in the agriculture sector and the results of this exercise are presented in the next table:

Table 6-8 SWOT Identified for the Education Sector

No.	Strengths	Weaknesses	Opportunities	Threats
1	Existence of public school in the community (12)	Inadequacy of schools	Distribution of school feeding (JAM)	Climatic conditions
2	Existence of a good school coordinator (1)	Inadequate teachers	Donation of didactic material from UNICEF	Political change in the sector
3	The children are interested in school (3)	Lack of renovations in the current schools	Presence of JICA	
4	Existence of parents and caregivers committees (0)	Lack of residence for the teachers	Implementation of education reform	
5	Good school-community relationship (3)	Lack of library		
6	Existing space for building schools (3)	Lack of didactic material		
7	Having 30 literacy teachers in the community (3)	Lack of support material for the teachers		
8		Lack of a vocational school		
9		65% of the population is illiterate		
10		Lack of transport for the educational sector		
11		Inexistence of support for school coordination		

Source: The Study Team

Starting from the strengths (the internal forces of the *Comuna*), the participants were instructed to select three strengths they considered the most important. The results are shown in the red numbers in the table above.

Twelve participants identified the existence of public schools in the *Comuna* as the main strength. The strengths numbered 3, 5, 6 and 7, were each chosen by three participants. One participant considered a good school coordinator to be important.

Presentation of Project Ideas and Indicators

After the cross-analysis of SWOT, the participants presented the following project ideas with their respective indicators.

Table 6-9 Project Ideas Presented for the Education Sector

No.	Project Ideas	No. of Votes	Indicators
1	Expansion of access to school	175	The community eliminates the problem of students outside the school system until 2013
2	Increase the number of literacy classes	161	Annually, 10% of the illiterate population will learn to read and write
3	Building 11 schools in 11 villages	160	About 21 000 children will be put in the school system
4	Build a vocational school in the community	157	Annually, 150 teenagers and adults will learn trades in school
5	Building a n installation for the function of communal school direction	145	The education systems, processes and politics will be improved to be controlled and managed
6	Build a teacher training school	142	50 teachers will be trained every 4 years

Source: The Study Team

The table above shows the project ideas and their respective indicators presented by the workshop participants. Considering the constraints and mainly the financial backers, the participants were requested to analyze each project idea using nine selected criteria, with a maximum score of 3 points, with a medium score being 2 points and 1 point being the lowest. The result of this exercise was to prioritize the project ideas according to the largest number of points (shown in red). The form in which they are presented in the picture follows the logical sequence.

(iii) Health Sector

Health

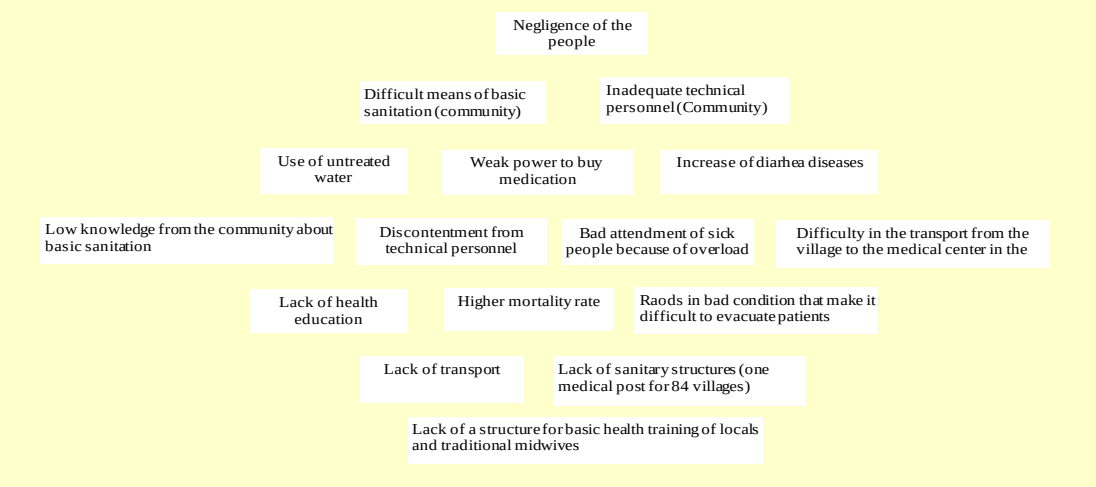
The *Comuna* of Canjala has several serious problems related to health that extend from the lack of hospital infrastructures and insufficient number of medical staff and thus affect the lack of sanitary education of the people:

- There is just one medical post without the capacity to attend to people that need medical services and medication. According to technicians' health data, close to a hundred patients presenting different pathological pictures are assisted.
- The secondary and tertiary roads are inaccessible, creating difficulties in evacuating patients to the only health center in the *Comuna* as well as the accomplishment of vaccination campaigns.
- There are deficiencies in basic sanitation.

The government plans to increase and improve the services and goods for the population by constructing one medical post and one nursing station, and to increase the number of nurses from four to eight. Besides, the improvement of the main road Lobito-Luanda to facilitate evacuation of patients in serious conditions is also planned. However, the *Comuna* is focused solely on the time it will take to resolve their main issues.

Problem Analysis

Being that health is the essential condition for man's social well-being, the participants began the presentation of sector problems with certain knowledge of the cause. Below the problems are presented in no specific order.



Source: The Study Team

Figure 6-4 Problems Raised for the Health Sector

SWOT Identification

After concluding the problem analysis, the participants identified the strengths, weaknesses, opportunities, and threats related to the health sector.

The result of the participants' work is presented in the picture below:

Table 6-10 SWOT Identified for the Health Sector

No.	Strengths	Weaknesses	Opportunities	Threats
1	Existing medicinal plants (3)	Iinadequate nurses in the community	Access to a better road on the way to Kanjala-Lobito-Kanjala-Sumbe	
2	Existence of a clinical analysis laboratory (10)	No ambulance	Existence of transport for community administration	
3	Existence of a medical post in the community (7)	Inadequate health infrastructures	Vaccination campaigns against (measles, yellow fever and polio)	Proliferation of HIV/AIDS
4	Existence of 4 public nurses in the community (7)	Inadequate medication	Filling medication one time per month in the municipal health sector	
5	Easy access to the Kanjala Road (1)	No means of basic sanitation	Donations of medication and mosquito nets by United Nations	
6	Existence of traditional midwives and health promoters in the villages (1)	Lack of a general practitioner in the community		
7	Regular training of the nurses that work at the only medical post (4)	Over use of traditional medicine		
8	Massive adherence in the vaccination campaigns	Absence of maternal consultations		
9	Existence of small private first aid posts in the villages	Proliferation of cholera		
10	Existence of a police station that facilitates the evacuation of patients by way of the vehicles that pass in the road			
11	Existence of space to build a hospital			
12	The number of habitantes justifies the construction of a hospital			

Source: The Study Team

After identifying the strengths, the participants were advised to rank three strengths in order of importance in terms of development from first to third. By these means each participant freely selected three priorities of their choice, with the results as shown in the illustration above.

The results show that 10 participants considered the existence of a clinical laboratory to be the most important; seven participants respectively for the second and third places chose the existence of a medical post in the *Comuna* and the placement of four public nurses in the *Comuna*. The other strengths were the regular training of the nurses that work in the one and only medical post, selected by four participants, existence of medicinal plants, etc.

Presentation of Project Ideas

After raising the problems and SWOT, the participants presented a list of project ideas. Following the work methodology, the participants presented the project ideas from a cross-analysis of the problems and SWOT. However, this is not always possible for all of the sectors, owing to the participants' level of diversity. The health sector presented the following ideas for project ideas and their respective indicators:

Table 6-11 Project Ideas Presented by the Health Sector

No.	Project Ideas	No. of Votes	Indicators
1	Construction of a community Hospital	195	95% of the cuases are locally attended
2	Constructing a CATV in the community	183	50% of people get information about their immunological state, from voluntary testing
3	Rehabilitation of secondary roads	180	There is easy circulation for vehicles within the villages that facilitates the transport of patientes from the communities and/or municipalities
4	Acquisition of 3 ambulances	174	The rate of deaths decreased, owing to the easiness of patient transport to hospital units for better care
5	Construction of first aid posts in the villages	174	The hospital does not register inundations, because the first aid posts have the capacity to daily attend 15 people
6	Reforming traditional medicine (use of herbs)	165	The people are able to save 25% of their receipts owing to the use of herbal medications
7	Sensitizing programs against HIV/AIDS	158	70% of the population are informed about the means of transmission of HIV/AIDS and different ways of prevention

Source: The Study Team

The table above shows the project ideas and their respective indicators presented by the workshop participants. Considering the constraints and mainly the financial backers, the participants were requested to analyze each project idea using nine selected criteria, with a maximum score of 3 points, with a medium score being 2 points and 1 point being the lowest. The result of this exercise was prioritizing the project ideas according to the largest number of points (shown in red). The form in which they are presented in the picture follows the logical sequence.

(iv) Systems of Operation and Internal Organization

The success of any activity or plan does not only depend on the availability of sufficient financial and material resources, but also on the good organizational capacity and operation of its systems. We understand well that a system and its importance are reflected by the following questions:

- What will we do?
- When will we do it and why should we?
- Who will do it and how?
- What is necessary to conduct each activity?
- How can one activity influence another?

In this context, the participants analyzed a system operation of the *Comuna* Administration with activity implementation included in the plan. They analyzed these aspects deeply and arrived at the following understanding:

- The existing implementation of the development plan requires planning capacity and project execution for consistency in the following three aspects: (1) Rational use and efficiency of government funds, (2) establishment of partners for the acquisition of other funds, and (3) analytical capacity and not merely criticizing less-than-satisfactory results. This being so, the project team will establish a permanent consultation with the local partners and the civil society.

From this analysis, the participants presented some strong and weak points of the *Comuna* Administration system, as follows:

1. The Administrative officials' strong points
   - Predisposition to work under pressure and willingness to work overtime;
   - Efficient communication and good relationships;
   - Most of the administrative officials are native, and if not they have lived in Canjala for a long time, making it easier for them to assimilate with the local population;
   - The local officials demonstrate acceptable professional competence, even though the majority have had no specialized training.
   - The officials do what they must in spite of the inadequacy of systems.
2. Weak points of the Local Administration
   - Inadequate systems
   - Lack of operation of CDA representation
   - Weakness in following and transmitting instructions from the administration to the traditional authorities.
   - Lack of training for the administrative officials.
   - Overload of responsibilities for the officials due to lack of staff working for the administration.

After this analysis, the participants ended the workshop session by elaborating on the social life and *Comuna* organization and the benchmarks for the Canjala development plan were established.

6.2.3 Development Program of the Canjala *Comuna* (2009 - 2013)

(i) Objectives

The Study was carried out through workshops and previous participatory rural analyses. *Comuna* administrative officials and the Study Team consultants worked together in elaborating on the data acquired for the development plan of the Canjala *Comuna* for 2009-2013.

This section is very important because it pertains not only to the actions to be taken but also how community people, administration staff and supporting organizations should be involved.

General Objective

The aim is to restart the socioeconomic development process in Canjala *Comuna* after the civil war. This would also contribute to the achievement of the development goals of Lobito Municipality.

Specific Objectives

1. To expand and improve education services intended to bring children into the education system and to decrease the illiteracy rate in the *Comuna* gradually.
2. To expand and improve health services for the population.
3. To implement policies intended to accelerate crop and livestock production in the *Comuna*.
4. To establish functional administrative systems to guarantee the success of this plan’s

implementation.

Vision Definition

The local administration defined this goal for the *Comuna* in 2009-2013: “To establish basic socioeconomic infrastructures and a functional administrative organization to create pillars of communal development."

To achieve this goal, the *Comuna* administration produced the present plan under the process of administrative and financial decentralization. It began to collect data from three sectors: agriculture, education and health. After analyzing the data, the administration prepared a plan. The outline below shows the steps followed to implement this plan.

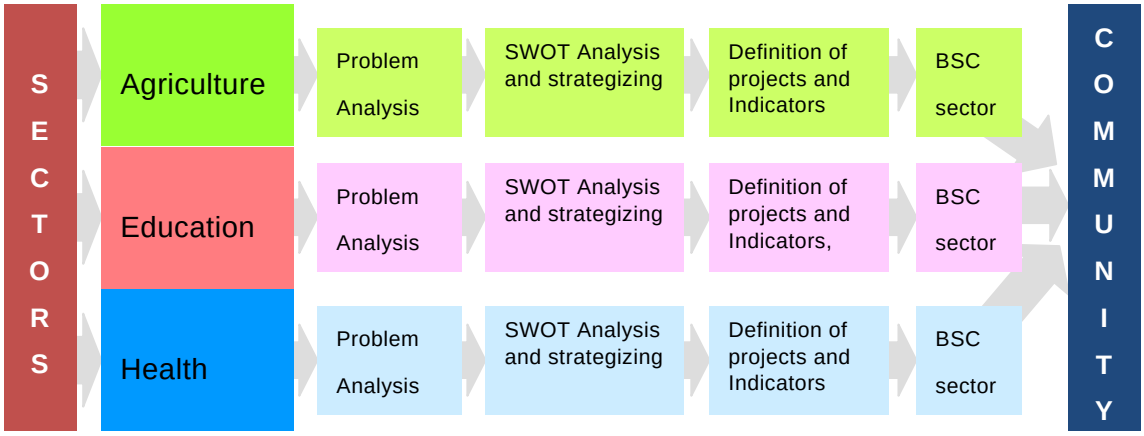


Figure 6-5 Steps to Reach the *Comuna* Plan

Through this process of participative planning, all the participants--not only the administrative officials in the *Comuna* office and commercial farmers, but also those responsible for organized farmers--familiarized themselves with the plan. The participants also increased their planning capacity, which is very important for its success, and will ensure sustainability.

(ii) Agricultural Sector

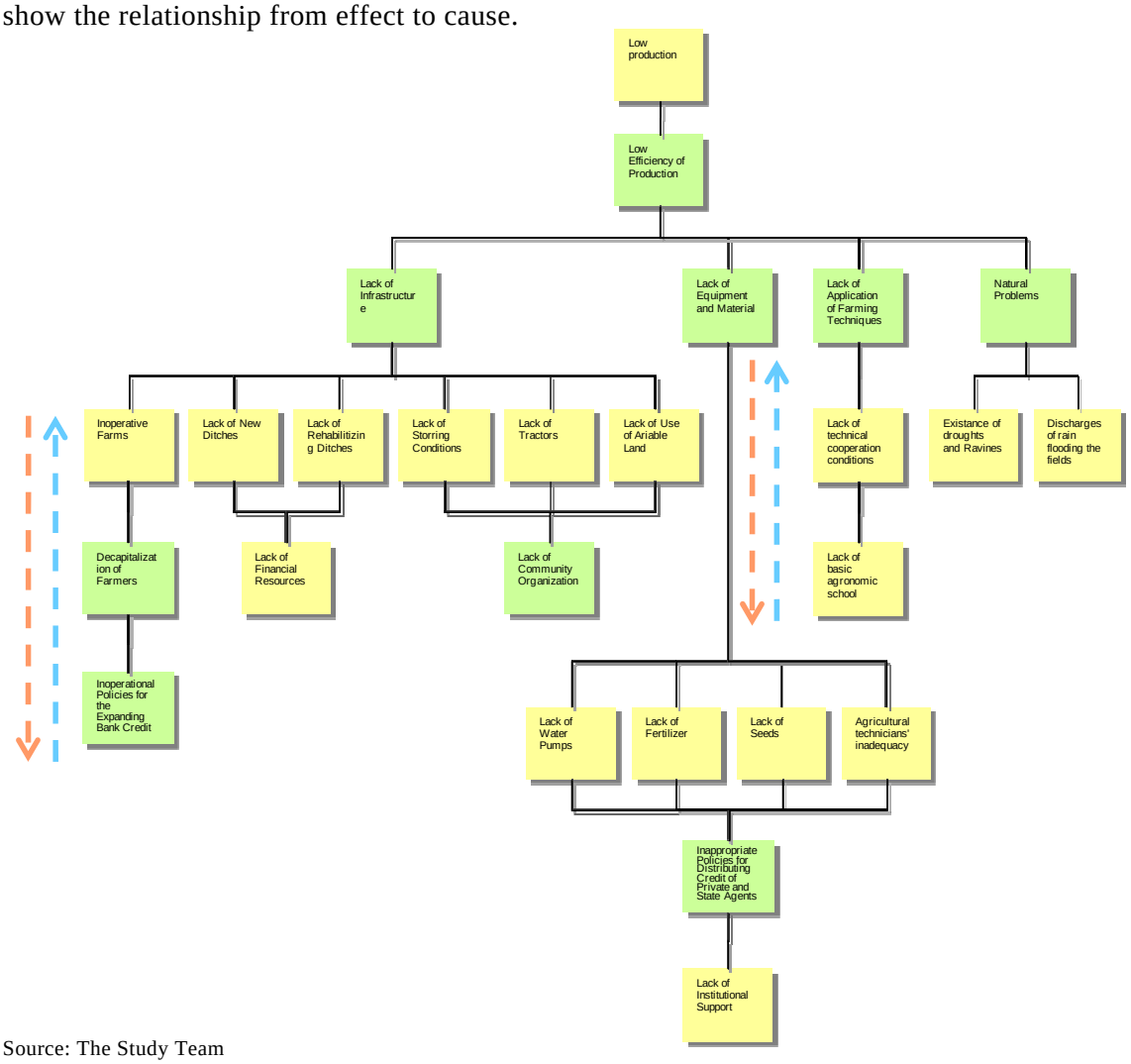
Problem Analysis

The previous section presented the problems raised by the workshop participants without any technical analysis (Figure 6-1). In subsequent sessions, the planning team analyzed these problems in terms of cause-and-effect and added some new posters that were considered necessary in the logical cause-effect flow. The final product of this analysis was a problem tree presented below, with posters of different colors: white, to illustrate the problems raised in the workshop; purple, indicating problems identified by the planning team, and green to indicate those identified by the Study Team. In the problem analysis, problems that were not shared by the whole *Comuna* but that were particular or personal problems were also included. These posters were colored brown.

The problem tree and its interweaving were a very useful tool for the planners: it offers a

general picture of how one problem influences another, making it easy and effective to identify its root causes. That makes it easy to form project proposals, to analyze the results more deeply, and to make the most of time and available resources.

The flow should be read vertically, from top to bottom, to check the connections. The arrows on the left, center and right demonstrate the understanding of the tree in two senses. The blue arrows pointing up show the flow from cause to effect, while the red arrows pointing down show the relationship from effect to cause.



Source: The Study Team

Figure 6-6 Problem Tree in the Agricultural Sector

The tree was formed with a base consisting of problems raised by the workshop participants during the first day (yellow posters) and during the second day in a restricted session (yellow posters). During the careful analysis of the cause-effect relationship by the planning team that collected and analyzed the information, they identified new outstanding problems using green posters.

Even the complex appearance of the tree is helpful in identifying the main problems. From the analytical point of view, there are four main problems arising from the core problem of low production.

1. Lack of adequate agricultural support infrastructure

   The climatic conditions of the Canjala *Comuna* vary greatly, with little or no precipitation. When this happens, the farmers take advantage of the Balombo River, which has a permanent flow. However, they struggle with problems because most of irrigation canals are not working. This reduces production. In addition, farmers are forced to cultivate small areas and they suffer from lack of financial resources with which to acquire agricultural inputs and the lack of micro-credit programs.

2. Farmers' difficulties in adopting new production techniques

   Their conservative attitudes are the main reason for the farmers' resistance to new farming technologies. The Study Team came face-to-face with this problem when implementing pilot projects such as soil improvement.

   Moreover, the difficulty can be attributed to the irregular visits by agricultural extension officers. This is due to the lack of work facilities, lodging and training facilities.

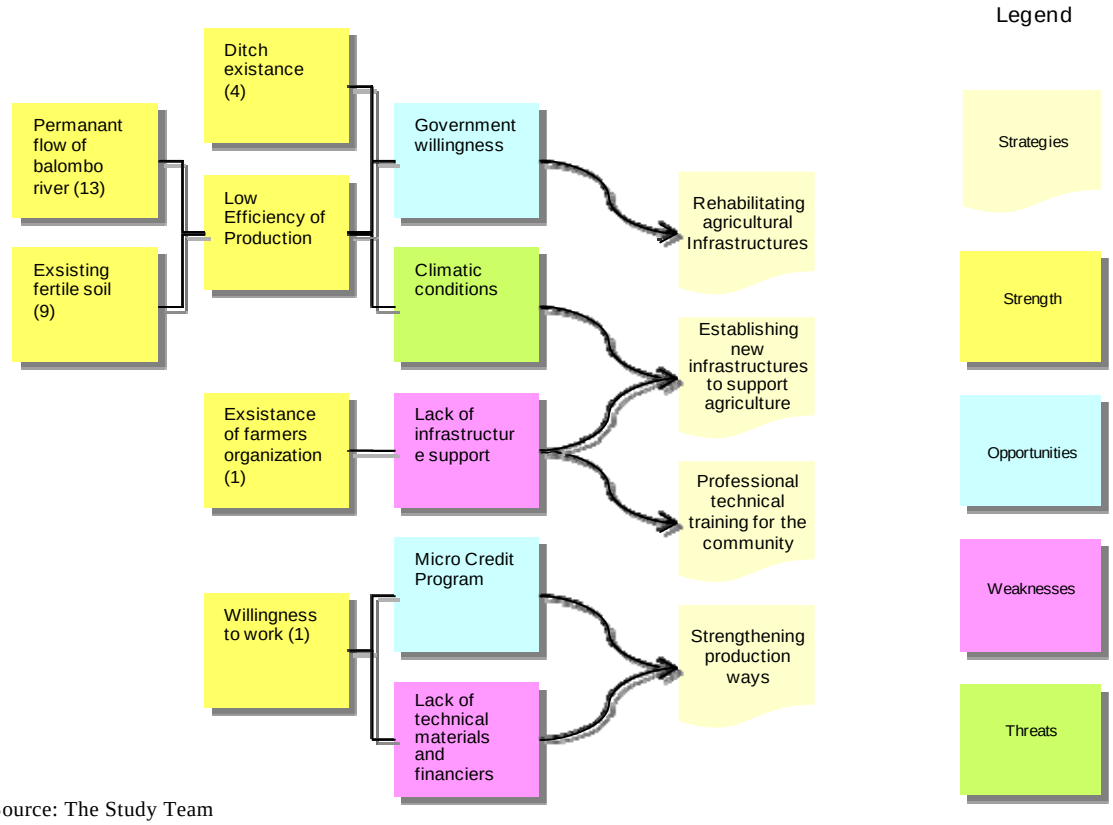
   Due to these irregular visits and resistance to new production technologies, the farmers don't learn how to conserve or select seeds for sowing at the proper times in the seasons, which directly contributes to low production.

3. Inadequate organization of farmers' movement

   Organizing farmers is extremely important in resolving problems that cannot be solved individually. For example, getting loans from banks or other institutions requires the existence of united groups with clearly defined objectives. The *Comuna* is inactive as a farmers' movement. A concrete example is the irrigation canal rehabilitation committee, which never played its part due to a lack of organization.

Cross-SWOT and Strategy Formation

In this section, the SWOT cross-analysis will be explained. This process made it possible to devise development strategies for this plan.



Source: The Study Team

Figure 6-7 Demonstration of Strategy Training in the Agricultural Sector

The illustration above demonstrates the SWOT cross-analysis. The planners combined the Strengths with other SWOT elements, and from this combination four strategies were defined.

The strategies can be formed by combining Strengths, which are colored yellow, with Weaknesses (pink), Opportunities (blue) and Threats (green).

For instance, irrigation canals as a strength, combined with the government's will to promote development of the rural communities (opportunity) or the presence of JICA in the *Comuna* (opportunity), provide a chance to define a strategy for the rehabilitation of agricultural infrastructure.

To solve the problems raised in the agricultural sector, the planners identified the following strategies that would enable the sector to contribute to the development of the *Comuna*:

1. Rehabilitate agricultural infrastructure
2. Establish or build new infrastructure for agricultural support
3. Enhance the agricultural technical level of farmers and extension officers
4. Strengthen the means of production

Given that rivers with a steady current was selected with 13 points in the vote for the most important strength, it would seem that the strategy for rehabilitating agricultural infrastructures is the most important from the planners' point of view.

Project Definition, Priorities, Indicators and Activities

As in Angola, not only farmers but also local administrative officers lack experience in planning, and it was difficult for those workshop participants to form strategies from SWOT analysis. This process is abstract. Instead, it was more practical to devise project ideas directly from SWOT.

Later, the planning team devised strategies based on SWOT, as described in the previous sections, and analyzed those project ideas, asking the following question: For strategy number 1, for example, which project ideas can develop into concrete activities to implement the strategy most effectively and efficiently?

The Study Team carefully reviewed project ideas raised in the workshop in terms of priority, the numerical targets and the objective, and also considered the logical relationships with the strategies. Finally, they drew the Balanced Scorecard for the agricultural sector as presented below.

Sectors	Development Strategies and their Relationships	Project to carry out the strategy	Target Village	Year 1	2	3	4	5	Results	Indicators	Activities
Agriculture	Building agricultural infrastructures	Building the CDA (120)	To be designated by comuna administrators						A CDA building finished	Until the end of the 1st year CDA Staff has a place to work	Contract construction businesses to complete the work
		Technical study of the bank of the Balombo river for the construction of a							Acquired data for the mini-dam	Until the end of 2013 the project for constructing the mini-dam be	Contract consulting services specialized in implementing studies
		Building new ditchs							Ditches built between cuvelo and cacula	Until the end of 2013, 15km of ditch be built and (700) hactares irrigated	Contract specialized businesses in executing construction work
	Strengthening the means of agricultural production	Acquisition of domestic livestock(166)							Increase of agricultural production	At the end of every year 0 joints be acquired for the high zone meaning	Research and buy domestic livestock
		Aquisition of work instruments (131)							Agricultural work instrumentos acquired and distributed to the	At the end of each year (5 thousand) farmers receive agricultural insums	Research and buy work instruments
		Aquistion and distribution of water pumps for the cooperatives (100)							50 waterpumps acquired and distributed by credit	Each year (10)water pumps acquired and given to the cooperatives	Research and buy water pumps
	Technical - professional training / Rehabilitating existent agricultural infrastrutures	Rehabilitating the ditches (130)							200 km of ditches rehabilitated at the communal level	Each year 40 km rehabilitated and agricultural activity reactived by 60%	Define criteria with the community and base organized groups for
		Capacitating agricultural assosication and cooperative leaders							Capacitated leaders in agro-management	Until 2013 the cooperatives and associations have management	Promote capacitating sessions

Source: The Study Team

Figure 6-8 BSC in the Agricultural Sector

This BSC provides a visual representation of all information relating to the development of the agricultural sector**.** The strategy map shows the interrelationships and the synergic effect.

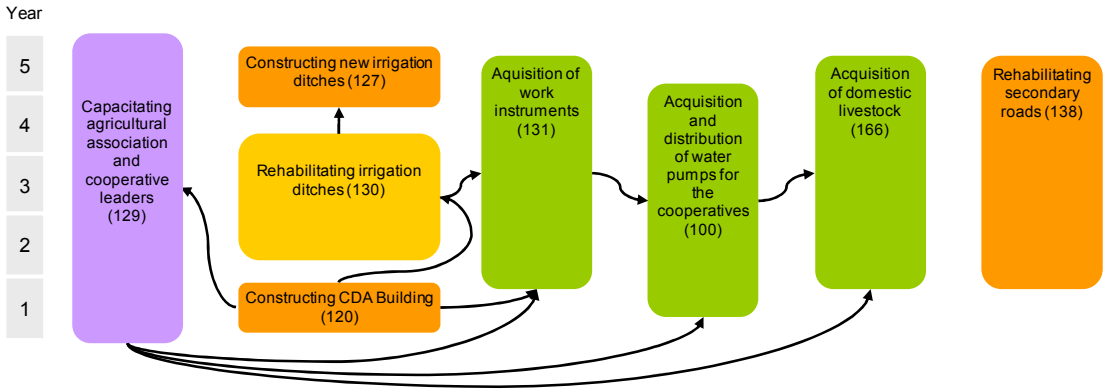
For the implementation of each strategy, possible projects were defined by the results, specific and feasible numerical targets, and the main activities.

In the same way, the beginning and end of each project over a five-year period were determined based on logic and the influence that they would have on each other.

With this BSC, any manager or responsible personnel can visualize the goals of the program and the way in which the strategies influence each other. They can control and drive the activities for the objectives as well as carry out monitoring.

Diagram of the Projects' Influence in the Agricultural Sector

In addition to the established priority for the projects in the agricultural sector in terms of necessity, the planning team should also pay attention to the logical relationship and the influence that each project has on each other to maximize the available resources.



Source: The Study Team

Figure 6-9 Diagram of the Influence in the Projects in the Agricultural Sector

Beginning with this illustration, we can understand the following.

The training of agricultural associations and cooperatives leaders that begins in the first year is influential in the acquisition of agricultural work instruments, the acquisition and distribution of water pumps to the cooperatives, and the acquisition of domestic cattle. Without capacity and organization, the projects tied to the acquisitions cannot be successful. After gaining capacity, farmers should acquire the goods gradually. This relationship is described succinctly in the figure above.

The construction of the Agricultural Development Center (ADC) with a storage place (to be done in the first year) is essential because it influences the implementation of other projects to store materials The construction of ADC also influences the leaders' training (by providing a training room), as well as irrigation canal rehabilitation because the persons responsible for ADC will be involved in every step of the construction.

The irrigation canal rehabilitation helps to determine the potential for other projects because once irrigation is rehabilitated, available crop field increase dramatically, which requires additional inputs.

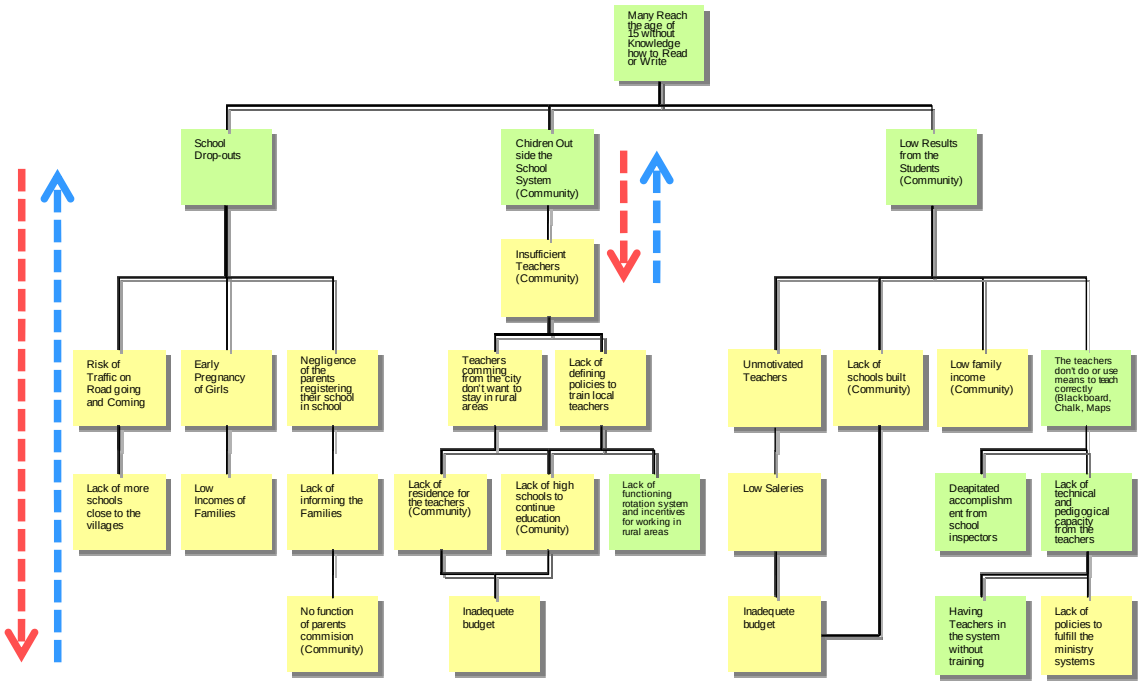
(iii) Education Sector

Problem Analysis

This analysis was performed in the same way in the education sector as it was in the agricultural sector for the problem analysis process.

The planning team fit the problems into a cause-effect relationship tree. In the analysis process, new problems were identified. It is not always possible to establish the cause-effect relationship logically when the problem tree is devised. It would not be relevant if only the first posters were included. Rather, the necessary posters should be created and added based on deeper consideration of the logical analysis of a problem tree.

It is easy to interpret when it is read vertically, from the bottom down and from top to bottom. The arrows on the left, center and right demonstrate the two directions for reading. The ascending blue arrows indicate the cause-effect relationship while the descending red arrows indicate the effect-cause relationship.



Source: The Study Team

Figure 6-10 Problem Tree in the Education Sector

This tree was built from the base of the problems raised in the workshop session, when they were put on yellow posters. In the sequence of the cause-effect relationship analysis, new problems appeared on green posters.

The problems were divided into three categories, each one of them headed by a main problem

which came from the core problem, namely many 15-year-old children don't know how to read or write. They identified three causes of this problem that also contribute to the main problems.

- School Dropouts
  The school dropout rate is high because the children are at great risk of being run over on the main road Luanda-Benguela with the cars passing at high-speed. This being so, the parents discourage their children from going to school. The girls in rural areas get married and become pregnant very early, resulting in dropouts. Also parents do not motivate their children to go to school as they want their help in the fields.
- Children outside of the normal teaching system
  Distinct from the reasons presented above, children are still outside of the education system because of the inadequacy of classrooms. The number of teachers is inadequate. In addition, the teachers are not from rural areas and the local social conditions there are not ideal, resulting in high absentee rate.
- Low academic achievement
  Even students who have graduated from school demonstrate poor academic achievement because of teachers' poor teaching skills, as well as low family income that makes school materials such as textbooks and notebooks unaffordable.

This problem analysis identifies and visualizes the main problems affecting the education sector. From this objective analysis, solutions can be proposed as follows:

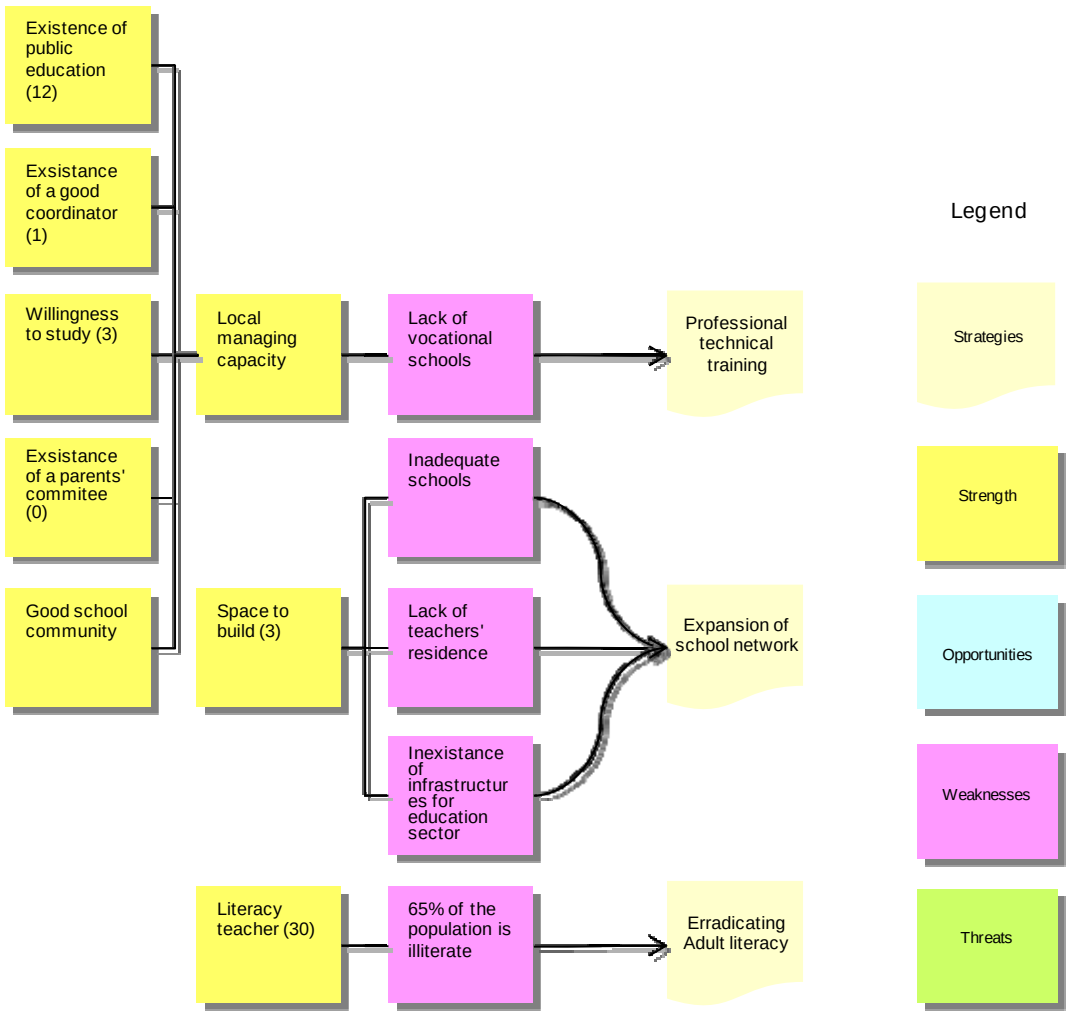
1. Motivate parents to strengthen their relationship with the school so that they have a better understanding of the situation at schools. The creation of functional parents' and caregivers' commissions is another measure that could resolve the problems linked to the first category.
2. Construction of more schools (with teachers' houses) under the policies of educational reform, as well as a study of the feasibility of starting distance learning for rural areas and the operation of a teacher rotation system in the rural areas.
3. Motivate the development of local initiatives for school snacks in every community, create incentive policies for the teachers that work in the rural areas, begin periodical pedagogic training for teachers.

Other solutions for the analyzed problems will be found in BSC.

Cross Analysis of SWOT Strategy Formation

After concluding the problem analysis with the problem tree, the planning team began the cross analysis of SWOT. Posters were identified by the workshop participants. Through an analysis of the combinations of the Strengths, Opportunities, Weaknesses and Threats, the team formed strategies for the education sector in this development plan for 2009-2013.

The following Figure demonstrates the combinations for the strategies formed for this sector:



Source: The Study Team

Figure 6-11 Demonstration of the Strategy Formulation in the Education Sector

The participants combined the SWOT elements--in this case the Strengths (in yellow) and the Weaknesses (in rose color)--to define strategies. An example is the combination of 30 literacy workers (strength) to reduce the population's illiteracy rate by 65% (weakness).

The cross-analysis of SWOT identified in the workshop resulted in the development of three strategies for the sector:

1. Work on professional-technical training for teachers
2. Expand school access through construction of schools
3. Eradicate adult illiteracy.

Considering that most voted for the implementation of public education in the *Comuna* as the most important strength (with 12 votes), the strategy of professional-technical training is considered to be the most important from the participants' point of view.

Definition of Projects, Priorities, Indicators and Activities

Based on established strategies and given priorities of the project ideas presented in the workshop, realistic projects were selected with their execution time, expected results,

indicators and main activities.

All of this information was introduced in BSC (see Figure in the following page) so that the development program can be visualized in totality.

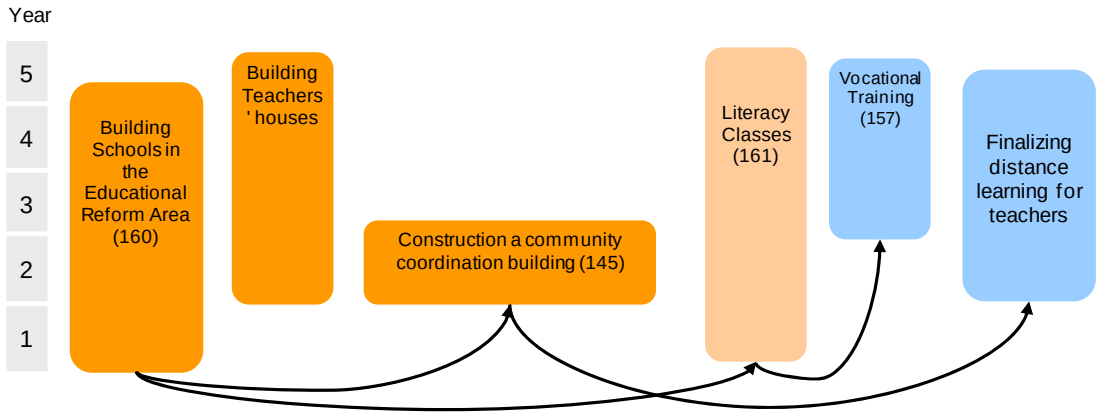
Sectors	Development Strategies and their Relationships	Project to carry out the strategy	Target Village	Year					Results	Indicators	Activities
				1	2	3	4	5			
Education	Expand the school network Erradicate adult illiteracy Professional and technical training	Construct schols in the educational reform system	To be designated by *comuna* administrators						6-room schools built	At the end of each year 2 sixroom schools be built	Contract construction companies
		Construct teachers' houses							teachers' residences built	By the end of each year 2 teachers' houses be built	Contract construction companies
		Construct a community coordination building							Building constructed	By the end of the second year the staff have an infromation office	Contract construction companies
		Literacy classes							Literacy classes underway	By 2013 (10500) people can read and write	Contract social partners to increase the process
		Vocational training							A vocational school built	By the end of the 5 years (5) teachnical-professional courses be	Construct and equip the school
		Strengthen distance learning for the teachers							teachers' training done	By the end of 2013 the teachers have quality in their classes	Make an agreement with education

Source: The Study Team

Figure 6-12 Balanced Scorecard in the Education Sector

Diagram of Projects' Influence on Education Sector

The priorities during the five years will be explained in detail to better utilize available resources (human, material, financial and time), given the influence of one project on another.



Source: The Study Team

Figure 6-13 Diagram of Projects' Influences in the Education Sector

The illustration above provides an understanding of the positive influences. Some projects are prerequisites of other projects in logical or sequential context.

- Constructing schools in accordance with the guidelines presented in the governmental education reform program influences the construction of the education coordination office in the *Comuna*. The expansion of access to the school will require that a coordination center be established for better control over the activities. Many schools let the office hire new employees in the coordination office, which requires more office space.
- The construction of schools will also influence literacy classes as it will provide spaces for these classes. The night literacy classes will take advantage of the spaces.
- The construction of the *Comuna* education coordination office influences the start of distance learning because the office will have an information room with internet access.
- Finally, the literacy classes influence vocational training. Once the people learn how to read and write, they can take professional courses to improve their skills.

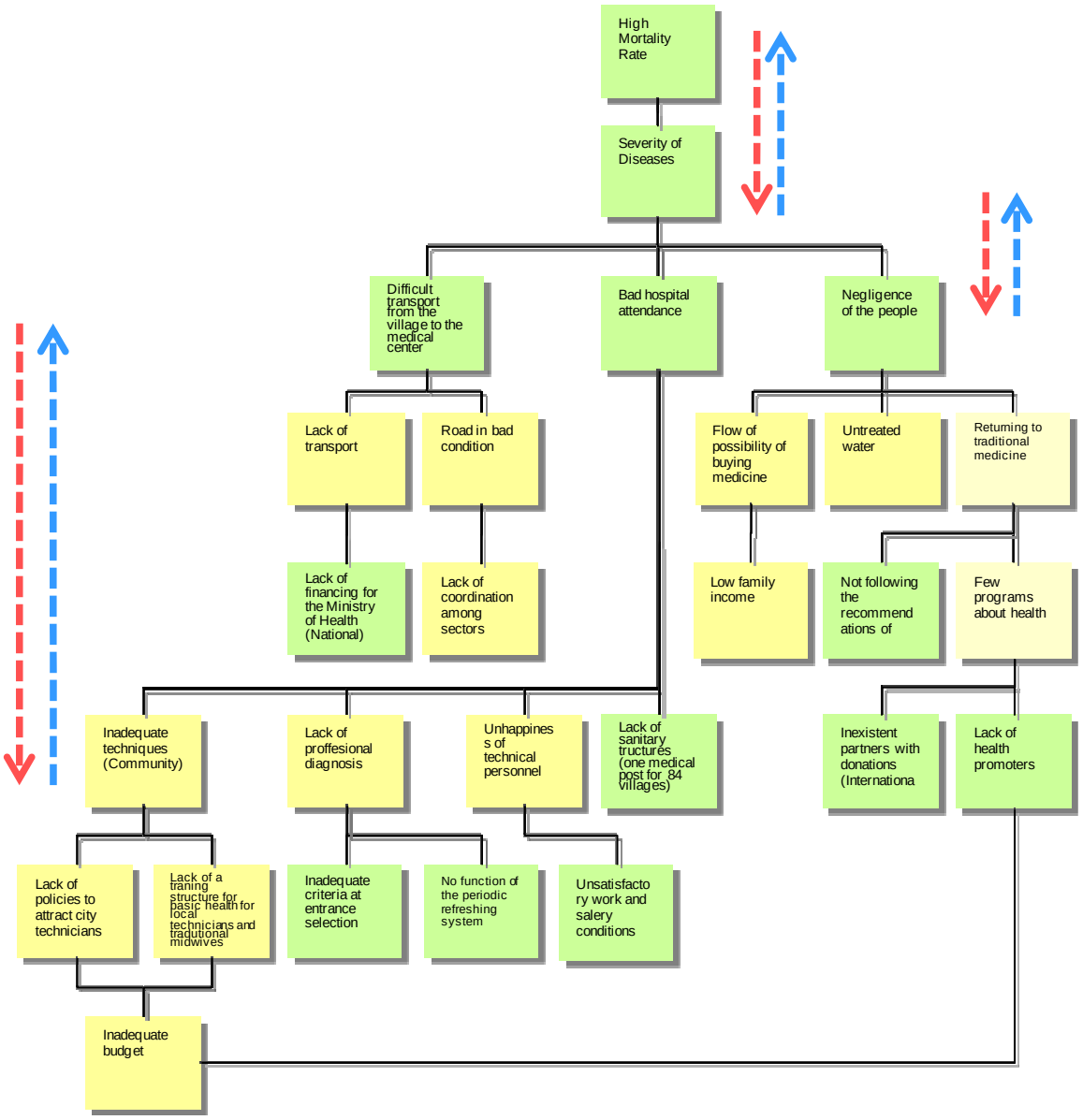
(iv) Health Sector

Problem Analysis

The yellow posters show the problems which were identified by the participants of the workshop (see Figure 6-14). In addition, the planning team identified new problems during the analysis and put the interconnections (green posters).

The problem tree should be read vertically, from the bottom down and from top to

bottom. The arrows on the left, center and right demonstrate the reading directions. The ascending blue arrows indicate the cause-effect relationship while the descending red arrow indicates the effect-cause relationship.



Source: The Study Team

Figure 6-14 Problem Tree in the Health Sector

The logical interconnections between the problems were classified into three categories, each one of them headed by a main problem which derives from the core problem, the high mortality rate. Its main cause is aggravation of sickness. Analysis of this resulted in three main causes, explained below.

- Difficulties of Transportation from the villages to Medical center in the *Comuna* network

The lack of access to secondary and tertiary roads at the *Comuna* level hinders the transportation of patients. Although patients could be transported on motorbikes in some areas, by the time a patient arrives at the medical center they already have an advanced illness.

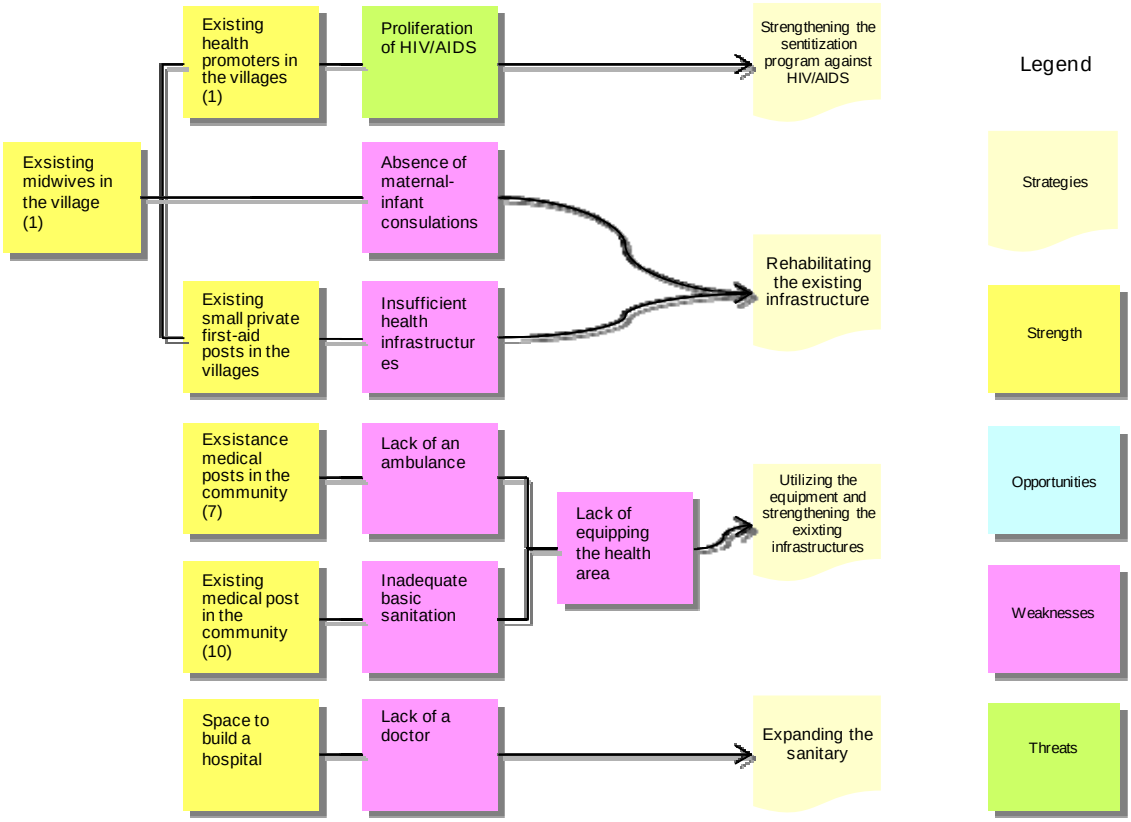
- Poor Quality of hospital service
  Other problems are inadequate technicians, poor professional ethics, and the unhappiness of the technical personnel. As a result, when the patients arrive at the hospital they are badly attended. This bad attendance has been the main reason that the people resist medical care and rely instead on self-medication and traditional medicine.
- Negligence of the people
  Many patients fail to seek health services. Some cannot afford to pay the medical costs, and others do not take advantage of health care services because of traditional beliefs.

The possible solutions were analyzed for the sector that was framed in the BSC.

The rehabilitation of the secondary and tertiary roads involves an inter-sector combination (health and public works) with the acquisition of means of transport, the improvement of the technicians' working conditions and the continuous education of the people.

SWOT Cross Analysis Formulation

Concluding the problem analysis with the construction of the tree, the workshop participants then identified the SWOT cross-analysis. The analysis consisted of the combination of the Strengths, Weaknesses, Opportunities and Threats. The combination of these leads the way to form the health sectors’ strategies for the 2009-2013 development plan.



Source: The Study Team

Figure 6-15 Demonstration of the Strategy Formulation in the Health Sector

Strategies were developed from the combination of Strengths (yellow posters), Opportunities (blue), Weaknesses (purple) and Threats (green). The combination of the identified strengths in the sector, together with threats and weaknesses, led to the development four strategies that will significantly and positively contribute to the sector and achieve the *Comuna*'s goals.

For instance, the strength of the availability of traditional midwives and traditional health promoters in the villages, with the threat of the proliferation of HIV/AIDS, leads to the invigoration of the sensitization program against HIV/AIDS.

The following strategies should be implemented to resolve the problems raised by the health sector and due to their strong and weak points.

1. Invigoration of the sensitization program on HIV/AIDS;
2. Rehabilitation of existing sanitary infrastructure;
3. Supply of equipment and upgrades of existing infrastructure; and
4. Expansion of the sanitary network.

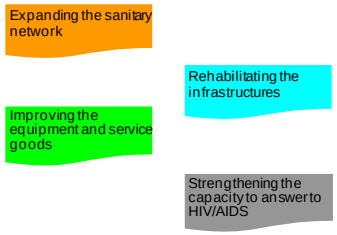
In voting for the most important Strength among all the others, the workshop participants voted for the existence of a clinical laboratory as the most important, with 10 votes. In this sense, the strategy of supplying equipment and upgrading existing infrastructures combined with the existence of a clinical laboratory is also

considered the most important.

Definition of Projects, Priorities, Indicators and Activities

Concrete activities are necessary to implement the strategies. The Team checked the logical relationship between the four strategies and many projects ideas that had been presented by the workshop participants, project priorities, objectives and the numerical goals.

All of this information was introduced in the BSC (see Figure 6-15 on following page) so that the development program can be visualized in its totality.

Sectors	Development Strategies and their Relationships	Project to carry out the strategy	Target Village	Year					Results	Indicators	Activities
				1	2	3	4	5			
Health		Constructing 3 medical posts in 3 zones (172)	Kaenda, Santa e Lonjombe						3 medical posts built in 3 zones	By the end of 2013, 20% of people receive medical assistance within their villages	Construction
		Constructing a community medical center (195)	To be designated by *comuna* administrators						A medical center built within the community networkmunal	Until the end of the 2nd year evacuation cases will be low to 20%	Construction
		Rehabilitating the secondary roads (165)							Easiness to transport construction materials and patients	At the end of each year 30 km will be rehabilitated and till 2013 150 km will be done	Contact a grading company and do the grading
		Aquiring an (1) ambulance (174)							Equipped ambulance aquired	In the first year of fifth, 240 greater sicks will be evacuated to Hospitals of Lobito	Send for and buy an ambulance
		Improving potable water							A centre for collecting and treating water installed	By the end of the fifth sickness provoked by no drinkable water will be reduced to 30%	Mounting work for a potable water system
		Installing a CATV (183)							A clinical laboratory for STDs instlaled in the medical center	By the end of 2013, 50% of active people will look for STD tests	Aquire the laboratory equipment and begin voluntary testing
		Sensitisation program against HIV/AIDS (158)							Sensitisation program against STDs underway	By the end of 2013 90% of active people understand the means of transmission of STD/HIV/AIDS	Train the activists

Source: The Study Team

Figure 6-16 Forming the Balanced Scorecard in the Health Sector

The BSC contains and visualizes all of the information relating to the development of the health sector**.** The BSC presents the interrelationships and the synergistic effect. One strategy influences others.

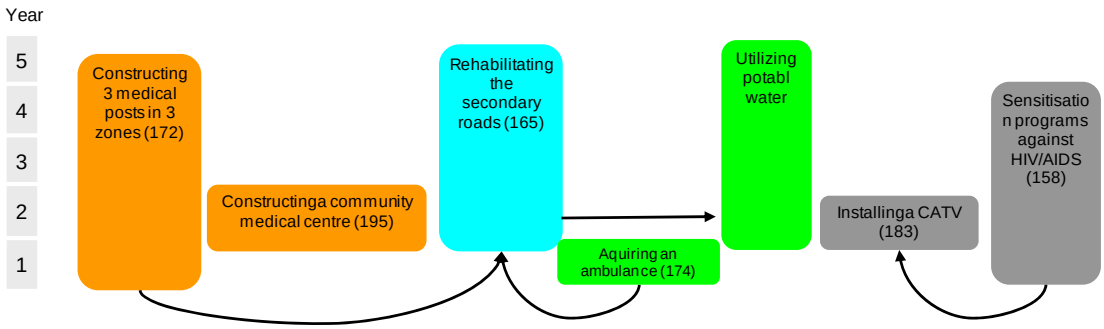
In implementing each strategy, each possible project was defined by results, specific and feasible indicators, and main activities.

In the same way, the beginning and end of each project along the five years were determined based on logic and the influence that each one can have on another.

With this map, any manager or responsible personnel can visualize the goals and direction of the program and the influences inside the system, implement the activities for the goals, and do monitor the activities.

Diagram of Project Influence in the Health Sector

The health sector's projects were also analyzed for their relationships. They influence one another in the way that they are interconnected, thus helping to achieve that the vision defined in this plan.



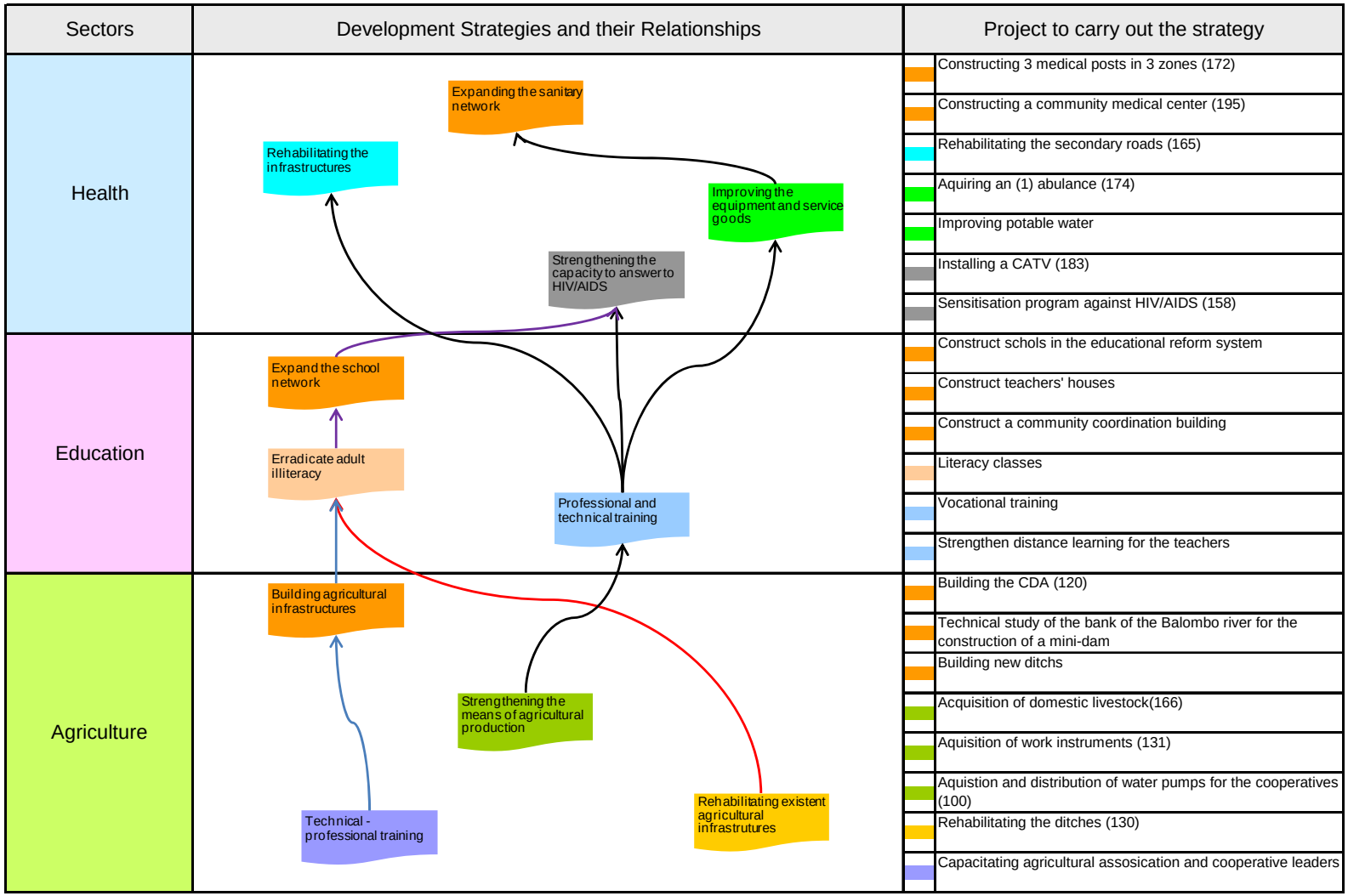
Source: The Study Team

Figure 6-17 Diagram of Influences in the Health Sector

The relationships demonstrated by the arrows above can be explained as follows:

- In the first year, three health posts will be constructed in three communities in remote areas, and an ambulance will be acquired. These activities will be influenced by the rehabilitation of roads in terms of transportation of materials and patients. As it is necessary for remote areas to begin with road construction, construction of the health posts should start in an accessible area in the first year.
- Rehabilitation of secondary roads in the second year will influence the program to supply drinking water through cistern cars.
- The sensitization program on HIV/AIDS will influence the installation or construction of one Voluntary Testing and Analysis Centre (CATV) because after the people understand the need to know their HIV/AIDS status, they will voluntarily take the tests.

(v) Presentation and Explanation of the Diagram Strategy Influence



Source: The Study Team

Figure 6-18 Strategy Influence in the Agriculture, Education and Health Sectors

The figure above explains the influences among several strategies for the three sectores. This analysis is extremely important because it offers a vision of the synergistic effect for the executioner of the plan determining the starting point, how their actions should be included in the three sectors and how to maximize and streamline the budget contributing to the goal of the established vision.

This diagram presents a logical relationship in terms of the effective execution time for the projects. The arrows demonstrate the existence of relationships and positive influences among the different strategies.

This demonstrates the way in which this synergistic effect works. The strategy of technical-training for the agricultural sector influences the strategy for the rehabilitation of infrastructures in the same sector (red arrow). Well-trained farmers and extension officers can estimate projects time and budgets for agricultural infrastructure rehabilitation.

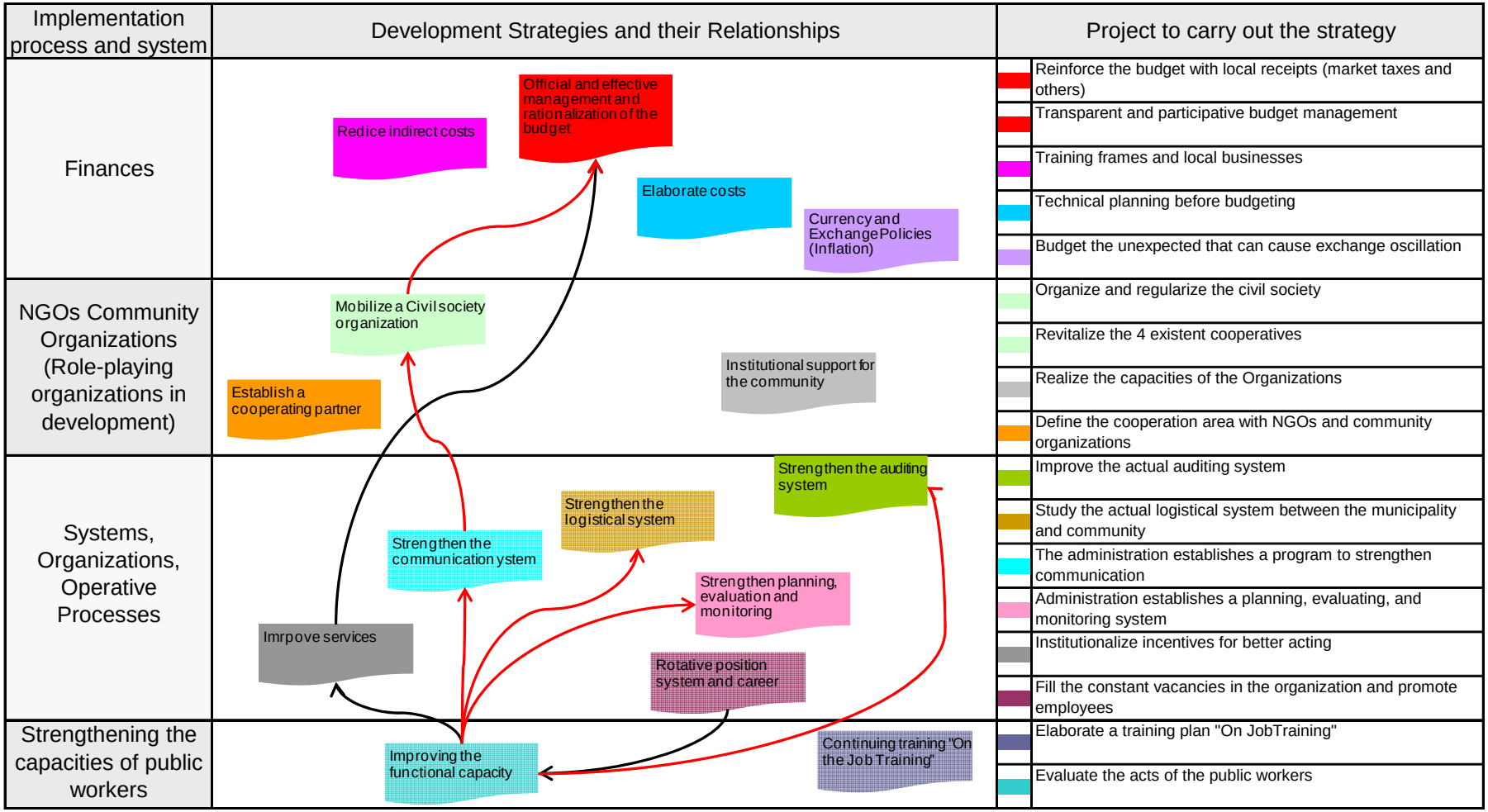
The rehabilitation of agricultural infrastructure relates to and influences the strategy to eradicate adult illiteracy. When the irrigation canals and other agricultural tools are rehabilitated, farmers will no longer need to go to distant high areas where they spend a lot of time engaged in dry agriculture, but instead will start to cultivate close to their villages. They can spend this extra time learning how to read and write (red arrow).

The strategy to eradicate adult illiteracy relates to the strategy to expand the school network of the same sector because when the people learn how to read and write, they will be more motivated to continue their studies, which will lead to the expansion of the school network. This would not only include more children outside of the normal school system, but would also encourage literate adults to continue learning (purple arrow).

The strategy to expand the school network links influences the capacity to address the issue of HIV/AIDS because well-instructed people are easier to educate. They can read materials on HIV/AIDS by themselves and change their behavior.

These strategies defined the projects to achieve the vision of this plan. The details of the projects above (Figure 6-18) contain the Project Design Matrix (see Figure 6-20), known in other planning methodologies as the Logical Framework.

(vi) Presentation and Explanation of the System Influence Diagram



Source: The Study Team

Figure 6-19 System Influence of the Strategies

The strategies and projects from Figure 6-19 can be well structured and well financed, but if the operation systems are weak, they cannot produce for the anticipated results.

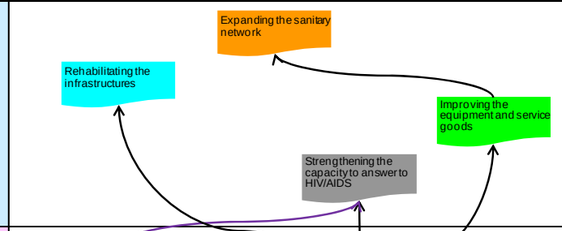
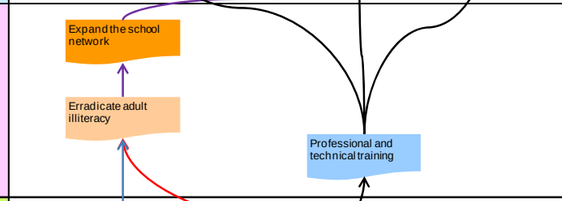
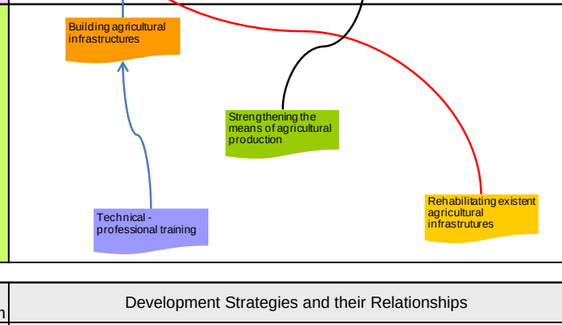
That is why the planning team paid more attention on the operation systems. The Figure above presents the strategies for those aspects of the systems related to project execution.

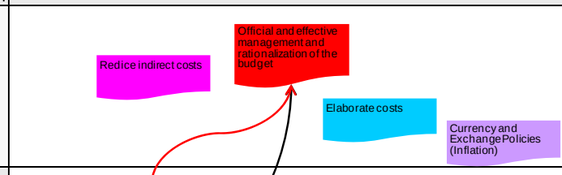
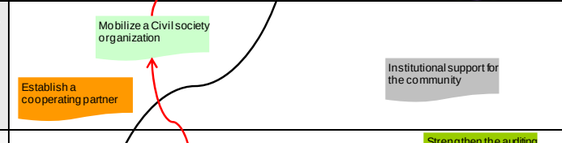
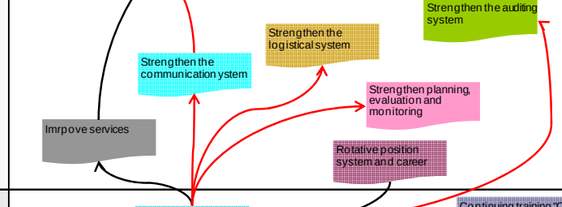
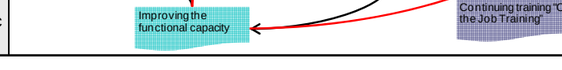
The relationship of influences to their strategies can be explained by those highlighted with black arrows to understand several of the influencing relationships (see illustration above).

- The strategies, “system of position rotation and career promotion” and “continuous On-the-Job-Training”, contribute to capacity building of the relevant personnel. With the improvement in capacity, the services provided will improve and this strategy will influence the efficient and effective management of the budget and time.
- The strategy to improve the functional capacity will influence the invigoration of the communications system because some training will influence the creation of visual systems of communication in the articulation of the information. The strategy to improve functional capacity also influences the improvement of the logistical system because through the trainings the employees will learn how to organize the logistical conditions better and how to organize the accounting and filing of documents better. It also influences the improvement of the planning, monitoring and evaluating system. The employees will develop concrete and feasible plans. Finally, it also influences the auditing system because the employees will learn techniques on supervising the projects with a view to utilizing the available resources.
- The strengthening of the communication system will influence the mobilization strategy for the organization of the civil association. Once the employees have mobilization techniques to manage conflicts, etc., the mobilization strategy for the organization of the civil association will contribute to the administration strategy and the effective and efficient rationalization of the budget because the people will participate in the development process and their force will help in reducing the indirect expenses
- The strategy to strengthen planning, monitoring and evaluation will influence the administration and efficient and effective rationalization of the budget because the employees can start to devise realistic plans, monitor use of the tools that help them to measure the results and evaluate the progress of the project.

Therefore, it is necessary to create or to strengthen the implementation systems to implement any plan because without them no project will succeed.

(vii) Presentation and Explanation of General BSC

Sectors	Development Strategies and their Relationships	Project to carry out the strategy	Target Village	Year 1	2	3	4	5	Results	Indicators	Activities
Health		Constructing 3 medical posts in 3 zones (172)	Kaenda, Santa e Lonjombe						3 medical posts built in 3 zones	By the end of 2013, 20% of people receive medical assistance within their villages	Construction
		Constructing a community medical center (195)	To be designated by *comuna* administrators						A medical center built within the community networkmunal	Until the end of the 2nd year evacuation cases will be low to 20%	Construction
		Rehabilitating the secondary roads (165)							Easiness to transport construction materials and patients	At the end of each year 30 km will be rehabilitated and till 2013 150 km will be done	Contact a grading company and do the grading
		Aquiring an (1) abulance (174)							Equipped ambulance aquired	In the first year of fifth, 240 greater sicks will be evacuated to Hospitals of Lobito	Send for and buy an ambulance
		Improving potable water							A centre for collecting and treating water installed	By the end of the fifth sickness provoked by no drinkable water will be reduced to 30%	Mounting work for a potable water system
		Installing a CATV (183)							A clinical laboratory for STDs instlaled in the medical center	By the end of 2013, 50% of active people will look for STD tests	Aquire the laboratory equipment and begin voluntary testing
		Sensitisation program against HIV/AIDS (158)							Sensitisation program against STDs underway	By the end of 2013 90% of active people understand the means of transmission of STD/HIV/AIDS	Train the activists
Education		Construct schols in the educational reform system	To be designated by *comuna* administrators						6-room schools built	At the end of each year 2 sixroom schools be built	Contract construction companies
		Construct teachers' houses							teachers' residences built	By the end of each year 2 teachers' houses be built	Contract construction companies
		Construct a community coordination building							Building constructed	By the end of the second year the staff have an infromation office	Contract construction companies
		Literacy classes							Literacy classes underway	By 2013 (10500) people can read and write	Contract social partners to increase the process
		Vocational training							A vocational school built	By the end of the 5 years (5) teachnical-professional courses be administered in the community	Construct and equip the school
		Strengthen distance learning for the teachers							teachers' training done	By the end of 2013 the teachers have quality in their classes	Make an agreement with education
Agriculture		Building the CDA (120)	To be designated by comuna administrators						A CDA building finished	Until the end of the 1st year CDA Staff has a place to work	Contract construction businesses to complete the work
		Technical study of the bank of the Balombo river for the construction of a mini-dam							Acquired data for the mini-dam	Until the end of 2013 the project for constructing the mini-dam be elaborated	Contract consulting services specialized in implementing studies
		Building new ditchs							Ditches built between cuvelo and cacula	Until the end of 2013, 15km of ditch be built and (700) hactares irrigated	Contract specialized businesses in executing construction work
		Acquisition of domestic livestock(166)							Increase of agricultural production	At the end of every year 0 joints be acquired for the high zone meaning 200 for 2013	Research and buy domestic livestock
		Aquisition of work instruments (131)							Agricultural work instrumentos acquired and distributed to the cooperatives	At the end of each year (5 thousand) farmers receive agricultural insums	Research and buy work instruments
		Aquistion and distribution of water pumps for the cooperatives (100)							50 waterpumps acquired and distributed by credit	Each year (10)water pumps acquired and given to the cooperatives	Research and buy water pumps
		Rehabilitating the ditches (130)							200 km of ditches rehabilitated at the communal level	Each year 40 km rehabilitated and agricultural activity reactived by 60% until 2013	Define criteria with the community and base organized groups for construction work
		Capacitating agricultural assosication and cooperative leaders							Capacitated leaders in agro-management	Until 2013 the cooperatives and associations have management capacity	Promote capacitating sessions

Implementation process and system	Development Strategies and their Relationships	Project to carry out the strategy	Person Responsible	Year 1	2	3	4	5	Results	Indicators	Activities
Finances		Reinforce the budget with local receipts (market taxes and others)	To be designated						Local bills are within the budget	Annuanlly, 1% of the community budget is made up by local receipts	Tax payments and creating a local registration system
		Transparent and participative budget management							The budget flux is dominated by all workers	50% of financial decisions are commonly made in the 1st year	Balancing the accounts at the end of each month
		Training frames and local businesses							75% of frames and businesses involved in projects are local	By the end of 5 years waste little with indirect activities and regularly comply with the due-dates	Written orientation for interpreters promoting local work forces
		Technical planning before budgeting							For each project a pre-plan of studies is done	After 5 years the projects present better quality due to the pre-study realized	
		Budget the unexpected that can cause exchange oscillation							The projects are completed without major financial differences	At the end of each year the work is finished without any financial problems	
NGOs Community Organizations (Role-playing organizations in development)		Organize and regularize the civil society	To be designated						The society takes an active role in the community development	At the end of 5 years, 5 community organizations are formed and regularize their function	Find community workers to explain the neccesity for organization
		Revitalize the 4 existent cooperatives							The local government counts on the 4 cooperatives for their actions directed at	The 4 already exiting cooperatives become dynamic and turn in to partners of the administration	CDA meets monthly with the 4 nucleus' to plan the financing strategies
		Realize the capacities of the Organizations							The OBC support the administration implementing the plans	The forum participates in making decisions and solutions for important points in the community	Capacitating in: Participative planning, project management, assosciating and cooperating
		Define the cooperation area with NGOs and community organizations							The governemnt establishes areas for cooperation with the civil society	All existing organizations are engaged in development activities	Making the population census for the Kanjala community
Systems, Organizations, Operative Processes		Improve the actual auditing system	To be designated						The planned projects are are executed in the time alotted and budgets established	The quality of work and budget management is improved year by year	train (10) auditors and the means for their work
		Study the actual logistical system between the municipality and community							An ideal logistical system defined for the community	The bureucracy is decreased by 10% each year and the work efficiency is increased by 7% each year	Make a manual for accounting processes, opening bank accounts, creating local systems to guard money (safes)
		The administration establishes a program to strengthen communication							Within the administration cycle the communications system turns out to be efficient	The informaiton is passed and confirmed by the workers urgently	Make an annual calendar for meetings / Create an information outlet / Acquire means of transport and
		Administration establishes a planning, evaluating, and monitoring system							Planning, evaluation and monitoring are done with modern instruments	By the end of the 5 years the planning, monitoring and evaluation system is 75% efficient	Define models for planning, monitoring and evaluating
		Institutionalize incentives for better acting							he government creates systems to improve services by using incentives	The established incentive system helps to improve 85% of the workers performance	Define a better incentive program
		Fill the constant vacancies in the organization and promote employees							The existing vacancies were filled with competant people and some workers were promoted	The quality of servies improves considerably	Involve an accounting and financial specialist / Involve a financial auditing specialist
Strengthening the capacities of public workers		Elaborate a training plan "On JobTraining"							A plano for training was elaborated and anually 5 workers are trained	The quality of services improves considerably	Capacitate the administration staff about prioritizing actions / Capacitatate responsible people for rational management of financial resources / Training about PCM, PSP
		Evaluate the acts of the public workers							In evaluation the workers improved their careers	The levels of efficiency and productivity increased considerably	Creating a daily register (presence book) ·Creating honor diplomas

Source: The Study Team

Figure 6-20 Integrated Balanced Scorecard

This is the final product of the planning, which is the synchronized BSC of the three sectors with the indispensable systems for its implementation. This tries to establish the relationship among the activities of each sector with others in ways to solidify the integrated plan. This map offers countless advantages, of which some can be highlighted as follows.

- It gives a general vision of the inter-sector relationship.
- It gives points on which sectors should be the target of efforts and attention.
- Among the various responsible people in the sectors, the spirit of cooperation is created, as the activities are connected to one another.

Accordingly, one of the greatest differences and advantages of this plan is the use of the Balanced Scorecard. It works as a compass that guides the programs' direction. In this way, projects in a certain sector can be implemented to influence others in different sectors to optimize efforts and streamline financial resources and time.

(viii) List of Budget Projects

The budget for the constant activities in this plan was devised from the findings in experiments that the Study Team obtained during the implementation of the pilot activity, as well as from consultation with their partners such as MECANAGRO, FAS, EDA, some nongovernmental organizations such as AADC, and others. The following list explains the source of information in more detail.

Table 6-12 Projects and Budget

Sectors	N/Ord	Project	Estimated Costs	Information source
Agriculture	1	Rehabilitation of 200km of gravel ditches	3000000.00	Technical work done by an Agro-Engineer with experience in hydraulic conduction and executed in the rehabilitation of the Cuvelo ditch.
	2	Strengthening the domestic cattle	212000.00	NGO AADC behind the project PGDR/IRSEM/WORLD BANK
	3	Strengthening agricultural inputs	820445.00	Research of the Benguela local market tractores and kits for farming families
	4	Strengthening waterpumps	90000.00	Reasearch on the Benguela local market (15) units brand Lister capacity of (4) pulls
	5	Constructing 15 km of new ditch in the Cuvelo kacula area	280000.00	Agricultural Mecanic company«Mecanâgro» $12,000 /km in escavation, crossing tubes in the cuvelo river and topographic services
	6	Building EDA installations	120000.00	A small warehouse, a service area adjoined to their residence
		Sub-total	**4522445.00**	

Sectors	N/Ord	Project	Estimated Costs	Information source
Education	1	Construction of 10 schools in the villages	1000000	Consult a designer for a school with 4 classrooms, administrative space and 2 washrooms for each
	2	Building (6) teachers' residences	600,000	(6)teachers' residences consult a project designer, for the geographical characteristics of the region the teachers houses will not be attached but in close proximation because the families don't live in big communities but in families
	3	Installing a vocational school	400,000	Intending to have (4) specialties with a minimum of 30-40 students each. Agronomy, electricity, carpentry and information
	4	Literacy	900,000	Based by 30 literacy workers receiving $130 incentives during 5 years with material and seminars
		Sub-total	**2.900.000$**	

Sectors	N/Ord	Project	Estimated Costs	Information source
Health	1	Building 3 medical posts in 3 populations	390,000	Consult a project designer only for the construction and finishing
	2	Sensitizing against STD/HIV/AIDS	375,000	Realized calculations at a base of (50) activists during 5 years, propaganda material and seminars
	3	Constructing a medical center in the community network	250,000	Apart from constructing, finishing and laboratory
	4	Strengthening potable water for the population	300,000	Make a retreiving station and treat from the cuvelo ditch to the villages on the direct margin of the Balombo river, a total of (9)
	5	Rehabilitating the secondary roads	1,800,000	Grading 150 km of roads, rehabilitating the culverts and drain ditches. Agricultural mecanical company mecanâgro
		Sub-total	**3.115,000$**	
		GENERAL TOTAL	**10.462,445$**	

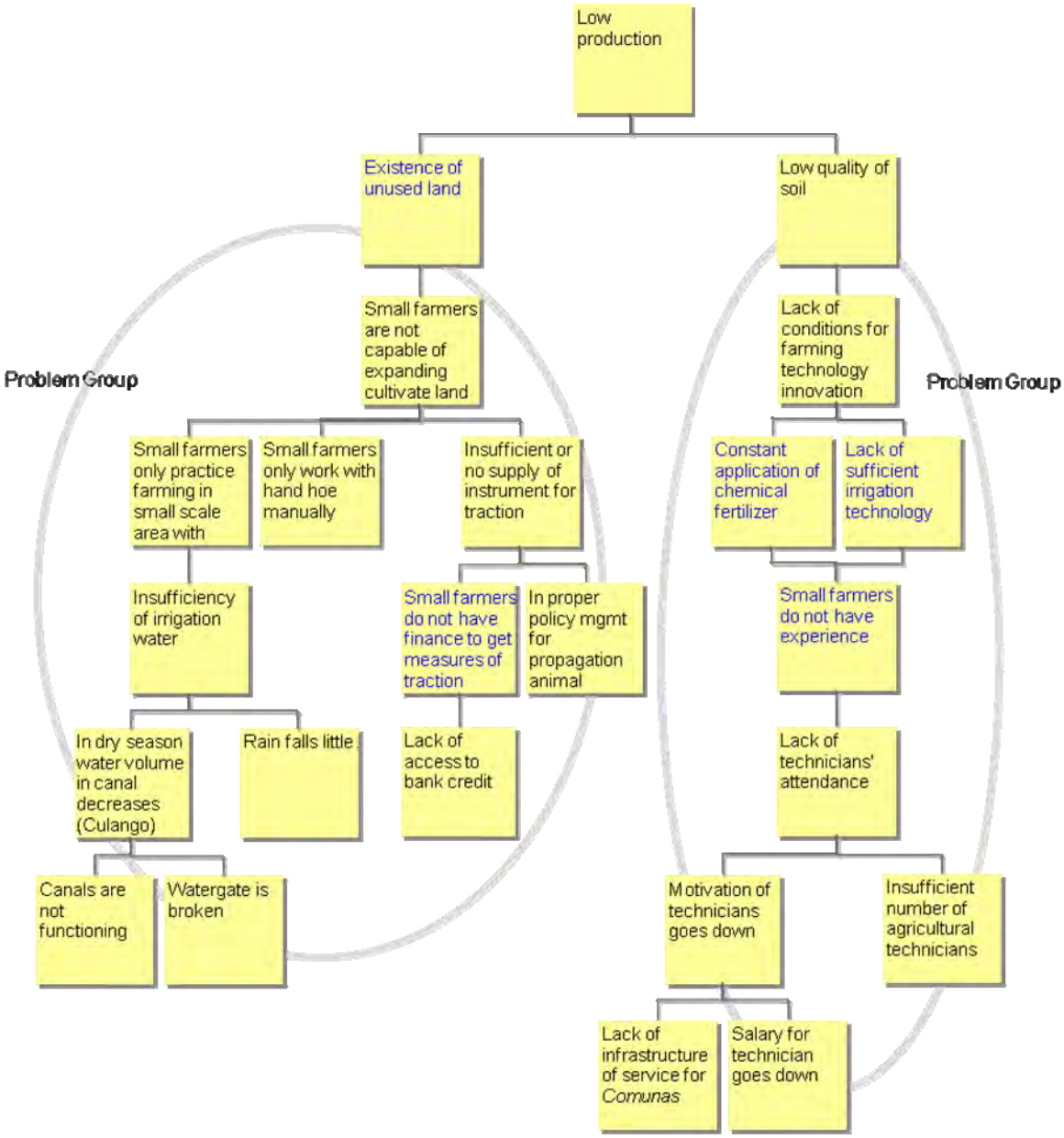
Source: The Study Team

6.3 Development Plan for Agricultural Sector

The study was carried out through workshops in January 2008 with EDA extension officers in rural areas in Lobito, including Egito Praia, Canjala, Biopio, Culango and Catumbela *Comuna*. The objectives of the workshops were to clarify problems and the potential for agricultural development in rural areas in Lobito and identify possible project ideas.

6.3.1 Problem Analysis

Based on the problems presented in the workshop, the Study Team formed a problem tree organizing problem posters on cause-effect relationships. As a result, “low production” was regarded as a core problem in agriculture.



Source: The Study Team

Figure 6-21 Problem Tree

Some posters in the problem tree have text written in blue. These posters were not written by the workshop participants but were added by the planning team based on the logical relationships between posters.

There are two primary causes that lead to low production, which is the core problem. First, the soil quality, including fertility, is low. Poor soil management characterized by constant chemical fertilizer application and insufficient irrigation technology seems to lead to low soil quality. Small farmers do not have experience with soil management, but extension officers are not supporting them well due to an inadequate number of extension officers and an insufficient number of motorbikes and their parts. Extension officers do not receive sufficient salaries and they do not have an office building in *Comuna* administration areas.

Secondly, the available arable land is limited. Although there is a lot of unused land, small farmers are not capable of expanding arable land. The first reason is water; few areas have water available area. The irrigated area is not very large and rainfed fields do not catch sufficient rainwater for cropping. Even in irrigated areas, there are many canals that are not functioning and many water gates are broken.

The second reason for the difficulty in land expansion for small farmers is a lack of traction measures for plowing. The availability of both tractors and cattle is limited. It is expensive even to lease tractors for small farmers, and they do not have access to credit to cover the cost. On the other hand, the number of cattle has dramatically decreased in the civil war. The current cattle distribution policy for animal traction by MINADER is not sufficient, especially for small-scale farmers.

6.3.2 Cross-SWOT and Strategy Formation

As the next step, participants started SWOT analysis. SWOT stands for Strengths, Weaknesses, Opportunities and Threats. Although problems and their structure were clarified by problem analysis, it is essential to identify the strengths of EDA and farmers in the target area if they wish to solve those problems.

The basic idea behind SWOT analysis is to identify ways to overcome weaknesses using strengths, to realize opportunities through strengths and to avoid threats by utilizing strengths. Thus, strengths are the key element in SWOT analysis.

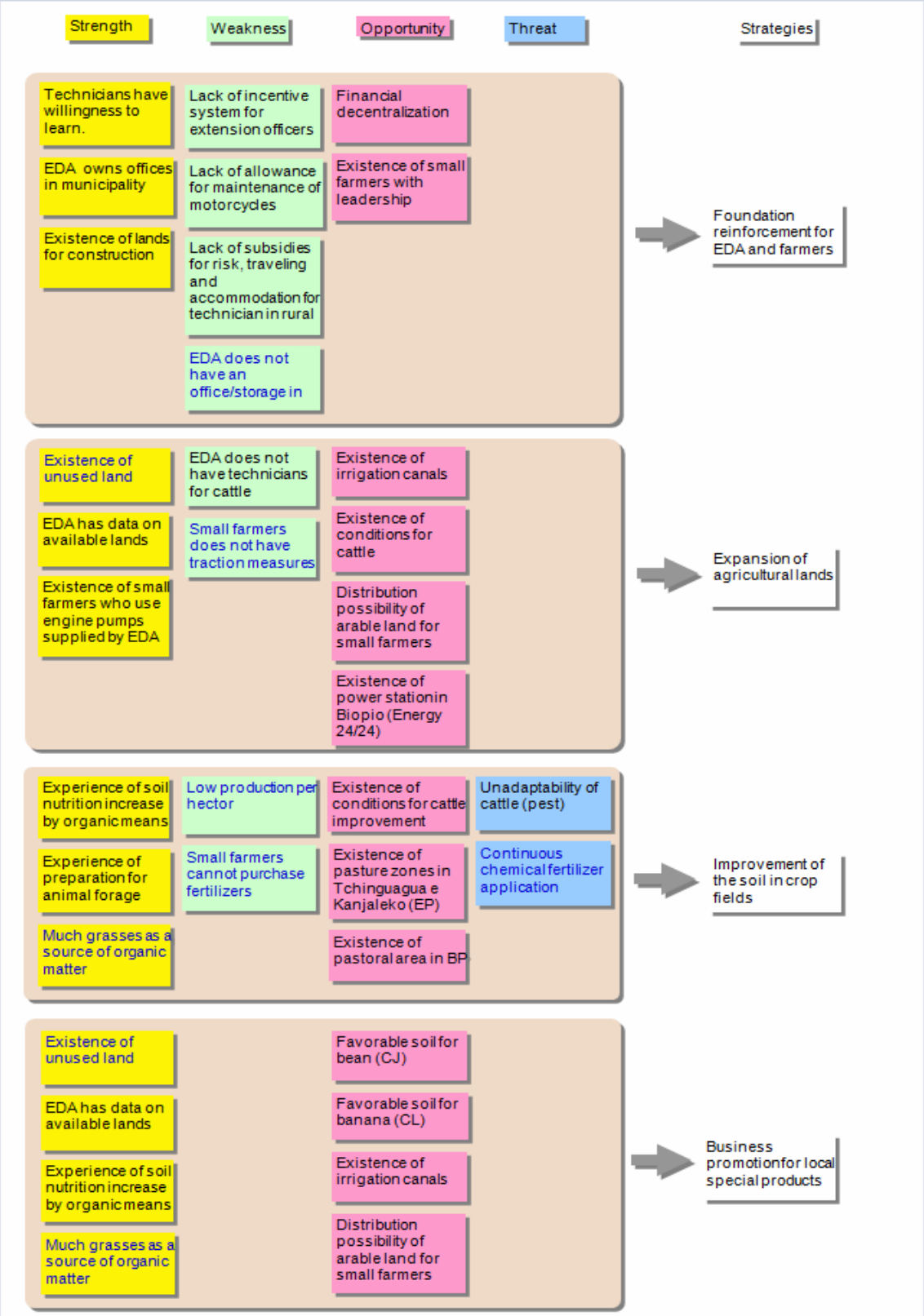
Table 6-13 SWOT

Strength	Weakness	Opportunity	Threat
EDA has its own offices	Lack of incentive system for extension officers	Existence of irrigation canals	Ada0tability of animals (pest)
Eda has farming technologies	EDA does not have technicians for cattle production	Existence of conditions for cattle improvement	
EDA has experience of animal forage	Lack of cash flow	Financial decentralization	
Existence of small preparation	Lack of allowance for maintenance of motorcycles	Culango has potential for production of banana and potato	
Existence of small farmers who use engine pumps supplied by EDA		Existence of small farmers with leadership (CJ, BP, CL11, EP6)	
Technicians have experiences on food security	Lack of allowance for risk, traveling and accommodation for technicians	Existence of pasture zones in Tchinguagua e Kanjaleko (EP)	
Existence of lands for construction	Late supplying of seeds to small farmers	Distribution possibility of arable land for small farmers	
Technicians have willingness to learn	Underutilization of building	Existence of soil that is favorable for bean cultivation (Canjala)	
		Existence of soil that is favorable for banana cultivation (Culango)	
		Existence of pastoral area in Biopio	
		Existence of power station in Biopio (Energy 24 hours)	
		Small famers wish to work for developing	

Source: The Study Team

Table 6-13 outlines eight strengths. When a fact is classified as a strength, it refers to the present situation or the target area/organization. Opportunity indicates the potential for realization in the future or outside of the target area/organization. As weakness is naturally related to difficulties or problems, some weaknesses could overlap with the problems that were identified in the problem analysis.

The planning team organized SWOT posters into combinations considering mutual possible relationships. In general, strength posters are related to some opportunity posters as factors that could turn the opportunities into reality, to some weakness posters as factors that could overcome the weaknesses, and to some threat posters as factors that could avoid the threats. Then the team devised strategies based on combinations of SWOT posters. When necessary, the planning team added some missing posters that are significant in forming the combinations. These posters, some of which were identified in problem analysis but were not identified in SWOT, are shown in blue text. Ultimately, four strategies were identified as follows.



Source: The Study Team

Figure 6-22 Cross-SWOT

(i) Reinforcing Foundation of the EDA and Farmers

Agricultural extension officers in EDA themselves want to learn more advanced farming

technology (Strength). However, there is no extension office with storage capacity in the *Comuna* administration area (Weakness). At the same time, there is no incentive system (W) and no allowance for motorcycle maintenance for extension officers (W). Thus, providing this infrastructure, as well as training opportunities, to extension officers may help to enhance agricultural production because it is not easy for small farmers to increase production without the support of extension officers. Fortunately, the central government is promoting financial decentralization (Opportunity), and this expansion in the local budget is expected to reinforce the foundation for implementation among extension officers.

The planning team simply added the poster "EDA does not have office with storage capacity in *Comuna*" because this had been identified as the most serious problem in the workshop.

(ii) Expansion of Agricultural Land

As a prerequisite, there is unused land (S) and EDA has data on available land (S). Based on this, once farming land has expanded with the rehabilitation of existing irrigation canals (O), agricultural production will go up. Small farmers do not have traction measures at present (W), but this weakness could be overcome if the number of cattle increases under development interventions.

The planning team added two posters. The first was the "existence of unused land." This is the starting point for the first strategy and was identified in the problem analysis. Secondly, the team added the poster "small farmers do not have traction measures." Even if cropland is expanded, the land cannot be used without traction measures. In other words, interventions based on this strategy of land expansion should be designed by introducing traction measures.

(iii) Improvement of Soil in Crop Fields

The primary problem identified in the problem analysis is low production. Low agricultural production can be enhanced not only by land expansion, which is the first strategy, but also by soil improvement. If soil quality improves, production per hectare increases. EDA has experience in enhancing soil nutrition by organic means (S) and there are actually abundant grasses that can be used as a source of organic matter (S). In addition, EDA has experience in preparing animal forage (S). Beans and cattle production can be promoted by mobilizing these strengths and adding some other interventions. This can enhance soil fertility through nitrogen fixation of leguminous crop and cattle manure application, which would minimize the input cost of chemical fertilizer (W) and alleviate the stress of continuous chemical fertilizer application (Threat).

The planning team added, first, "abundant grasses are available in the target area" (O). Organic matter is necessary for soil improvement and grass is the primary material as a carbon source. Secondly, the team added two weaknesses. "Low production per hectare" clarifies the significant weakness of low land productivity. If they expand land without enhancing land productivity, production efficiency will become very low, wasting significant precious resources such as water and cash. "Small farmers cannot afford to purchase fertilizers" was

the second poster added to the weakness category. The interventions should be designed to minimize the cash expense of soil improvement. One more poster added in the threat category is “continuous chemical fertilizer application by some farmers.” The majority in the target area cannot afford to purchase fertilizer but some of them apply fertilizer continuously, which degrades the land. In terms of long-term sustainability, constant fertilizer application harms the soil.

(iv) Business Promotion for Local Special Products

There is favorable land for beans in Canjala and bananas in Culango in the target area (O). Based on soil improvement and land expansion, these local specialties can be promoted to establish special local brands. Local specialties could become additional driving forces to enhance ordinary production by improving soil and expanding land.

6.3.3 Project Priorities and Indicators

Table 6-14 indicates project ideas with numerical targets. These were generated for problems identified in the workshop without considering strategies.

The first strategy, reinforcing foundations for EDA and farmers, is related to project ideas for the Centre of Agricultural Development (CDA) construction and car acquisition. Both project ideas were shown to be high priorities in voting by workshop participants and EDA extension officers. Numerical targets are relevant because 20m by 20m is necessary not only for the office, but for storage of the agricultural inputs to be delivered. One motorcycle in each *Comuna* guarantees the minimum level of mobility for extension officers.

The second strategy, agricultural land expansion, is closely related to irrigation canal rehabilitation, which was given priority in votes in the workshop. Lack of traction measures is another bottleneck in expanding arable land. When a farmer has only a small area of cropland, he/she can plow it by hand, but if the land area increases, traction measures become necessary. Both cattle for animal traction and tractors were proposed as project ideas. The numerical target for the canal rehabilitation project refers to the actual length of the canal to be rehabilitated. The number of traction animals depends on the budget, but it should also be noted that a higher level of project management is required when more animals are delivered. If there is only one officer in a *Comuna*, 100 animals in Canjala, for example, would be difficult for the officer. Gradual delivery over a couple of years may be practical.

Improving soil quality is the third strategy. The project ideas “improve soil using organic nutrients” and “improving crop techniques” are intended to realize this strategy. The former concerns the method for increasing the organic matter in soil and the latter refers to crop rotation, primarily to minimize nematode attacks. No tangible numerical targets for these project ideas were given in the workshop. Especially in this strategy, both input and output numerical targets are important. For example, in improving soil with grasses, the target yields from grass input should be set from the beginning.

The last strategy involves business promotion for local specialties. This is a kind of higher-order strategy that applies all the other strategies. By taking advantage of improved soil quality and an expansion in arable land, farmers are to produce high-quality products such as branded beans in Canjala and bananas in Culango, with the strong support of fortified EDA functions. As a numerical target, cropping areas for production of beans and bananas are not small, and the market potential and marketing system, as well as input, cash, and labor available for production, should be elaborated to realize actual large-scale production.

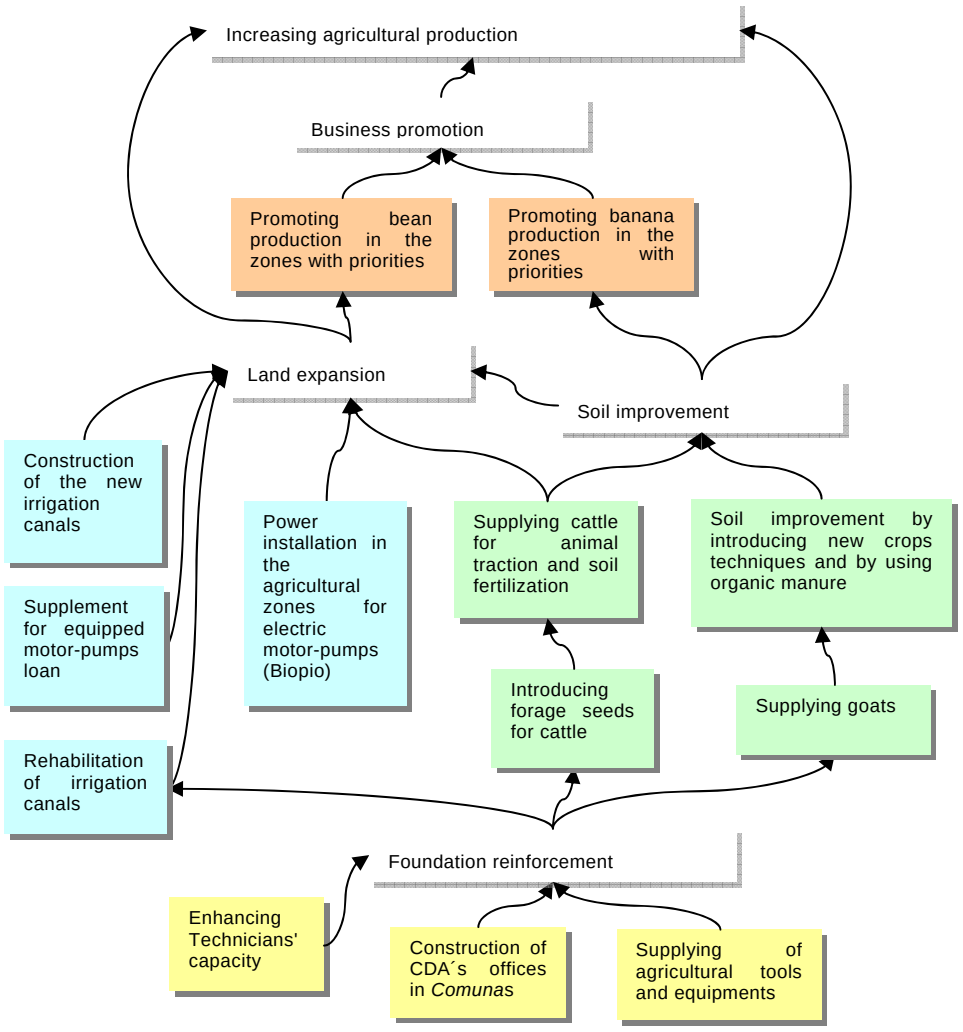
Table 6-14 Project Priorities and Indicators

PROBLEMS	IDEAS OF PROJECTS	NUMERICAL TARGET
Degradation of the irrigation system	Irrigation canal rehabilitation (3rd)	CJ Valverde AL 15km, EP 10km, CL 7km
Rainfall in the region		
Insufficiency of motor pumps		
Water low in the ditch during dry season		
Farmers are used to work in small land in the irrigated zones		
Farmers incapacity in increasing crops areas	Supplying cattle for animal traction (4th)	Number of cattle CJ100, CL60, BP50, EP20
	Supplying tractors with tools	Tractors with tools CJ3, CL2, BP2, EP1
Insufficiency in ATM supplying	Inputs applying at time	
Missing of working conditions	Acquisition of 4x4 cars (2nd)	Motorcycles for CJ1, CL1, BP1, EP1
Lack of space for working	Construction of space for CDA (Centre of Agricultural Development) services (1st)	CDA's construction with 20X20m square in total
Lack of new crops techniques	Promoting more training and capacity development fro technician	4 out of 8 technicians with benefit as secondary level training within five years
Unfertile soils	Soil improvement based on organic nutrients	
	Improvement of crop techniques	Techniques of crop rotation with land divisions in order to avoid nematode.
	Establishing an animal feed factory	Animal feed factory in CJ1, BP1, CL1, EP1
	Taking advantage of vegetables residues	
Salary for technician	Promoting beans production in zones with priority (4th)	Beans CJ500ha, CL200ha
Bad management in politic of distribution of animal promotion	Promoting banana production in zones with priority	Banana BP 100ha, CJ670ha, CL100ha
Maize prices control in the markets	Introducing forage seeds for cattle	
Missing of a bank loan	Introducing the small animal production	
Lack of agricultural techniques	Installation of electricity in the agriculture zones (Biopio)	Promotion of small anima production such as goats/sheep in CJ500/200, CL300/50, BP200/50, EP320/110
Low production and productivity	Motor pumps supplying	40 motor pumps in total 20 for CJ, CL3, BP7, EP4
	Problems which have relation between project and indicators	
	Problems which have no relation with identified projects	

Source: The Study Team

6.3.4 Diagram of the Project Influence in the Agriculture sector

The diagram below includes a visual representation of all related information for the development of the agriculture sector. This shows the interrelationship and the synergistic effect between the various projects. With this diagram, managers or responsible persons can visualize the objectives of the program and the influences among related projects.



Source: The Study Team

Figure 6-23 Diagram of the Project Influence in the Agricultural Sector

There are two primary strategies in this diagram: soil improvement and land extension. Before this can be utilized, however, the most basic infrastructure for agricultural extension officers, such as working offices and storage space in the *Comuna*, should be constructed first. At the same time, their capacity should be enhanced through training. Construction of agricultural extension offices and the creation of storage space directly results in the supply of agricultural tools and equipment for small farmers. This support could be an important infrastructure for small farmers.

As expanding land without improving soil does not necessarily result in higher agricultural production, it is important to start by improving the soil Animal manure is necessary to improve soil material. Preparing forage production through seed delivery is the first step. After this point, goats and cattle can be delivered. These animals should be kept in a kraal and fed prepared forage so that manure can be collected. Farmers should use more manure on the cropland to increase soil fertility.

Cattle delivery has another objective, namely to promote animal traction. Without traction measures it is virtually impossible to expand cropland, which is the second strategy. Unfortunately, the cost of leasing a tractor is increasing and many ordinary small farmers cannot afford this option.

Stable water supply for cropland plays a significant role in land expansion strategies, primarily through irrigation. First, existing nonfunctional canals should be renovated. The canals, most of which were constructed in the colonial era by the Portuguese, deteriorated after independence and during the civil war. Measurable amounts of water have already been measured in those existing canals, so only the earthwork would have to be repaired.

New irrigation canals can be constructed in the rural area in Lobito, but studies on water flow have to be conducted first. For this reason, expanding irrigated cropland has lower priority compared to repairing the existing nonfunctional canals.

Engine pumps for pumping up water from canals and rivers are indispensable equipment. Once canals are renovated, loans for engine pumps should be provided to fetch water to irrigate crop fields. In Biopio there is a dam that provides electricity free of charge. Utilizing this unique benefit, electric pumps should be installed to pump up irrigation water from the Catumbela River to overcome the extremely dry natural conditions there.

Specific areas should promote special crops such as beans in Canjala and bananas in Culango to improve the soil improvement and expand land. Special local products could develop into local brands in the future, which may become a strong driving force for agricultural production in rural areas in Lobito. This is the last strategy.

6.3.5 Balanced Scorecard for Agriculture

As EDA extension officers who participated in the workshop did not have experience in planning, it was difficult for them to devise strategies from SWOT analysis. It was more practical to create project ideas directly from SWOT.

Later, the planning team examined project ideas raised in the workshop in terms of priority, the numerical targets and the objectives, taking into account the logical relationships between the strategies. Finally, they prepared the Balanced Scorecard for the agricultural sector as presented below.

The BSC presents a five-year timeline for those projects shown to be interrelated in the

previous figure. An animal feed production factory was proposed at the workshop, but because concentrated feed is the second stage of livestock production, the planning team left this project idea for the future.

		Schedule (Year and Semester)										
		1		2		3		4		5		F
Strategy	Project	1	2	1	2	1	2	1	2	1	2	
Foudation reinforcement	Construction of CDAs offices in comunas	■										
	Enahnceing Technicians' capacity		■		■							
	Supplyment of agrucultural tools and equipments	■	■									
Soil improvement	Soil improvement by introducing new crops techniques and by using an	■	■	■	■	■	■	■	■			
	Introducing forage seeds for cattole	■	■	■	■							
	Supplying cattole and plow by animal traction			■	■	■	■	■	■			
	Supplying goats			■	■	■	■	■	■			
Land expantion	Factory instalation for animal feed production (forage production)											■
	Rehabilitaion of irrigation canals	■	■	■	■	■	■					
	Power instalation in the agricultural zones for electric motorpups (Biopio)			■								
	Supplyment for equiped mtorpumps loan			■	■	■	■	■	■	■	■	
	Construction of the new irrigation canals					■	■	■	■	■	■	
Bussines promotion	Promoting beans production in the zones with priorities					■	■	■	■	■	■	
	Promoting banana production in the zones with priorities					■	■	■	■	■	■	

Source: The Study Team

Figure 6-24 Balanced Scorecard for Agriculture

6.4 How to Prioritize Candidate Projects?

During the planning workshops in the *Comuna*s, many project ideas were presented with a rough idea of project size, based on the results of problem analysis and SWOT analysis. More than 10 ideas were presented for the agriculture sector in some *Comuna*s, but it is impossible to implement all of them at the same time given the limited budget and human resources. In other words, it is quite important to prioritize those ideas to determine which one should be implemented first and which one second and thereafter. As the *Comuna* workshop did not set priorities, the Study Team did so.

The biggest part of setting priorities is to make a judgment based on the big picture of the development drawn by the Study Team. This big picture is explained in depth as the development strategy and master plan in Chapter 8.

Prioritizing requires examining any policies or goals that could be criteria in setting priorities. The Study Team prioritized project ideas based on its development plans. When the Angolan people prioritize project ideas, related organizations' policies could serve as criteria. If the Lobito Municipality, for instance, prioritizes ideas, municipal development policy could be the criteria. When *Comuna* staff set priorities, the criteria can be development plans discussed in the *Comuna* development advisory committee. In this section, the Study Team set priorities based on the big picture acquired through the whole study process.

Policy is particularly important when prioritizing among different *Comuna*s and different sectors. As discussed later, grading can be conducted on projects in the same *Comuna* and in the same sector. However, it is impossible to compare projects in different *Comuna*s and different sectors. How can they be prioritized? There are two steps. First, *Comuna*s and sectors are roughly prioritized by policy. For instance, if Lobito Municipality has a policy to promote agriculture in Canjala, which has the largest population in the target area, four or five agricultural projects in Canjala are financed and two or three agricultural projects are financed in other *Comuna*s. Then in the same sector in the same *Comuna*, project candidates are compared with each other using a grading method for detailed prioritizing. This process is discussed later.

First, the Study Team checked each project idea and set aside some as unfeasible. For example, the idea of a hospital with full-time doctors was cut out given that there is only one health post in a *Comuna*.

Secondly the Team examined project scale. As project sizes presented in the workshop were based solely on the experience and intuition of participants rather than on data, some project ideas were unrealistic in terms of scale, and the Study Team modified them to a more realistic size. The Team calculated project budgets based on modified project scales, trying to make them as realistic as possible based on commodity prices and standard wages as of August 2008.

Then the Team gave project ideas a rank of 3, 2 or 1 in seven areas, namely Consistency with Policy, Feasibility, Needs, Economic Impact, Number of Beneficiaries, Economic Impact per Capita and Sustainability. When assessing item by item, the Study Team compared a project with other projects in the same *Comuna* and in the same sector. For example, the feasibility of an irrigation rehabilitation project in Canjala was compared with the feasibility of other agricultural projects in Canjala, not with the feasibility of a school construction project in Canjala or an animal introduction project in Culango. The Team voted on each project, assessing each item with a rank of 3, 2 or 1.

In "Consistency with Policy," projects that could contribute to the development strategy and master plan as outlined by the Study Team were given 3 points. Those that could not contribute earned one point. In-between assessments received two points.

"Feasibility" was examined in accordance with information acquired through the Study. Even if demand for a project is strong, as demonstrated in the planning workshop, when feasibility is regarded as being low due to reasons such as insufficient technology, too much budget required, or lack of authority in municipality, the project was given a low rank.

The assessment of "Needs" was based on the number of votes obtained in the workshop. All projects in the agriculture and health sectors in Culango *Comuna* were given two points because workshop participants did not vote.

"Economic impact" was calculated by subtracting cost from sales in agricultural and other economic activities. A proxy was calculated in projects without direct sales. In a rural road construction project, for instance, income generated from potential wages in the same hours as reduced travel hours after rural roads are constructed was regarded as the benefit of the rural road construction. However, in some projects such as the training of extension officers, it was difficult to calculate a realistic proxy and the team abandoned this attempt. As most of these were related to whole area development, the team gave them three points without monetary figures. The calculation method for each project is explained in the notes for the organized project lists.

The "Number of Beneficiaries" was calculated on a modified project scale. Each calculation method by project is explained in the notes for the organized project lists. "Economic Impact per Capita" is "economic impact" divided by "number of beneficiaries." The figures calculated for "economic impact," "number of beneficiaries," and "economic impact per capita" were organized in descending order with a ranking of 3, 2 or 1.

"Sustainability" refers to whether a project will continue and will be developed by local people after the project terminates. After checking sub-categories such as mastering technology, acquiring funds and establishing implementation systems, the team gave a ranking of 3, 2 or 1 points to each project.

When adding up the points for the seven items, the total score for a project is calculated. A

perfect score is 21. Projects organized in descending order are shown in the tables below.

Finally, the prioritized projects were classified into three types. Type A is the projects the Study Team adopted and they will be elaborated in Chapter 8. Type B is as important as Type A but Angola has already had such projects and it is not necessary to explain in this report. Road and school construction projects are categorized as Type B. Type C is not a project but ordinary governmental tasks that would be covered in a normal budget, such as increasing extension officers and constructing an extension center building.

Table 6-15 Prioritization of Projects (Canjala *Comuna*)

Canjala														
	Project Name	Project Scale	Budget (US$)	Policy (point)	Feasibility (point)	Needs (point)	Economic impact (US$, point)		Beneficiary (number, point)		Economic impact per capita (US$, point)	Sustainability (point)	Total (point)	Type
Agriculture and Other Economic Activities														
CJA-1	Rehabilitation of secondary roads	30km	450,000	3	3	3	22,675,000	3	12,500	3	1,814	3	2	**20**	B
CJA-2	Technical training for extension officers	28 officers	94,800	3	3	1	NA	3	NA	3		3	3	**19**	C
CJA-3	Construction of Ag Extension Center	Workshop, training room and storage	100,000	3	3	1	NA	3	NA	3		3	3	**19**	C
CJA-4	Rehabilitation of irrigation canals with strengthning water users association	100km for 4680 ha	17,000,000	3	3	2	43,966,667	3	23,400	3	1,879	3	2	**19**	A
CJA-5	Introduction of traction animal	300 pairs for 1200 families	240,000	3	2	3	11,760,000	2	6,000	2	1,960	3	2	**17**	A
CJA-6	Creation of a seed bank	25 ton of beans	33,333	3	3	2	3,966,667	2	2,500	1	1,587	3	2	**16**	
CJA-7	Construction of new irrigation canals with strengthning water users association	20km (93km for 4 sites)	10,200,000	2	1	2	7,660,000	2	4,680	2	1,637	3	2	**14**	
CJA-8	Restarting of livestock	Cattle500, goats1000, and swine200	293,333	2	2	3	1,873,333	1	5,500	2	341	1	2	**13**	
CJA-9	Distribution of farming machinery	Tractor 4 for 200ha	144,000	3	1	3	1,856,000	1	1,000	1	1,856	3	1	**13**	
CJA-10	Distribution of water pumps as credit	200 pumps	600,000	3	3	1	952,000	1	1,000	1	952	2	2	**13**	
Education														
CJE-1	Building schools	27 schools with 3 classrooms	3,780,000	3	3				2,835	3			3	**12**	B
CJE-2	Increase the number of literacy classes	45 classes	45,000	3	2				2,250	2			2	**9**	A
Health														
CJH-1	Purchase of ambulances	3 ambulances	90,000	3	3	2			18,000	3			3	**14**	B
CJH-2	Construction of HIV/AIDS prevention center (CATV)	Being able to conduct HIV testing	100,000	1	2	3			168	1			3	**10**	
CJH-3	Enlightenment for HIV/AIDS	70% of the population are informed HIV/AIDS prevention means	72,000	2	2	1			17,500	3			2	**10**	
CJH-4	Construction of first aid posts in the villages	30 villages	15,000	3	2	2			3,514	1			1	**9**	

CJA-1

Project scale was based on the information presented in the planning workshop. Unit price of construction is Kz150,000/km. The economic impact is calculated as follows: (i) travel hours are reduced from 8 hours to 1 hour, thus saving 7 hours; (ii) wage for an hour is US$1 and their opportunity revenue per day is US$7; (iii) 25% of the total population use the road once a

week. Thus, 50,000 persons x 0.25 x 52 weeks x US$7 x 5 years =US$22,750,000 for the total opportunity revenue. The Study Team assumes that the road will depreciate over 30 years. Project cost including five years depreciation is subtracted from the opportunity revenue to obtain an economic impact of US$22,750,000 - (US$450,000/30 x 5 years) = US$22,675,000. As the Study Team assumes that the beneficial area of the secondary road is 50% of the total area and 50% of persons in the beneficial area use the road. On the assumption that children and elderly people make up 50% of the population and that they will not use the road, the number of beneficiaries would be 50,000 persons x 0.25 = 12,500 persons.

CJA-2

The total budget is US$94,800. It comprises of US$200/day for an instructor x 25 days, US$100 for accommodation with foods/day/person x 28 persons x 30 days, US$300 for transportation x 10 days and US$100 for teaching materials x 28 persons.

CJA-3

The size of the building is 25m x 6m x 4m. The cost, US$100,000, is calculated on the basis of a building similar in size and specifications.

CJA-4

Possible irrigated area is calculated based on Cuvelo Canal's case, in which 1 km of the canal irrigates 46.8 ha. As Cuvelo is a relatively hilly area, this figure can be regarded as conservative. The rehabilitation cost is US$170,000/km, calculated by an engineer on the Study Team. As a crop of maize and beans brings in US$2,000 net income to a farm household, gross income is 100 km x 46.8 ha x US$2,000 x 5 years = US$46,800,000. The total cost for the irrigation rehabilitation project is US$17,000,000, but this should be depreciated over 30 years. Thus the five- year economic impact is US$46,800,000 - US$17,000,000/30 x 5 years = US$43,966,667. The Study Team assumes that a farm household plows 1 ha and the number of beneficiaries is 100 km x 46.8 ha x 5 persons = 23,400 persons. The Team assumes that the number of family members is five in this calculation.

CJA-5

As the price of an animal is US$400, the cost of 600 animals would total US$240,000. Gross income is US$2,000 for a crop of maize and beans x 1,200 farm households x 5 years=US$12,000,000. Thus, the economic impact is US$12,000,000- US$240,000 = US$11,760,000. The number of beneficiaries is 1,200 farm households x 5 persons = 6,000 persons.

CJA-6

A total of 50 kg of bean seeds are required for 1 ha of land. The Study Team assumes that 50 kg x 500 ha = 25 tons are necessary. The price of beans per kg is US$1.33. Thus, the project cost is US$1.33 x 25,000 kg = US$33,333. As expected income of beans grown in 1 ha of land is US$1,600, gross income is 500 ha x US$1,600 x 5 years = US$4,000,000. The economic impact is US$4,000,000 - US$33,333 = US$3,966,667. The number of beneficiaries is 500

farm households x 5 persons = 2,500 persons.

CJA-7

When new canals are constructed, it costs three times more than rehabilitating an existing canal, or US$170,000/km x 3 = US$510,000/km. The total cost for 20 km is US$10,200,000. As income from a crop of maize and beans is US$2,000, area income is 20 km x 46.8 ha x US$2,000 x 5 years = US$9,360,000. Canal construction costs should be depreciated over 30 years. Thus, the cost of the five-year project is US$10,200,000/30 x 5 years = US$1,700,000. Economic impact is US$9,360,000 - US$1,700,000 = US$7,660,000. The number of beneficiaries is 20 km x 46.8 ha x 5 persons = 4,680 persons.

CJA-8

The unit price of cattle, goat and pig are US$400, US$67 and US$133, respectively. Thus, the project cost is US$400 x 500 cattle + US$67 x 1,000 goats + US$133 x 200 pigs = US$293,333. Annual income for selling the livestock is US$400 x 250 heads of cattle + US$67 x 1,000 heads of goats + US$133 x 2,000 heads of swine = US$433,333. Economic impact for the five years is US$433,333 x 5 years - US$293,333 = US$1,873,333. As the number of delivery per farm household is one cattle, two goats and two swines, the number of beneficiaries is (500 + 1000/2 + 200/2) x 5 persons = 5,500 persons.

CJA-9

Workshop participants proposed 20 tractors, but it is unrealistic for small-scale farmers to maintain a large numbers of tractors, and the project scale was downsized to four tractors. As a tractor costs US$30,000 and maintenance costs can be assumed to be 20% of the price, the project cost is US$30,000 x 4 x 1.2 = US$144,000. Four tractors can plow 50 ha of land in the necessary time and a crop of maize and beans bring in US$2,000 per farm household, making total income 50 ha x 4 tractors x US$2,000 = US$400,000. Tractors are depreciated over five years. Economic impact is calculated as US$400,000 x 5 years - US$144,000 = US$1,856,000. The number of beneficiaries is 200 farm household x 5 persons = 1,000 persons.

CJA-10

An engine pump costs US$3,000 and it can irrigate 1 ha of land. When 200 pumps are introduced, the total project cost is US$3,000 x 200 pumps =US$600,000. A crop of maize and beans bring in US$2,000 per farm household. Thus area income is calculated as US$2,000 x 200 ha x 5 years = US$2,000,000. A pump lasts three years and consumes 120 liters of fuel that costs US$0.4 per liter. Thus the economic impact is US$2,000,000 - (200 pumps x 120 liters x US$0.4) - (US$600,000/3 x 5 years) = US$952,000. The number of beneficiaries is 200 farm households x 5 persons = 1,000 persons.

CJE-1

As the unit price of constructing a school is US$140,000, the total cost is US$140,000 x 27 schools = US$3,780,000. A class holds 35 pupils. The number of beneficiaries is 35 pupils x 3 classes x 27 schools = 2,835 pupils.

CJE-2

The total cost is US$100 (the monthly salary for a literacy teacher) x 10 months per year x 45 classes = US$45,000. The number of beneficiaries is 50 participants/class x 45 classes = 2,250 participants.

CJH-1

An ambulance costs US$30,000 and the total cost is US$30,000 x 3 ambulances = US$90,000. The number of beneficiaries is based on the transportation capacity of three ambulances, or 4 journey/day/vehicle x 3 vehicles x 300 days x 5 years = 18,000 persons.

CJH-2

The construction cost is US$100,000. The number of beneficiaries is based on the national disease rate of 0.067%. The Study Team assumes that this rate should be 10 times higher because there are more latent patients and potential patients. Half of the population in the area is thought to be AIDS carriers, which amounts to 25,000 persons; the Team calculated 25,000 persons x (0.067 x 10) /100 = 168 as the number of beneficiaries.

CJH-3

The Study Team assumes that three staff work 60 days for 4 years at US$100/day. Thus, the project cost is = US$100 x 3 staffs x 60 days x 4 years = US$72,000. The number of beneficiaries is 25,000 persons x 70% = 17,500 persons.

CJH-4

The unit price of a health post is US$500. Thus, total cost is US$500 x 30 communities = US$15,000. The number of beneficiaries is 26,000 people who were registered as having diseases such as malaria, diarrhea and respiratory diseases in the year of 2004 /740,000 (population of Lobito Municipality) x 2 (potential patients) x 50,000 (population of Canjala) = 3,514 persons.

Table 6-16 Prioritization of Projects (Culango *Comuna*)

Culango															
	Project Name	**Project Scale**	**Budget** (US$)	**Policy** (point)	**Feasibility** (point)	**Needs** (point)						**Sustainability** (point)	**Total** (point)	**Type**
Agriculture and Other Economic Activities															
CLA-1	Rehabilitation of existing irrigation canals	2 of 16km in the center part, 1 in Tchimbambo of 10km and 2 in Akumba of 7 km. For 1544 ha	5,610,000	3	3	2	14,509,000	3	7,722	3	1,879	3	2	**19**	A
CLA-2	Providing cattle for traction	80 pairs for 320 families	64,000	3	2	2	3,136,000	2	1,600	2	1,960	3	2	**16**	A
CLA-3	Capacitation of the agricultural cooperatives managers	25 people trained in fertilization, seeding, accounting and management	85,500	3	2	2		3		3		3	2	**18**	A
CLA-4	Providing agricultural tractors	4 tractors in 5 years	144,000	3	1	2	1,856,000	2	1,000	1	1,856	3	1	**13**	
CLA-5	Providing cows and goats	150 cows and 300 goats in 5 years	80,000	2	2	2	170,000	1	1,500	2	113	1	2	**12**	
CLA-6	Providing agricultural work tools	For all 2400 families, a european hoe, a traditional hoe, a spade, and a slash	128,000	3	2	2	5,908,000	2	12,000	3	492	1	2	**15**	
CLA-7	Distribution of motor pumps	150 pumps (originally Katchikovo 4, Sede 3, Akumba 5)	450,000	3	3	2	964,000	1	750	1	1,285	2	2	**14**	
CLA-8	Providing fertilizers loan for rainfed maize growers	90ton for 600 ha (originally 235 ton. Annual for 800ha)	432,000	3	2	2	1,515,000	2	6,000	2	253	1	2	**14**	A
CLA-9	Opening new irrigation canals	Tchimbambo to Baixo Pundo 15km	7,650,000	2	1	2	5,745,000	2	3,510	2	1,637	3	2	**14**	
CLA-10	Construction of bridge on the Cubal do Lumbu and Cubal de Tchisandje rivers with rural road rehabitation	Two bridges of 60m in total and 4m width each. 10km of Rural road. This road is for 152 ha of cropland.	200,000	3	3	2	963,333	1	760	1	1,268	2	2	**14**	B
CLA-11	Providing transport for local products transportation to the market	1 car with capacity of 6 ton	30,000	2	2	2	1,794,120	2	760	1	2,361	3	1	**13**	
Education															
CLE-1	Distribution of teaching material	1500 kits from pre-school material to 6th grade	150,000	3	3	2			1,500	3			3	**14**	C
CLE-2	Construction of schools in the accesible area	9 schools of 3 classes for 9 villages and 1 school of level III in the center of comuna	1,460,000	3	3	3			5,985	1			3	**13**	B
CLE-3	Construction of teachers houses	13 houses for 8 teachers, built in 13 villages	390,000	3	3	1			1,500	3			3	**13**	B
CLE-4	Deployment of electrical generators to schools	13 generators acquired and installed in 13 schools	19,500	3	3	3			650	1			2	**12**	B
CLE-5	Increase teachers	Enrolling 35 teachers in the comuna		3	1	1			NA	3		1	3	**12**	C
CLE-6	Providing motorbikes for school teachers	9 motorbikes for distant schools from the center part of the comuna	27,000	3	3	2			1,500	1			2	**11**	
CLE-7	Providing a bus for school teachers	1 car with capacity of 15 sheets	20,000	1	2	3			1,500	1			2	**9**	
CLE-8	Creating a library	Acquisition of 100 different kinds of books and 3 computers	200,000	2	2	1			1,500	2			2	**9**	
Health															
CLH-1	Increase nurses	18 nurses will be enrolled: 10 for center and 8 for villages		3	1	2			NA	3			3	**12**	C
CLH-2	Creation of health coordinators in the villages	Creation of 1 health coordinator in each village	125,800	3	2	2			4,457	3			2	**12**	A
CLH-3	Extention of the health center	10 beds for inpatiants, 1 medical and 10 nurses.Installing 2 laboratories of clinical analysis and 1 CATV	100,000	2	2	2			4,457	3			3	**12**	

CLH-4	Training of traditional midwives	26 traditional midwives for 13 villages	88,600	3	2	2			3,000	2			2	**11**	A
CLH-5	Providing corn grinders	4 corn grinders	100,000	3	2	2			3,333	2			2	**11**	B
CLH-6	Providing drinkable water to population	Creating 7 small motor pump systems of treated water in the commune during 5 years	80,000	3	2	2			2,211	2			2	**11**	
CLH-7	Providing transport for sickers	1 ambulance provided for medical center of the commune	30,000	2	3	2			1,200	1			3	**11**	B

CLA-1

Same as CJA-4

CLA-2

Same as CJA-5

CLA-3

Same as CJA-2

CLA-4

Same as CJA-9

CLA-5

Same as CJA-8

CLA-6

A European hoe, a traditional hoe, a spade and a slash cost US$53.3. The total cost is 2,400 farm households x US$53.3 = US$128,000. Income is calculated for a crop of rainfed maize US$519/farm household/crop x 2,400 farm households x 5 years = US$6,228,000. As these tools can be used for two years, the economic impact is US$6,228,000 - US$128,000/2 x 5 years = US$5,908,000.

CLA-7

Same as CJA-10

CLA-8

This is the same as maize yield increase with grasses. As the project supports 0.5 ha per farm household, 600 ha of land accommodates 1,200 rainfed maize growers. Fertilizer is urea and 12-24-12, which cost US$53.3 per 50kg and US$37.3 per 50kg, respectively. A farm household receives 50kg of urea and 25 kg of 12-24-12 for 0.5ha of land. Thus, a set of fertilizer per farm household costs US$72. The total cost of the project is US$72 x 1,200 farm households x 5 years = US$432,000. Expected income from a crop of rainfed maize is US$649 per ha. US$649 x 0.5 x 1,200 farm households x 5 years = US$1,947,000. The economic impact is US$1,947,000 - US$432,000 = US$1,515,000. The number of beneficiaries is 1,200 farm households x 5 persons = 6,000 persons.

CLA-9

Same as CJA-7

CLA-10

Two bridges and 10 km of rural road cost US$50,000 and (US$15,000 x 10 km) = US$200,000. In this case, income can be calculated as 152 ha x US$2,000 with a crop of maize and beans x 2/3 of actual beneficiaries in the area x 5 years = US$1,013,000. A bridge lasts 20 years. Thus the economic impact is US$1,013,000 - US$200,000/20 x 5years = US$963,333.

CLA-11

A truck costs US$30,000. The Study Team assumes that sales of irrigated beans would be 1.5 times higher when sold in Lobito. After the new bridges are constructed, 152 ha of land can produce irrigated beans. Thus, income is US$1,600 x 152 ha x 1.5 times x 5 years = US$1,824,000. The operational cost of trucks is 110% of the original price and its depreciation is 10 years. Fuel costs US$276 and a driver costs US$200 per month x 12 months = US$2,400. Economic impact is US$1,824,000 - (US$30,000 x 1.1)/10 years x 5 years - US$276 x 5 years - US$2,400 x 5 years = US$1,794,120. The number of beneficiaries is 152 farm households x 5 persons = 760 persons.

CLE-1

As a kit costs US$100, the project cost is US$100 x 1,500 = US$150,000.

CLE-2

A building for three classes costs US$140,000 and a school of level III costs US$200,000. The total cost is US$140,000 x 9 schools + US$200,000 = US$1,460,000. The number of beneficiaries is 35 pupils/class x 3 classes x 6 grades x9 villages + 35 pupils/class x 3 classes x 3grades= 5,985 pupils.

CLE-3

US$30,000 per house x 13 = US$390,000. The number of beneficiaries is 1,500 pupils.

CLE-4

US$1,500 x 13 generators = US$19,500. The number of beneficiaries is 50 participants/class x 13 classes = 650 participants.

CLE-6

US$3,000 x 9 motorbikes = US$27,000. The number of beneficiaries is not the number of teachers but the number of children.

CLE-7

A bus costs US$20,000. The number of beneficiaries is not the number of teachers but the number of children.

CLE-8

US$200,000 includes the cost for the building and books.

CLH-2

Same as CJA-2. A total of 38 people are trained. The number of beneficiaries is: the population of Culango 12,000 x disease rate 3.7% x 10 times for potential patients = 4,457

persons.

CLH-3

Cost is US$100,000. The number of beneficiaries is: the population of Culango 12,000 x disease rate 3.7% x 10 times for potential patients = 4,457 persons.

CLH-4

Same as CJA-2. The number of midwives is 26. The number of beneficiaries is the population of women in their childbearing years.

CLH-5

A corn grinder costs US$25,000. The project cost is US$25,000 x 4 grinders = US$100,000. A grinder can grind 500 kg/day and a person consumes 0.6 kg of corn/day. Thus (500 kg x 4 grinders)/0.6 kg = 3,333 persons can benefit each day.

CLH-6

The primary pump with related tanks such as a settling tank and a water reserve tank costs US$40,000. Seven small pumps and pipes cost US$14,000 and US$26,000, respectively. Thus, the total cost is US$80,000. The number of beneficiaries is population of 12,000 in Culango x (7 target communities/ all 38 communities) = 2,211 persons.

CLH-7

Same as CJH-1

Table 6-17 Prioritization of Projects (Egito Praia *Comuna*)

Egito Praia															
	Project Name	Project Scale	Budget (US$)	Policy (point)	Feasibility (point)	Needs (point)	Economic impact (US$, point)		Beneficiary (number, point)		Economic impact per capita (US$, point)		Sustainability (point)	Total (point)	Type
Agriculture and Other Economic Activities															
EPA-1	Rehabilitation of existing irrigation canals	27km for 1264 ha	4,590,000	3	3	2	11,871,000	3	6,318	3	1,879	3	2	**19**	A
EPA-2	Distribution of fishing boats	22 boats with outboard motor of 40 horsepower	220,000	3	2	3	1,009,075	2	550	2	1,835	3	2	**17**	
EPA-3	Introduction of traction animal	25 pairs for trial	20,000	3	2	3	980,000	2	500	2	1,960	3	2	**17**	A
EPA-4	Distribution of tractors	2 tractors for 100 ha	72,000	3	1	3	928,000	2	500	2	1,856	3	1	**15**	
EPA-5	Distribution of cattle for livestock production	100 heads	40,000	2	2	3	460,000	1	500	2	920	2	2	**14**	
EPA-6	Distribution of motor pumps	10 pumps	30,000	3	3	1	47,600	1	50	1	952	2	2	**13**	
Education															
EPE-1	Building schools	5 with 6 classrooms	900,000	3	3	3			1,050	2			3	**14**	B
EPE-2	Construction of teachers houses	5 houses	150,000	3	3	2			1,050	3			3	**14**	B
EPE-3	Strengthning of parents association	7 associations	25,800	3	2	2			1,470	3			2	**12**	A
EPE-4	Increase teachers	Enrolling 35 teachers in the commune during 5 years		3	1	2			NA	3			3	**12**	C
EPE-5	Introduction of school lunch	All 7 schools	225,400	3	2	2			1,470	3			1	**11**	
EPE-6	Providing a bus for school teachers	1 car with capacity of 15 sheets	20,000	1	1	2			1,470	3			2	**9**	
Health															
EPH-1	Providing ambulance	2 ambulances	60,000	3	3	3			2,400	2			3	**14**	B
EPH-2	Providing drinkable water to population	Creating small motor pump systems of treated water during 5 years	80,000	3	2	2			2,857	3			2	**12**	
EPH-3	Construction of a nurse house	1 house	30,000	3	3	1			1,857	1			3	**11**	B
EPH-4	Increase nurses	2 nurses and 22 assistant nurses		3	1	1			NA	3			3	**11**	C
EPH-5	Construction of a laboratory	1 laboratory	150,000	2	2	2			1,857	1			3	**10**	
EPH-6	Construction of first aid posts in the villages	7 villages	3,500	3	1	3			1,857	1			1	**9**	

EPA-1

Same as CJA-4

EPA-2

As a fishing boat costs US$10,000, the project cost is US$220,000 for 22 boats. The annual net income of a fishery is Kz164,192 in Egito Praia, according to a household survey by the Study Team. Thus the expected income is (Kz164,192 x 22 boats x 5 households/boat x 5 years)/75 = US$1,204,075. The operating cost for a fishing boat is 150% of the original price and its depreciation would be spread over 15 years (average of 25 years for the boat and five years for engine). Fuel costs US$500 per month x 12 months = US$6,000. Thus the economic impact is US$1,204,075 - (US$220,000 x 1.5)/10 years x 5 years - US$500 x12 x 5 years=US$1,009,075

EPA-3

Same as CJA-5

EPA-4

Same as CJA-9

EPA-5

Same as CJA-8

EPA-6

Same as CJA-10

EPE-1

Same as CJE-1

EPE-2

Same as CLE-3

EPE-3

Same as CJA-2 for seven associations.

EPE-5

A meal for a pupil consists of 200 g of maize meal and 40 g of beans. (Kz30 x 0.2 + Kz80 x 0.04) x 35 pupils/class x 6 classes/school x 7 schools x 250 days/year = Kz3,381,000. Kz3,381,000/75 x 5 years = US$225,400. The number of beneficiaries is 35 pupils x 6 classes x 7 schools = 1,470 pupils.

EPE-6

Same as CLE-7

EPH-1

Same as CJH-1

EPH-2

Same as CLH-6

EPH-3

The number of people who were registered as infected with any of the three main diseases in the year 2004 is 26,000. As the total population of Lobito Municipality is 740,000, the main disease rate is 26,000/740.000 = 3.51%. This rate could be 10 times higher because the function of the health post is reinforced as nurses would have the necessary accommodations to stay in the *Comuna*. Thus the potential patients are the population of Canjala, or 5,000 x 35.1% = 1,755 persons.

EPH-5

The laboratory costs US$150,000. The number of beneficiaries is the same as EPH-3.

EPH-6

Same as CJH-4

Table 6-18 Prioritization of Projects (Biopio *Comuna*)

Biopio															
	Project Name	**Project Scale**	**Budget** (US$)	**Policy** (point)	**Feasibility** (point)	**Needs** (point)	**Economic impact** (US$, point)		**Beneficiary** (number, point)		**Economic impact per capita** (US$, point)	**Sustainability** (point)	**Total** (point)	**Type**
Agriculture and Other Economic Activities														
BPA-1	Increase extensionists	Enrolling more (4) technicians		3	1	1	NA	3	NA	3		3	3	17	C
BPA-2	Construction of extension office	1 office, 1 store and residence for technician	100,000	3	1	1	NA	3	NA	3		3	3	17	C
BPA-3	Rehabilitating access roads of 80 km	1st year Supwa Direito 25km, 2nd year Supwa Esquerdo 20 km, 3rd year Mbovo 15km, Chimama 20 km	1,200,000	3	3	2	1,075,000	3	1,250	3	860	1	2	17	B
BPA-4	Creating electrical pump system for irrigation	2 pomps for 12 tanks for 120 ha (originally 600ha)	441,200	3	2	3	518,800	1	600	2	865	3	2	16	
BPA-5	Providing the agricultural tools	For 120 families, 2 european hoes, 2 traditional hoes, 2 spades and 2 axes	16,000	3	3	2	944,000	2	600	2	1,573	1	3	16	B
BPA-6	Providing seeds	For 120 ha	5,600	3	3	2	952,000	2	600	2	1,587	2	2	16	
BPA-7	Providing fertilizers for newly irrigated farmers	For 120 ha	86,400	3	3	2	873,600	2	600	2	1,456	2	2	16	A
BPA-8	Providing cattle traction	30 pair	4,800	2	1	2	1,195,200	2	600	3	1,992	3	1	14	A
BPA-9	Providing agricultural tractors	2 tractors for 100ha	72,000	3	1	1	945,000	2	500	2	1,890	3	1	13	
BPA-10	Increase of cattle	100 cows for animal inhancement	40,000	1	1	2	100,000	1	500	1	200	1	1	8	
Education															
BPE-1	Construction of houses for teachers	14 houses: 1st year 5, 2nd year 3 houses and 3rd year for 4 houses	420,000	3	3	3			490	1			3	13	B
BPE-2	Construction of more classrooms	14 classrooms: 3 classrooms in 5 years	60,000	3	3	3			490	1			3	13	B
BPE-3	Implementing literacy lessons	Training 30 literacy teachers in 5 years to reduce the illiteracy rate from 60% to 40%	30,000	3	2	2			1,500	3			2	12	A
BPE-4	Increasing teachers	Increasing 30 teachers in 5 years		3	1	2			NA	3			3	12	C
BPE-5	Establishing a library	1 library	150,000	2	2	1			490	1			2	8	
Health															
BPH-1	Increasing nurses	18 nurses of different specialities		3	3	2			NA	3			3	14	C
BPH-2	Providing one ambulance	1 ambulance for commune	30,000	3	3	3			1,200	1			3	13	B
BPH-3	Construction of latrines in 5 years	1000 latrines	1,000,000	3	2	3			5,000	3			1	12	A
BPH-4	Rehabilitating boreholes and opening other holes for water	5 boreholes in the villages of Mbovo, Cabrais, Chimama, Chapé u, Yova and Akongo	20,000	3	3	3			1,136	1			1	11	
BPH-5	Construction of passage house for nurses	1 house in the communal sede and 4 in the villages	150,000	3	3	1			1,857	1			3	11	B
BPH-6	Providing medicines	1 kit of center and other different every month	2,000	2	3	3			1,857	1			2	11	
BPH-7	Construction a mortuary house	With capacity of 4 corpses	30,000	2	3	1			1,050	1			3	10	
BPH-8	Providing a laboratory of clinical analysis	1 microscop with equipment, 1 hemiglobinate of shaly, 1 westreguei	3,000	2	2	2			1,857	1			2	9	
BPH-9	Implementation of mobilization program for health education on DTS, HIV/AIDS	50% of active population at the end of 2013 are mobilized against ITS	26,400	2	2	1			3,500	2			2	9	

BPA-2

Same as CJA-3

BPA-3

Same as CJA-1

BPA-4

Cost items are as follows:

1. Electric pump 100 cubic m/hour x 2 = US$30,000 x 2 = US$60,000
2. Electric poles US$350 x 320 poles = US$112,000
3. Electric line US$40,000
4. Electric pole labor US$50 x 320 poles = US$16,000
5. Electric line labor US$50 x 10 persons x 20 days = US$10,000
6. Water reserve 100 ton x 12 reserves = US$20,000 x 12 = US$240,000
7. Hose for water intake and distribution 1600 m x US$2/m = US$3,200

TOTAL US$441,200

As the period of depreciation of the system is five years, the economic impact is (US$1,600 x 120 ha x 5 years) - US 441,200 = US$518,800. The number of beneficiaries is 120 farm households x 5 persons = 600 persons.

BPA-5

Same as CLA-6

BPA-6

Same as CJA-6

BPA-7

Same as CLA-8, but the area per farm household is not 0.5 ha but 1 ha and income is not maize but beans. Thus economic impact is (US$1,600 x 120 farm households x 5 years) - US$86,400 = US$873,600

BPA-8

Same as CJA-5

BPA-9

Same as CJA-9

BPA-10

Same as CJA-8

BPE-1

Same as CLE-3

BPE-2

Construction of a classroom costs US$20,000.

BPE-3

Same as CJE-2

BPE-5

Same as CLE-8

BPH-2

Same as CJH-1

BPH-3

As a latrine costs US$1,000, the total cost is US$1,000 x 1,000 latrines = US$1,000,000.

BPH-4

Borehole construction costs US$4,000 per hole. Total cost is US$4,000 x 5 holes = US$20,000. The number of beneficiaries is estimated as 5,000 of all population of Biopio/22 communities in Biopio x 5 communities with boreholes = 1,136 persons.

BPH-5

Same as CLE-3

BPH-6

The total cost is US$120,000, or US$400 for a kit x 5 health posts every month x 12 months x 5 years.

The number of beneficiaries is same as BPH-5.

BPH-7

A house costs US$30,000. Number of beneficiaries is population 5,000 x mortality rate of 4.2% x 5 persons/household = 1050 persons. Beneficiary is not the dead person themselves but their family member.

BPH-8

The total cost is US$3,000 for equipment such as microscopes for the central health post. The number of beneficiaries is the same as BPH-5.

BPH-9

The total cost is US$33,000, or US$100/poster x 3 kinds of poster x 22 communities x 5years. The number of beneficiaries is 70% of the population, or 5,000 x 70% = 3,500 people.

Chapter 7

Verification of Provisional Master Plan

An examination of the provisional master plan for reconstruction and development discussed in Chapter 4 will form the foundation for formulating development strategies. The provisional master plan was examined on the basis of the Angolan long and mid-term development plan, the development plan of the Lobito municipality, and information acquired during the Study--including pilot projects explained in Chapter 5 and participatory planning workshops discussed in Chapter 6. Analysis depended upon the framework for the pilot project indicated in Chapter 4.3.

7.1 Overall Goal

In the conceptual framework for socioeconomic development of rural area of Lobito Municipality, the Study Team set “Poverty alleviation in rural area” as its Overall Goal. As shown in Chapter 3.4, the fruits of rapid economic development are not reaching rural areas and the economic gap between urban and rural area has become larger than before. Redressing this imbalance between urban and rural areas is a high priority more than ever and “poverty alleviation in rural areas,” therefore, is relevant as an Overall Goal now and in the future.

Possible indicators for the Overall Goal were proposed as below. These were obtained through pilot projects and it was proved that they could be monitored by municipal staff.

- Increase basic food supply (calories).
- Reduce labor hours.
- Enhance the literacy rate.
- Generate income.

7.2 Goals and Measures

To achieve the Overall Goal, four development goals and measures to realize them were established. Conducting pilot projects to meet the goals, the relevancy of the provisional master plan was examined.

Goal 1 Stable food supply:

- Basic food production increase.
- Agricultural infrastructure construction.

Goal 2 Labor hours reduction:

- Reduction of farming labor.
- Reduction of domestic labor by women.

Goal 3 Creation of education opportunities:

- Increase school enrollment ratio.
- Expand literacy classes for adults.

Goal 4 Income generation:

- Technical support for diversified farm enterprises.
- Financial support for production increases (micro credit).

Examination results are explained by 4 goals.

Goal 1 Stable Food Supply

This is one of the post-war policies of the Ministry of Agriculture and Rural Development. The Ministry loaned seeds, tools and fertilizer to farmers under a uniform, national standard. The Department of Agriculture in Benguela Province is putting this policy into action but the target area has received the agricultural input delivery just once in the past. As described in Chapter 3.4, calorie intake in the target area is still very low and the situation must be improved rapidly. This goal, therefore, should be actuated on an ongoing basis. A stable food supply interacted with other goals and contributed to strengthening community organizations.

The Study Team carried out the "Maize Yield Increase with Grasses" project for a "basic food production increase"--a measure to achieve a stable food supply. This project not only increased maize yield but also created the movement of technology dissemination from individual beneficiaries to the whole community. In addition, this technology proved to contribute directly to the "income generation" goal by means of its rapid application to beans and vegetable production.

Another measure for "basic food production increase" involves agricultural infrastructure construction. The "Irrigation Canal Rehabilitation" project played a significant role in stable maize production. In the target area, where rain-fed maize is widely produced, rain from October through January is not reliable and farmers have suffered from unstable production during this season. Maize production did not become stable until some parts of the canals were rehabilitated and irrigation water became available throughout the year.

Goal 2 Labor Hours Reduction

This is also a policy of the Ministry of Agriculture focusing on rural women but it has not catalyzed tangible activities. Labor hours reduction is still a big problem and it should be maintained as an important goal.

The Study Team set "farming labor reduction" as a goal. There is no pilot project that targeted farming labor reduction directly but planning workshop participants in 4 *Comunas* and the Department of Agriculture, as explained in Chapter 6, pointed to their need for tractor and cattle introduction. This is because plowing takes up most of their labor; the necessity of this goal was supported by the Study Team.

The Study Team conducted 3 pilot projects: a day-care center for children; wells construction for domestic water use; and a cooking stove, for women's domestic labor reduction. As reported in Chapter 5, the wells construction project reduced women's labor and the day-care

center project secured the safety of children while the mothers were working. Women appreciated the advantage in creating time and mental space.

Goal 3 Education Opportunity Creation

Increasing the school enrollment ratio and the adult literacy rate are important goals in rural areas and are embodied in the policies of the Ministry of Education. In the Study including pilot projects, most basic education needs, as reflected in the lack of school time for children and illiteracy in the case of adults, were not being fulfilled and people strongly desired to improve these situations. Thus, education opportunity creation remains an essential goal.

There are many problems relating to children and schools in rural areas, including, the low quality of teachers, low salaries for teachers, insufficient understanding of people concerning the importance of education, and missing opportunities for school enrollment as a consequence of non registration of residence. But the primary problem is the shortage of schools themselves. For the “increase in school enrollment ratio” goal, the Study Team worked with beneficiaries to rehabilitate some school buildings and thereby enhanced school enrollment.

How about another measure, “Expanding literacy classes for adults”? Keen participation by beneficiaries in the sustainable literacy class project and its efficient implementation indicates that this project is strongly motivated. As the Ministry of Education does not have a budget for literacy classes for adults, those classes depended upon funding by international aid agencies. In the pilot project by the Study Team, it was verified that literacy classes become financially sustainable if the classes have their own income sources such as crop production and kiosks.

Goal 4 Income Generation

The need for income generation continues to increase. As the market economy has developed along with the post-war recovery costs for maintaining and improving the social order and increasing opportunities have inevitably increased. The rapid development of the national economy is accelerating this tendency. Thus, income generation as a goal is relevant now and in the future.

In the provisional master plan, the Study Team proposed “Technical support for diversified farm enterprises” and “Financial support for production increases,” as measures for income generation. The reason why both measures were related to agriculture is not only that an increase of job opportunities in large-scale farms is intended, but also that agriculture was the only sector in which rural people can make money through innovative and original efforts with a strong sense of ownership. Diversification, though farmers did not mention this abstract term, had already been actualized in some areas as farmers had begun to grow vegetables.

In the pilot project, the Study Team implemented integrated farming for diversification and

micro credit for production increases. As discussed in Chapter 5, the "Integrated Farming" project had difficulties in technical aspects, but some farmers that actually experienced cash income increases through vegetable production were fully motivated and have attained constant operation of integrated farming without outside support. "Microfinance" projects showed different results by enterprises. Goat and bean growers, who formed farmers' organizations, got loans through the organizations and successfully expanded the number of beneficiaries. It was verified that micro credit in initial stages could have a positive impact on production increases. In contrast, loans for engine pumps and chicken rearing faced troubles, indicating the expected high risk in agricultural financing.

Appropriate technical and financial support to agriculture could realize cash income increases, and the need for that support is still very high. In addition to the results of the pilot projects, vocal support for, as well as organized movements by small-scale farmers for, new technologies and funds were observed in other situations. For instance, in planning workshops, discussed in Chapter 6, there was clear demand for technical support with new technologies. Some farmers in the target area formed a cooperative to apply for bank loans.

As discussed so far, it can be concluded that all four development goals proposed in the provisional master plan are relevant. On the other hand, it has become clear that these goals are not only individually relevant; they interact with one another. Such interaction is discussed next.

Interactions among Goals and the Role of Agriculture

In the provisional master plan, the Study Team assumed that movement from a "stable food supply" to "income generation" would be linear. But, it was clarified through the Study that such movement is accompanied by complicated interactions.

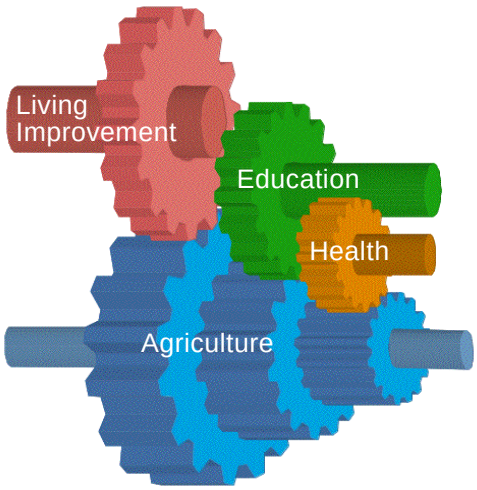


Figure 7-1 Relationship of Sectors

The irrigation canal rehabilitation project is a good example. At first, the objective of the pilot project was production increase of subsistence food crop such as maize in a bid to achieve the goal of a "stable food supply." Although enlarging irrigated land led to basic food production increase as discussed before, other impacts were also observed. First, as irrigated fields expanded near farmers' houses, they could cut time for going to distant fields considerably, which contributed to another goal—that of "labor hours reduction." Labor hours reduction brings elbowroom in daily life, which could support still another goal--"education opportunity creation."

Furthermore, farmers planted beans as a winter crop. Beans are a major cash crop in the target area. It was the beans planting season when the rehabilitation of part of the canals was completed, and land which had been wild field with weeds changed into beans field within a short period of time. Beans are a primary cash crop as well as a major protein source. This measure resulted in the goal of “income generation.”

Confirming these interactions, the Study Team realized again that agriculture is playing a prominent role in the target area. The pilot projects of the literacy class and day-care center for children conducted cash income activities to cover their operational costs. Except for a small shop business, most of the cash income activities involved farming in the field. Thus, growing crops on the collective farms provided financial sustainability to literacy classes and the day-care center for children.

Farmers’ expression of their strong needs for cattle traction in many planning workshops indicated that the longest labor was plowing and they could not solve further problems without alleviating plowing labor.

It is obvious that agriculture is primary for achieving the goal of “a stable food supply.” But “labor hours reduction” cannot be realized without agricultural infrastructure construction and agricultural technology improvement. “Income generation” is also primarily realized by agriculture. Even “education opportunity creation” was financially supported by agriculture.

The same conclusions can be drawn about the implementation system. It was through agricultural activities that people fully organized themselves. For example, irrigation canal rehabilitation requires collaborative work between multiple communities. The organizational capacity needed for canal rehabilitation expanded to multiple communities as rehabilitation progressed. This is the last stage of organizing, which is called networking.

7.3 Implementation System

The provisional master plan is examined and the roles and capacity of administration, community organizations and NGOs are illustrated here. The table below is the summary of the implementation system shown in the provisional plan.

Table 7-1 Roles and Capacity of Actors Shown in the Provisional Plan

Model: Reconstruction and development with maximized spontaneous and organizational activities of community people		
	Roles	Required Capacity
Comuna administration	- Implementing participatory planning - Supporting community organization as a facilitator	=>Planning, Monitoring/Evaluation =>Management of the implementation of development projects
Community organizations	- Requesting needs based on their ownership - Implementing development projects	=>Support to community people to become independent =>Management of the implementation of development projects
NGOs	- Implementing development projects - Training community people on development project implementation - Reporting the progress of development project to affiliated organizations	=>Management of the implementation of development projects =>Support to community organizations to become independent =>Accounting and management of the implementation of development projects

Comuna Administration

In accordance with the progress of decentralization, planning *Comuna* by *Comuna* in the design and implementation of development projects is required along with the participation of community people. Although a development Advisory Committee in each *Comuna*, consisting of the representatives of the community people and private sectors, has already been formed, it seems to be just *pro forma*. Almost no members had the experience of actual training for the planning of development projects.

Nevertheless, when the Study Team conducted participatory planning workshops in the *Comuna*s, most participants showed a keen and positive attitude and *Comuna* administration staffs led the discussions. Ownership seemed to be fairly high and the Team felt sure that the actors already have the basis for playing their expected roles in the near future.

The most important planning function of the *Comuna* administration is to indicate project ideas that meet community needs, showing the scale of the projects and their priority. In the planning workshops, project scales were calculated and the Study Team demonstrated the criteria for making decisions on prioritization.

The *Comuna* administration staff understood the definition of the criteria and showed other participants how to prioritize project ideas. The administration staff members are expected to be able to explain prioritization to project candidates and to be able to summarize workshop discussions to derive a conclusion. But when determining project contents, the *Comuna* administration needs to have technical advice by specialists and NGOs, except in the case of projects with clearly defined specifications, such as school and health-post building construction.

In terms of support to community organizations and the monitoring of development projects,

the capacity of the *Comuna* administration staff varied depending on the nature of the projects.

In projects in which participation of community people is limited, such as school building construction and maintenance, administration staff just need to monitor the project's progress, specifications and quantity of materials that the project uses.

On the other hand, when large-scale construction such as irrigation rehabilitation is implemented following a participatory approach, the *Comuna* administration should consider the best way to establish a management system overseen by community people once the rehabilitation has finished. The *Comuna* administration, however, have to deliver ordinary services to community people, and their staff number is limited. In the pilot projects, NGO staff compensated for the shortage of *Comuna* administration staff.

It proved to be difficult for the *Comuna* administration and community people to become leaders of development projects straight away because they do not have experience in acting on their own initiative in the implementation of those projects. But the Study Team asked the administration staff to fully implement what only the *Comuna* administration staff can do. Indeed, they can handle some kinds of projects on their own initiative to some extent.

For example, in the "Literacy Education" pilot project, administration staff recommended that some participants who showed excellent performance in class should transfer into formal an education course. Roles that only the administration staff can play may enhance people's ownership. Similarly, soil improvement technology with grasses can be easily disseminated if extension officers and community organizations cooperate. Likewise, many projects with a small investment and strong impact can be implemented by administration and community organizations.

Table 7-2 Roles and Capacity of *Comuna* Administration

Roles	Capacity to acquire
Implementing participatory planning Collecting and reporting reliable data that municipality demands	-Being able to report project ideas with operation scale and priority to municipality - Making a decision whether people participation is needed or not for sustainability of the project, depending on project objectives - Observing ownership of people when participation is necessary - Making a decision whether outside resource persons are necessary for the project or not - Monitoring and reporting to upper organizations on problems, outcome with its reasons, countermeasures and recommendations
Supporting community organizations as facilitators Not only organizing people but also bringing it up as development organizations	- Being able to advise to community organizational activities, being supported by NGOs - Monitoring activities of community organizations and giving advice
Implementing projects with low investment to get high performance	-Implementing by administration staff under the cooperation of community organizations

Community Organizations

Community organizations play a role in the planning of a project, as a member of the Development Advisory Committee. They are expected to implement development projects. However, the opportunity for them to participate in planning of community development has been limited to making requests through traditional community leaders.

But the ownership of young *de facto* community leaders who participated in planning workshops was very high. It was observed that they could read and write and could be useful information sources for the *Comuna* administration. The *de facto* leaders use the influence of traditional leader and administration staff and they can prioritize development needs, offering good reasons.

For instance, in the “Microfinance” pilot project, an agricultural cooperative run by young leaders planted beans. They could explain the financial feasibility before starting the project and the project resulted in the expected profit. Moreover, they established a seed bank and increased the number of beneficiaries, thus improving the financial status of the cooperative.

The Study Team had expected community organizations to be able to implement development projects on behalf of NGOs but could not validate their ability during the Study period. But the Team observed the potential for such implementation. First, in the pilot projects such as "Literacy Education” and “Maize Yield Increase with Grasses” projects, there were individuals who could perform sufficiently. Ownership is now increasing in the target communities and the possibility of diffusing a sense of ownership from individuals was confirmed in literacy classes and in the soil improvement project.

It is not difficult for them to grow to community development organizations in a few years if they get support from the *Comuna* administration and NGOs for a while.

Table 7-3 Roles and Capacity of Community Organizations

Roles	Capacity to acquire
Requesting needs based on sense of independence Requesting with priority based on operation scale, economical feasibility and impact	- Determining the number of target people with its reasons, reflecting needs of people. Presenting simple calculation on economic feasibility, impact and objective prioritization of project ideas.
Implementing development projects Managing projects with facilitating participation of community people, getting support of NGOs and administration	- Being able to make requests in necessary timing for facilitating participation of community people - Selecting and managing projects that can be implemented by community people themselves with a little support of administration.
Implementing projects with low investment to get high performance Trying to enhance capacity of all people in a community	-Implementing by community organizations themselves under cooperation of administration staffs

NGOs

NGOs had been expected to grow from organizations that deliver goods in emergencies into NGOs that can manage development projects. But in the pilot project conducted by the Study Team, NGOs could not manage projects precisely in terms of quantity surveys and supervision in construction works, resulting in budget shortages and project delays. The Team intervened frequently to solve problems. Some NGOs, however, learned lessons from their failures and grew into development-oriented organizations. It seemed to require a sense of ownership—the realization that they could survive unless they changed into development-oriented organizations.

Concretely speaking, as those NGOs were lacking in technical expertise, the Study Team hired a consultant to cover technical aspects. The NGOs not only accepted what the consultant said but also mastered some information and applied it to their activities. The NGOs improved their quantity surveys for specific numbers of material required for the project, beginning to include risk factors into their calculations.

For strengthening community organizations, NGO staff stayed at the site and analyzed the customs of the community people who worked with them. The NGO staff felt that it was ultimately necessary to achieve the objectives of the projects to be with the community people continuously.

In the “Irrigation Canal Rehabilitation” pilot project, community people had thought that the core staff of the community organization were paid by the NGO and so were skeptical about the activities of the community organization. But the NGO sincerely and patiently explained their work to the community people and astutely asked the *Comuna* administration staff to persuade the community people about the feasibility of the project. Finally the community organizations earned the trust of the community people.

In terms of accounting and monitoring reports, NGOs tend to turn in *pro forma* reports with little concrete contents. This could be because the government only requires the budget and the number of beneficiaries with an evaluation--whether or not the project is completed within planned period. This could affect NGOs’ reports—if they do not furnish concrete information about what happened and how they managed it. At the Study Team’s request NGO reports gradually improved to include causes of problems and their solutions.

Table 7-4 Roles and Capacity of NGOs

Roles	Capacity to acquire
Implementing development projects Implementing project smoothly, getting support of specialists on quantity survey and technical issues	- Determining specification and conducting precise quantity survey in projects on infrastructure and new technology introduction, getting advice from specialists - In supervision of works, explaining technical problems to specialists, understanding advices of the specialists, communicating them to contractors and monitoring it. - Asking to specialists before problems become large
Training on the management of project implementation by community people Training community organizations on technology, logistics and facilitation of participation	- Transferring to community people how to acquire technologies and methods for procurement of necessary materials - On facilitating of community participation, assessing capacity of community people, analyzing local customs and determining when administration should intervene
Reporting progress of projects to higher organizations Reporting problems, causes and countermeasures to institutions concerned on a timely manner	- In addition to accounting, reporting problems and impact with their reasons on the progress of development projects. Presenting lessons and recommendations.
Dissemination of development tools Transferring development tools for administration and community organizations to be able to play core roles in development	- Being able to transfer tools that can be acquired by administration staffs

7.4 Detailed Verification by Using the Monitoring Sheet

7.4.1 Irrigation Canal Rehabilitation

Major actors in the Irrigation Canal Rehabilitation project were the *Comuna* administration, the irrigation rehabilitation committee (a community organization), and an NGO. The two goals were:

- To implement rehabilitation work primarily by using voluntarily participating farmers during the rehabilitation period.
- To establish a water users association and to make it functional after completing rehabilitation.

To accomplish these goals, the following were expected of the actors:

The *Comuna* Administration

- Check project progress, intervening and solving problems when necessary.
- Establish a community organization comprised of community people, and support its activities.

Community Organization

- Facilitate community participation in rehabilitation work.
- Evolve into a water users association after completing rehabilitation.

NGO

- Manage the project and solve problems as they occur.
- Support the establishment of a community organization and facilitate its activities.
- Facilitate community participation in rehabilitation work.

The Study Team monitored whether the actors utilized their capacities in terms of the expected roles shown above. The Team determined the capacities expected of each of the actors and took measures to enhance their capacities beforehand.

To understand whether these capacities[1] function and whether the assumed measures were effective, the Study Team used a monitoring sheet as shown in Chapter 1, analyzing the problems that occurred and their causes, as well as noting measures to solve the problems and the results of such measures in relation to expected capacities.

When a problem happened, the Study Team analyzed what capacity of which actor was not exerted so as to cause the problem; or, what capacity of which actor was exerted to solve the problem. The summarized results of the monitoring sheet are discussed in this section.

A. Causes of Problems and Capacities of Actors

Most of the problems that happened during the rehabilitation related to the delay of work. The

[1] Definitions of expected capacities are as follows:
Community mobilization capacity: To facilitate target community people to take actions for the project (for Community Organization or CO, NGO, *Comuna* administration or CA)
Planning capacity: To be able to plan on execution management of the project for NGO and Community organization (NGO, CO)
Explaining capacity: To convey necessary message to target persons to make sense of it (NGO, CO, CA)
Ownership: Sense of motivation to move into action on the basis of understanding the project with its impact (NGO, CO, CA, individuals)
Institutionalizing capacity: Capacity to draw up a set of rules of project organizations and institutions (NGO, CO)
Managing capacity: Capacity to monitor the project progress and intervene when necessary to achieve the goal of the project (NGO, CO, CA)
Advising capacity: Capacity to give appropriate advices when necessary (NGO, CA)
Understanding of organizational workflow: Understanding roles and their effectiveness of the member of organizations (CO, individuals)
Technical capacity: Technical expertise and equipments, which are not available in the target area (NGO)
Risk management capacity: Capacity to avert a crisis with analyzing what is happening and taking measures on it (NGO, CO)

Study Teams checked which capacity shortage caused the problems and aggregated the frequency by actors. When a problem happened, and if the problem was caused by the failure to exert the explanation capacity of the *Comuna* administration and by a failure to exert the planning capacity of the NGO, the Study Team checked the cells of failure to exert the explanation capacity of the *Comuna* administration and the cell of failure to exert planning capacity of the NGO. The aggregate number of the marks is shown in the table below.

Table 7-5 Frequency of Factors that Caused Problems

		Comuna Admin.	DA	Provin-cial Gov't	Munici-pality	NGO	Comm. Organi-zation	Comm. leaders	Benefi-ciaries	Comm. people	Total
1	No exertion of ownership			2			9		2	6	19
2	No exertion of explaining capacity	4				6	2				12
3	No exertion of community mobilization capacity	2				7	4	2			15
4	No exertion of planning capacity					7	4				11
5	No exertion of institutionalizing capacity						6				6
6	No exertion of managing capacity					4					4
7	Less understanding on organizational workflow									2	2
8	No exertion of technical capacity						2				2
9	No exertion of advising capacity							1			1
10	No exertion of crisis management capacity										0
	Total	6	0	2	0	24	27	3	2	8	72

Source: The Study Team

There were many cases in which the community organization and the NGO caused problems, 27 and 24 respectively. In the community organization, no exertion of ownership (9), indicated by less than 50% of participation of the 16 members, and no exertion of the institutionalizing capacity for improving the situation through creating a set of rules, for example, accounted for more than half of the total causes. Concretely, core staff of the community organization set a rule that obligated members to participate in the rehabilitation work, feeling pressed that they must increase the number of participants for meeting and rehabilitation work immediately. But the rule was not observed well because the rule was set without sufficient discussions among members and community people.

In the NGO cases, shortages in planning capacity (7), community mobilization capacity (7) and explanation capacity (6) were major factors in problems. At the rehabilitation work, for example, the NGO staff could not explain and instruct clearly about what they wanted participants to do. Due to insufficient managing capacity, it happened that the procuring of

materials for rehabilitation was delayed and participants wasted their time.

The *Comuna* administration took a top-down style of community mobilization at first and they did not have a sufficient explanation capacity (4). So, community people did not understand what the rehabilitation would accomplish. Beneficiaries showed weak ownership (2) and they did not understand the necessity to rehabilitate the canals.

B. Problem Solving and Capacities of Actors

The tables below show what kind of capacity was exerted to solve problems (Table 7-6) and what capacity was not exerted and could not solve problems (Table 7-7).

Table 7-6 Frequency of Factors that Solved Problems

		Comuna Admin.	DA	Provin-cial Gov't	Munici-pality	NGO	Comm. Organi-Zation	Comm. leaders	Benefi-ciaries	Comm. people	Total
1	Exertion of ownership						7		2		9
2	Exertion of explaining capacity	3				6	2				11
3	Exertion of community mobilization capacity	3				22	3				28
4	Exertion of planning capacity					5	3				8
5	Exertion of institutionalizing capacity	1				1	5				7
6	Exertion of managing capacity	2			1	6	6				15
7	Well-understanding on organizational workflow								1		1
8	Exertion of technical capacity						1				1
9	Exertion of advising capacity		1			1					2
10	Exertion of crisis management capacity										0
	Total	9	1	0	1	41	27	0	3	0	82

Source: The Study Team

Table 7-7 Frequency of Factors that Could Not Solve Problems

		Comuna Admin.	DA	Provin-cial Gov't	Munici-pality	NGO	Comm. Organi-zation	Comm. leaders	Benefi-ciaries	Comm. people	Total
1	No exertion of ownership						1		3		4
2	No exertion of explaining capacity										0
3	No exertion of community mobilization capacity					1	3	2			6
4	No exertion of planning capacity										0
5	No exertion of institutionalizing capacity										0
6	No exertion of managing capacity						1				1
7	Less understanding on organizational workflow										0
8	No exertion of technical capacity						2				2
9	No exertion of advising capacity	1									1
10	No exertion of crisis management capacity							1			1
	Total	1	0	0	0	1	7	3	3	0	15

Source: The Study Team

In the table in the previous section, factors that caused problems, the frequency of "No exertion of ownership" of the community organization was 9 and the frequency of "Exertion of ownership" of the same community organization in the first table in this section is 7. This is because there were many different problems and ownership not exerted caused some problems and, in other cases, ownership exerted solved problems. As discussed later, capacities of every actor generally rose gradually. But these tables simply summarize frequency during the whole project period and do not indicate sequential changes.

The frequency of capacity exerted which solved problems and the frequency of capacity which was not exerted and could not solve problems were 82 and 15, respectively. It was an overwhelming conclusion that exerted capacities were shown obviously.

The NGO and the community organization, in particular, indicated that their capacities solved problems. In the case of the NGO, there were three outstanding examples of exertion of capacities: community mobilization capacity, which facilitated participation of people to rehabilitation work and meetings (22); managing capacity, which enabled participants to gain a detailed understanding on the progress of rehabilitation work (6); and planning capacity (5), which achieved well-organized preparation for the rehabilitation work as participants built up their experiences.

The community organization, which worked with the NGO, exerted capacities such as managing (6); ownership (7) and institutionalizing, which created rules that took into account

the actual situations of the community people (5).

The next section will compare exertion of capacity and lack of such focusing on three major actors.

The *Comuna* Administration

The frequency of the *Comuna* administration in causing problems was 6, and failure to exert their capacity for explaining was the largest cause. In contrast, there were 9 cases in which the *Comuna* administration utilized their capacities to solve problems. It was observed that exertion of the community mobilization capacity and the explicatory capacity resulted in an increase in number of participants for the rehabilitation work. For instance, the *Comuna* administration was skeptical about a participatory approach depending on voluntary participation of community people and actually took a top-down style in facilitating an increase of participants. Later they realized that different approaches, in which the Study Team and the NGO tried to play on the same playing field as the community people, were effective and adopted those alternative approaches.

Community Organization

The frequency of capacities that caused problems and the exertion of capacities that solved problems were both 27 for the community organization. It can be noted that they did not exert necessary capacities in many cases—thus causing problems--, and that they also exerted capacities to solve problems in many different cases. The reason why the same capacity was exerted in some cases and not in other cases has to do not only with simple differences in the characteristics of problems, but also with low capacity in the initial phases of the project which had to be fortified gradually in accord with the progress of the project to reach a level sufficient for solving problems.

In terms of managing capacity, for instance, the community organization learned to manage the project on behalf of the NGO when the NGO was absent. They could report on the progress of rehabilitation to the NGO through monitoring. When the community organization evolved into the water users association, they formulated rules on water use getting advice from the NGO. This represented the exertion of their institutionalizing capacity.

NGO

The frequency of lack of capacity exertion of the NGO, which caused problems, was 24, and that of capacity exertion that solved problems was 41. Especially, community mobilization capacity showed a large difference--7 and 22, respectively. (This was also an instance in which capacity had been enhanced capacity step by step in the project period.) The NGO analyzed the characteristics and background of the target communities and facilitated community participation based on their farming and life schedules such as offering convenient meeting times. They had acquired a lot of know-how gradually through trial and error.

Managing capacity in the rehabilitation work was exerted in many cases. In no case did this capacity of the NGO not exerted cause problems; but such capacity exerted solved problems 6 times. Their managing capacity was also enhanced during the project period according to the observations of the Study Team. For example, they adopted flexible work schedule taking into account farming schedules in the community.

C. Conclusions

Comuna Administration

The *Comuna* administration relied upon the NGO for getting a hold on the progress of the rehabilitation work. But, if it is taken into account that the NGO was the organization responsible for the rehabilitation work and that the *Comuna* administration had other tasks in administrative services, the *Comuna* administration's high level of ownership should be positive evaluated; the *Comuna* was able to play on the same playing field as the community people.

The *Comuna* administration intervened and tried to solve problems when only it could play a role. And it joined with the community organization to support its activities.

Community Organization

The difference between active members and non-active members was not that of our initial expectations. But it was the community organization's first experience coordinating among multiple communities on a project. We highly evaluate the community organization's patient facilitation of community participation in the rehabilitation work by trial and error. The organization convened the beneficiaries to explain about water distribution and the obligations of the beneficiaries. The organization is investigating how to make the organization legal entity; it already works as a water users association. With a little further assistance from the NGO, the organization could grow to be a strong community organization for community development.

NGO

Although the NGO early on exposed its overly optimistic prospects in quantity surveys, as well as its low technical adeptness, these problems were solved by getting the technical advice of an engineer. The NGO was absolutely necessary for community participation and for strengthening the community organization. With this project, the NGO achieved the greatest enhancement of its capacities among the various actors.

7.4.2 Day-Care Center

A major actor involved in implementation was the day-care center management committee (hereafter "the committee"), comprised of children's nurses and parents' representatives.

Involvement of the *Comuna* administration and the NGO was limited, as evidenced from the

fact that the former was involved on special occasions rather than in daily operations and the latter was involved only at the commencement of the project.

The Study Team suggests two things as the most important requirements of the project:

- Project stakeholders, mainly beneficiaries, should voluntarily participate in the construction of day-care center facilities.
- The establishment of a functional management committee comprised of inhabitants' representatives.

To achieve these, involved actors will be expected to contribute in the following ways:

***Comuna* Administration**

- Explain the project and motivate inhabitants.
- Grasp the progress of the project and intervene when necessary to resolve problems.
- Working with inhabitants, establish and support committee activities.

The Committee

- Promote inhabitants' participation in the project.
- Be responsible for project management and administration.

NGO

- Monitor progress and resolve problems.
- Establish and support committee activities, together with inhabitants.
- Promote inhabitants' participation in the project, together with the committee.

A. Cause of the Problem and Actors' Capacity

Most of the problems happened during the time-consuming preparation stage. The following Table 7-8 summarizes which type of actors' lack of capacity caused the problems.

Table 7-8 Cause of the Problems

		NGO	Committee	Nurse	Village leader	Beneficiary	Study Team	Total
1	No exertion of ownership		2			23		25
2	No exertion of explaining capacity	2	1		1		1	5
3	No exertion of community mobilization capacity	1	3		2		1	7
4	No exertion of planning capacity		3					3
5	No exertion of institutionalizing capacity							0
6	No exertion of managing capacity	1	3		1			5
7	Less understanding on organizational workflow							0
8	No exertion of technical capacity			3				3
9	No exertion of advising capacity							0
10	No exertion of crisis management capacity							0
	Total	4	12	3	4	23	2	48

Source: The Study Team

The biggest causes of problems came from the beneficiaries and the committee, which were 23 and 12 times respectively. It was the very first experience for beneficiaries to manage the project on their own and to manage the fund institutionally.

Moreover, due to their persistent perception (the belief that "External support is the donation") since the period of emergency aid, they tended to be reliant upon others and greatly lacked a sense of ownership.

Major committee memberships were occupied by people who didn't have the experience of taking leadership positions in the village, as a result of the selection criteria of prioritizing their eligibility as children's nurses. This lack of leadership experience caused many problems in promoting inhabitants' participation, the planning of the roster, communication among responsible persons, and monitoring of implementation. Especially just after the establishment of the committee, these ill-prepared members revealed that they were unable to explain to inhabitants clearly what was required of them, and unable to share information efficiently among the committee members themselves.

Besides the findings on the beneficiaries and the committee, there was also an important finding on the work of the NGO. In the first year of this study, the Study Team had commissioned the implementation of the pilot project to the local NGO which had experience with child-related projects. This NGO had been in good standing with the provincial/municipal Social Assistance Department. However, they were unable to understand the intention of the Study Team in the idea of independent and sustainable management of a day-care center. As the Study Team found the NGO’s facilitation capacity insufficient during the workshop with inhabitants, the Study Team cancelled the commission to this NGO and directly implemented the project.

This is the reason why NGO escaped some blame as the cause of the problem in the table above.

In no case was it reported that the *Comuna* administration caused a problem. On this project, the *Comuna* officer in charge of social issues accompanied the workshop during the preparation stage and contributed to promoting the inhabitants' participation. However, since multiple projects had been implemented in this village and since villagers were preoccupied by the follow-up of other projects and their original duties, they gradually became less involved in the monitoring of the day-care center. For important events like the inauguration ceremony of the day-care center, the officer in charge of education attended instead.

B. Relation between Resolution of the Problem and Actors' Capacity

The following Table 7-9 summarizes the link between resolved and unresolved problems and actors' capacities.

Table 7-9 Factors Contributing to the Resolution of Problems

		NGO	The committee	Nurse	Village leader	Beneficiary	Study Team	Total
1	Exertion of ownership		3	1	1	27		32
2	Exertion of explaining capacity		2	1	2		2	7
3	Exertion of community mobilization capacity		4		3		4	11
4	Exertion of planning capacity		1					1
5	Exertion of institutionalizing capacity		1					1
6	Exertion of managing capacity		5					5
7	Well-understanding on organizational workflow							0
8	Exertion of technical capacity						1	1
9	Exertion of advising capacity						7	7
10	Exertion of crisis management capacity				2		4	6
	Total	0	16	2	8	27	18	71

Source: The Study Team

Table 7-10 Factors which Hampered the Resolution of Problems

		NGO	The committee	Nurse	Village leader	Beneficiary	Study team	Total
1	No exertion of ownership		1	2		2		5
2	No exertion of explaining capacity	1						1
3	No exertion of community mobilization capacity	1	1				1	3
4	No exertion of planning capacity							0
5	No exertion of institutionalizing capacity							0
6	No exertion of managing capacity	2						2
7	Less understanding on organizational workflow							0
8	No exertion of technical capacity							0
9	No exertion of advising capacity							0
10	No exertion of crisis management capacity							0
	Total	4	2	2	0	2	1	11

Source: The Study Team

As shown in the table, cases in which capacity was exercised and those in which it was not were 71 and 11 respectively.[2] The successful cases were in the majority.

Looking at the actor-wise results, successful cases mainly involved beneficiaries, the Study Team and the committee. In the case of beneficiaries, 27 problems were resolved as a result of their strong ownership in the project. 5 cases were reported in which the committee resolved problems by the exercise of their management capacity.

With the progression of the project, the roles of the members became clearly identified and their discussions became livelier. This led to the resolution of problems, such as enhancing inhabitants' participation by changing the meeting schedule and method of communication or enhancing the transparency of managing tools and the food stock. They improved their explicatory capacity (2) and community mobilization capacity (4), as was seen by their explaining and facilitating the inhabitants' participation without the help from the Study Team.

Next, let us compare and examine the frequency of unresolved cases and resolved cases according to major actors' capacities.

The committee

The committee caused and resolved problems12 and 16 times respectively.

In terms of their planning capacity, it seldom resolved problems, though it had sometimes

[2] However, it is needed to notice that this high frequency does not necessarily indicate the level of achievement of the respective issues. The frequency stands for the number that each actor responded to the corresponding problems.
It might be appropriate to consider this high figure includes expectation that their rich experience might achieve the target.

caused problems (3 times). Though limited to a few occasions, they had the chance of exercising their ownership, their facilitation capacity, their presentation, management, and formulation of rules and regulations. For example, in discussions with inhabitants, initially the Study Team had conducted direct discussions, but gradually the committee members took over partial responsibility. They took the step of assuming responsibility, starting from hosting the meeting, reporting decisions, and finally answering question from the inhabitants.

During internal discussions of the committee at earlier a stage of the project, only a few members tended to respond to comments from the Study Team. But with the progression of the project, all members were able to express their ideas and questions.

Activation of the meeting seemed to take place in parallel to the improvement of their management capacity. This was because a better management system was developed by exchanging members' ideas.

What was expected of the committee was to manage the cleaning of the site and the construction of a simple nursing facility, with the inhabitants' participation. When the inhabitants' participation was less than expected, the committee was able to analyze causes (such as “duplication with the harvest season,” or, “lack of dissemination of information to inhabitants”) and devise counter-measures.

At the initial stage of the project, several problems occurred. However, thanks to the committee’s high ownership and interest in improving their capacity, matters improved. Especially, since they had worked for a long time preparing the opening of the day-care center, they became confident and were actively involved in the meetings after the center opened and they saw the results of their work.

C. Conclusion

The Committee

The committee members were the same village inhabitants as other beneficiaries. Therefore, initially, they, as committee members, were anxious about achieving successful management of the day-care center based on a participatory approach. Their concern came from the fact that traditional village activities had been under the control of traditional village leaders.

One of the reasons why inhabitants accepted management by the committee was the patient and persistent activity by the committee members. Although the committee initially hesitated to take leadership in the village, their confidence deepened thanks to the OJT of the Study Team.

Thanks to their various discussions, the committee enhanced their ownership and was able to make effective decisions. Although it took more than a year of preparation till the opening of the day-care center, this kind of steady effort changed the perception of the beneficiaries, as has been mentioned above.

Working closely in joint efforts with beneficiaries was a significant point which the Study Team facilitated. With deep understanding of their idea, and with the support of local NGOs and the *Comuna* administration, and by spending sufficient time, the Study Team believes that inhabitants' organization will be capable of managing the project on their own.

7.4.3 Rehabilitation/Construction of School

Major actors of the project implementation system were the parents' committee (hereafter, "the committee"), consisting of the *Comuna* administration and the inhabitants' representative, and the NGOs.

Following are the requirements for implementation:

- Rehabilitation/construction by voluntary participation of inhabitants.
- Establishment of the committee to supervise inhabitants' work.

To satisfy the above mentioned requirements, the following responsibilities were expected from each actor:

The *Comuna* Administration

- Monitor the implementation process, intervene and resolve problems (if necessary)
- Establish the committee jointly with the inhabitants' representative and support their activity.
- Facilitate inhabitants' participation in the construction project.

The Committee

- Facilitate inhabitants' participation in the construction project.
- Serve as the operational and managerial organization after completion of the project.

NGOs

- Monitor the implementation process and resolve associated problems.
- Establish the committee jointly with the inhabitants' representative and support their activity.
- Facilitate inhabitants' participation and their cooperation with the committee.

The status of actor-wise capacity to fulfill their responsibility was summarized, by using [4.3 Monitoring Methods].

The results were as follows:

A. Causes of Problems and Capacities of Actors

A problem uncovered during the Study was the delay of rehabilitation/construction due to the non-participation of inhabitants.

The following Table 7-11 summarizes the link between the problem and the lack of the actors' capacity.

The primary cause of the problem was related to the stakeholders' mindset of the inhabitants and the committee, and the management capacity of NGOs and the committee.

Table 7-11 Frequency of Factors that Caused Problems

		Comuna Admin.	Provincial Gov't	Municipality	NGO	CBO	Committee	Comm. leaders	Beneficiaries	Comm. people	Total
1	No exertion of ownership						5		8		13
2	No exertion of explaining capacity				2	1					3
3	No exertion of community mobilization capacity	1			9		4				14
4	No exertion of planning capacity				5						5
5	No exertion of institutionalizing capacity						3				3
6	No exertion of managing capacity	1				2					3
7	Less understanding on organizational workflow										0
8	No exertion of technical capacity				2						2
9	No exertion of advising capacity										0
10	No exertion of crisis management capacity										0
	Total	2			18	3	12		8		43

Source: The Study Team

In the case of the biggest factor, no exertion of the community mobilization capacity (frequency 14), was mostly derived from the lack of the NGO's capacity. Concretely, there were delays in problem solving because they didn't grasp the progress of the problem due to the lack of field monitoring.

The next biggest factor was a lack of ownership (13); a breakdown here would show a lack of understanding by the beneficiaries (8) and by the committee (5) concerning the participatory approach (5). Both had the perception that a certain incentive such as food provision was necessary for participation in the construction project.

B. Problem Solving and Capacities of Actors

Following Table 7-12 illustrates the link between resolved and unresolved problems and actors' capacities.

Table 7-12 Frequency of Factors that Solved Problems

		Comuna Admin.	Provin-cial Gov't	Munici-pality	NGO	Comm ittee	Comm. leaders	Benefi-ciaries	Comm. people	Study Team	Total
1	Exertion of ownership				1	4		6			11
2	Exertion of explaining capacity				1					1	2
3	Exertion of community mobilization capacity	1			4	4	3			1	13
4	Exertion of planning capacity										0
5	Exertion of institutionalizing capacity					1		1			2
6	Exertion of managing capacity	2				1				4	7
7	Well-understanding on organizational workflow										0
8	Exertion of technical capacity										0
9	Exertion of advising capacity										0
10	Exertion of crisis management capacity	1					1			3	5
	Total	4			6	10	4	7		9	40

Source: The Study Team

Table 7-13 Frequency of Factors that Could Not Solve Problems

		Comuna Admin.	Provin-cial Gov't	Munici-pality	NGO	Comm ittee	Comm. leaders	Benefi-ciaries	Comm. people	Study Team	Total
1	No exertion of ownership										0
2	No exertion of explaining capacity									1	1
3	No exertion of community mobilization capacity	1			2						3
4	No exertion of planning capacity										0
5	No exertion of institutionalizing capacity										0
6	No exertion of managing capacity									1	1
7	Less understanding on organizational workflow										0
8	No exertion of technical capacity										0
9	No exertion of advising capacity										0
10	No exertion of crisis management capacity						1				1
	Total	1	0	0	2	0	1	0	0	2	6

Source: The Study Team

Actors' Capacity Unable to Resolve Problems

The frequency of the resolved and unresolved cases was 40 and 6 respectively, and 31 and 4 if excluding cases related to the Study Team. Capacities which especially led to solutions were: promoting participation (13); and ownership (11).

Actors who contributed the most to the solution were the committee (10), followed by beneficiaries (7) and the NGO (6). When considering capacities leading to solutions, "ownership" or "promoting participation" was the biggest factors for both actors (the committee and beneficiaries). These items directly related to inhabitants' participation in the construction project. NGOs had, in addition to the aforementioned two capacities, outstanding capacities of facilitation and of motivating inhabitants.

For example, in Kateque Village where the inhabitants were responsible for the production and transportation of soil blocks, they produced hundreds of soil blocks. Although the inhabitants did not reach their target, the NGO expressed appreciation for their efforts and actually compensated for the cost of the deficit. This action, in principle, was meant to maintain the motivation of the inhabitants. They tried to improve the stakeholders' thoughts and feelings about the project, effectively using incentives.

Next, the actors will be compared in terms of the frequency of their becoming the cause or solution of problems. Excluding the intervention by the Study Team, the number of problems and the number of solutions were 43 and 31 respectively. The following describes our analysis of the problems-solutions figures.

The *Comuna* Administrator

The Frequency of problems and solutions were 2 and 4 respectively.

At the initial stage, the *Comuna* administrator responsible for education had always accompanied the NGO and the Study Team to attend the meeting for explaining community participatory construction works or to facilitate their participation for establishment of the parents' committee.

However, they rather acted as a third-party and didn't show positive commitment. Therefore they became neither the cause of problems, nor the cause of solution.

As the project progressed, the NGO's incapacities became evident, and they began to have problems in the field. Then, the administrator actively visited the construction field and began to monitor the progress.

The Committee

The frequency of problems and solutions derived from the committee were 12 and 10 respectively. All the villages had strong ownership and were highly capable in terms of facilitation. However, results varied greatly by villages.

Some villages were not able to mobilize inhabitants due to weak ownership of the committee,

whereas some others had strong ownership and voluntarily visited households to promote their participation.

NGO

The Frequency NGOs causing problems or solving them were was 18 and 6 respectively. Management and planning incapacity often became the cause of the problem, whereas their facilitation capacity to disseminate information to inhabitants and to promote their participation was improved. The Frequency of the problems caused by inadequate management and planning indicates that their management capacity did not improve as a result of the project. For example, in estimating the quantity of cement and paint, they made estimates based on their experience and visual observations, not based on calculations of surface areas of floors and walls. This caused a shortage of materials. Although the Study Team tried to improve their capacity by teaching calculation methods, no obvious improvement was observed.

C. Conclusions

This project adopted the idea of a participatory approach for inhabitants. The result was different in different villages. This difference was due to the level of understanding the inhabitants achieved through their participation in the rehabilitation/construction project. Villages with strong ownership sustained their efforts to the completion date; however, other villages didn't show obvious improvements as a result of the project.

The *Comuna* Administration

In the preparation stage, the administrators, temporarily positive for the sake of vitalizing the committee, had always attended inhabitants' meetings, as well as the parents' committee after completion of the project. However, this was rather temporary. Although the Ministry of Education promoted the parents' committee, no regular monitoring by the administrator was conducted after the conclusion of the project.

The Committee

Some committees with strong ownership improved their facilitation capacity. However, without clear vision and institutionalization, their efforts didn't continue. Although they were activated during construction to arrange inhabitants' participation, most of the activities of the committee stagnated after completion of the project since there were no urgent needs of operation and maintenance.

NGO

On public works and construction projects, it is indispensable to mobilize specialists who have expertise. It should be possible to improve the ability of NGOs with less experience in the participatory approach, by introducing OJT from the Study Team or from another experienced resource.

7.4.4 Literacy

Major actors involved in the implementation system of the project were: the *Comuna* administration; the literacy education committee consisting of inhabitants' representatives (hereafter the committee) and the NGO.

Following are the requirements for project implementation:

- Operate sustainable literacy education by utilizing the inhabitants' initiative.

To satisfy the above requirements, the actors were expected to have the following capacities:

The *Comuna* Administration

- Motivating inhabitants and promoting their commitment to community the income-generating project.
- Monitoring the management of literacy education and the progress of the community income-generating project.

The Committee

- Operating and managing the community income-generating project.

NGO

- Training literacy teacher; managing the literacy education project; and monitoring the progress of the community income-generating project.

A. Causes of Problems and Capacities of Actors

Most problems found during this Study were related to the community income-generating project aimed at supporting the literacy education project. The following Table 7-14 summarizes the causality between those problems and the lack of actors' capacity.

Table 7-14 Frequency of Factors that Caused Problems

		Comuna Admin.	Municipality Department of Education	NGO	Com mittee	Literacy teachers	Comm. leaders	Benefi-ciaries	Comm. people	Study Team	Total
1	No exertion of ownership	2			1	4		5			12
2	No exertion of explaining capacity	1								3	1
3	No exertion of community mobilization capacity				1						1
4	No exertion of planning capacity				2						2
5	No exertion of institutionalizing capacity										0
6	No exertion of managing capacity						2				2
7	Less understanding on organizational workflow										0
8	No exertion of technical capacity										0
9	No exertion of advising capacity										0
10	No exertion of crisis management capacity										0
	Total	3	0	0	4	4	2	5	0	3	18

Source: The Study Team

The biggest cause of problems was the lack of ownership (12).

To break down this conclusion: the lack of understanding of the beneficiaries and the literacy teacher concerning the community income-generating project had frequencies of 5 and 4 respectively.

Both claimed that administration should cover the salary for literacy teacher.

However, it is necessary to notice other answers of the literacy teacher, who claimed hesitation on taking the initiative to promote income-generating project, which directly led to their income.

B. Problem Solving and Capacities of Actors

The following Table 7-15 summarizes the relation between actors' capacities and resolved/unresolved problems.

Table 7-15 Frequency of Factors that Solved Problems

		Comuna Admin.	Municipality Department of Education	NGO	Committee	Literacy teachers	Comm. leaders	Beneficiaries	Comm. people	Study Team	Total
1	Exertion of ownership	1	2		2	7		7			19
2	Exertion of explaining capacity	1					1			1	3
3	Exertion of community mobilization capacity	3			3		3			4	13
4	Exertion of planning capacity				2						2
5	Exertion of institutionalizing capacity				1						1
6	Exertion of managing capacity	6			3		3				12
7	Well-understanding on organizational workflow										0
8	Exertion of technical capacity										0
9	Exertion of advising capacity										0
10	Exertion of crisis management capacity										0
	Total	11	2	0	11	7	7	7	0	5	50

Source: The Study Team

Table 7-16 Frequency of Factors that Could Not Solve Problems

		Comuna Admin.	Municipality Department of Education	NGO	Committee	Literacy teachers	Comm. leaders	Beneficiaries	Comm. people	Study Team	Total
1	No exertion of ownership										0
2	No exertion of explaining capacity	1			1					1	3
3	No exertion of community mobilization capacity									1	1
4	No exertion of planning capacity										0
5	No exertion of institutionalizing capacity										0
6	No exertion of managing capacity										0
7	Less understanding on organizational workflow										0
8	No exertion of technical capacity										0
9	No exertion of advising capacity										0
10	No exertion of crisis management capacity										0
	Total	1			1					2	4

Source: The Study Team

The Frequency of resolved cases and unresolved cases were 50 and 4 respectively; and 45 to 2 if we except the cases related to the Study Team. This big margin of difference in favor of resolved cases was a result of the remarkable development of the actors' capacity in the implementation process of the community income-generating project. Capacities especially contributing to solutions were: ownership (19); promoting participation (13); management capacity (12).

All actors, except for the education department and the NGO contributed capacity, and the biggest contributors were the *Comuna* administration and the committee (where the frequency was 11.)

As for the *Comuna* administration, they showed good management capacity (6) by accompanying inhabitants to the meetings and by their monitoring of the whole project.

As for teachers and beneficiaries, they expressed strong ownership at the meeting for the community income-generating project, by expressing themselves candidly, and sharing responsibilities. (Both 7)

Next, let us examine the number of times capacity became the cause of the problem or solution. The cases bearing on problems and solutions were 15 and 45 respectively (excepting cases of intervention by the Study Team). Following is the actor-wise analysis.

The *Comuna* Administrator

The number of times for causing problems and effecting solutions were 3 and 11 respectively.

Initially, the *Comuna* coordinator of the education sector was suspicious about the feasibility of the community income-generating project, since they expected the education department to cover the salary of the literacy teacher.

However, by continuously participating in the meetings between inhabitants and the Study Team, they witnessed the growing sense of ownership among the inhabitants. As a result, the coordinator worked harder to facilitate inhabitants' participation.

The coordinator of education, thanks to his/her management and monitoring capacity of the overall project--including the community income-generating project--, is supposed to contribute to maintaining the ownership of the literacy teachers and students even after the initiation of the literacy education project.

The Committee

The frequency of the problems caused and solutions derived from the committee were 4 and 11 respectively. It was found that an insufficient planning capacity (2) caused delays in listing necessary commodities.

However, later, the capacity to promote participation and the management capacity were both improved, as can be seen by the mobilization of inhabitants to promote the preparation and implementation of the income-generating project.

NGOs

Initially, expected roles of NGOs were: to train the literacy teachers; to manage literacy classes; and to monitor the progress of the community income-generating project. However, it was difficult to find eligible NGOs which could satisfy all the requirements; therefore, the Study Team hired a specialized NGO for literacy education and the Study Team directly implemented the community income-generating project together with inhabitants and the *Comuna* administration.

Effective Measures

This section explains the effective measures to develop ownership of literacy teachers and beneficiaries (students) during and after selection of the target village.

A common approach applied at both periods involved a "thorough discussion with stakeholders". The objective of this approach was to "confirm and maintain" ownership during and after selecting the target village.

As mentioned before, out of villages with inhabitants who had graduated from literacy teacher classes[3], 8 villages which had voluntarily opened literacy classes were selected as the target.

When selecting those villages, the Study Team explained the necessity of the community income-generating project in order to cover teachers' salaries--the most important expense to maintain the literacy class.

Initially, most villages agreed to this approach. While elaborating the details, however, it was found that some villages wanted to have literacy class by conducting the community income-generating project, whereas some didn't. Beneficiaries showed the strongest ownership for maintaining the literacy class when they conducted the community income-generating project.

The firm ownership of beneficiaries promoted the active participation of the literacy teachers in the community income-generating business.

Apparently, holding the meetings to confirm their ownership further enhanced their self-worth. After selecting the target villages, the Study Team set up opportunities for thorough discussion among inhabitants to select/implement/monitor the project of the community income-generating project. During this period, the management capacity of the *Comuna* administration, as was observed from their performance (including, consistent attendance at meetings and the monitoring of the literacy class and the community income-generating project), helped them to maintain the ownership of inhabitants.

Moreover, when conducting an exam to check the level of the students, the literacy teachers expressed appreciation to the Study Team and administration, saying that they were

[3] Municipality's education division, simultaneously with the Study Team, had conducted training of literacy teacher with other donors' aid. Therefore, graduates of this training opened the literacy class in advance, since they believed the education division would pay their salary and open literacy class.

encouraged by their sincere attitude. It is worth mentioning that these actions strengthened the ownership of both literacy teachers and students.

C. Conclusions

This project established a system to maintain literacy classes by establishing a community income-generating project. This is the positive outcome of the organized capacity of the inhabitants, formed by strong ownership among beneficiaries in having literacy education and management capacity of literacy teachers.

This project is one of the best examples among pilot projects of the big contribution of the *Comuna* administration.

Comuna Administration

As a result of its monitoring, the Study Team realized the effectiveness of the community income-generating project.

Also, operational and managerial capacity had been reinforced through joint implementation of an achievement test, analysis of results, and collective measures with the Study Team.

The Committee

Through the community income-generating project, and with the enhanced ownership and cooperation of the literacy teachers, the committee improved its capacity to maintain the project.

Also, by administering the achievement test, they enhanced their ownership by planning and elaborating the curriculum together with the *Comuna* administration.

Chapter 8

Master Plan for Reconstruction and Development of Rural Area of Lobito Municipality

In formulating development strategies and a master plan of the target areas, it is important to first take into account the transformation of Angola from postwar reconstruction to full-scale economic development. Then the position of the target areas in Angola should be clarified, and development strategies and a master plan should be formulated in such a way as to realize the areas' long-term potential.

The master plan and development strategies should be based on planning and implementation capacity, as well as the system in place in the Lobito municipality-- the primary target of decentralization of the central government. The description of the master plan should be straightforward so as to be understood by administration and NGO staff in other areas as well as in the target area.

8.1 Development Strategy

8.1.1 Development Policy -- From Reconstruction to Development

The big picture of Angolan society is that the mode of Angolan society has already transformed from post-war reconstruction to full-scale economic development. Ex-refugees, both those who have returned to their hometowns and those who have settled down in new areas, have already started to produce food and gain income from agriculture.

When the Study Team started this research in 2004, it was just a couple of years after the termination of the civil war. However, it was observed and reasonable to conclude that mode transformation had already occurred in many areas. For example, community people in Culango *Comuna*, which had a number of ex-refugees, made spontaneous efforts and had started irrigation rehabilitation.

Though postwar factors, such as placed mines, discharged soldiers and decreased livestock, are still cast shadows over rural development in Angola, conditions have improved when compared to those conditions that existed straight after the termination of the civil war. Moreover, infrastructure has rapidly been rehabilitated due to large-scale income from oil and natural gas production and infrastructure construction supported by Portugal, the former colonial master, and by China which has provided a large amount of loan capital[1].

In rural areas, the production sector is the driving force. In the target area, the "production" sector refers to agriculture and fishery. Full-scale production promotion in the agriculture and fishery sectors must be the heart of the master plan, which will be presented henceforth. The prominent role of agriculture, referred to in Chapter 7, should be emphasized in this grand mode transformation context.

It is necessary to reinforce education and health from the viewpoint of Basic Human Needs.

[1] The results of the September 2008 general election clearly indicated that Angola is now following an economic development path at full power. It was the first election in 16 years and the first national election after the civil war. The election campaign seemed to be heating up between the ruling party and the largest opposition party, but there was no upheaval and people voted in an orderly manner. The ruling party won a landslide victory with 81% of the votes and the current economic development policies were strongly supported by people.

But the largest target of these sectors remains increasing the number of schools/teachers and health posts/nurses; these are the most basic policies. These sectors are short of human and other resources, especially in the rural areas, but these issues are being addressed by the central government and people have to wait on their progress. Other issues, such as the enhancement of the adult literacy rate and disease prevention, can be effectively implemented based on the achievement of agricultural activities as shown in the pilot projects. The master plan can contribute to realizing strategies in nonagricultural sectors by emphasizing agriculture-related activities as the basis of the entire plan.

There are two other reasons why a development plan for the Lobito rural area should place greater emphasis on agriculture.

In the process of decentralization, the role of the municipality will become larger. School construction and primary health care can be implemented using the same contents design anywhere in Angola; but agriculture requires finely textured assistance because agriculture itself varies depending on areas[2]. Thus it is better for agriculture to be supported not by national agencies but by a municipality to achieve effective development.

The second reason is that, due to limitations of municipal budgets, the sector that can contribute to the entirety of the development goals should be prioritized. That sector is agriculture.

The development master plan should be formed focusing on the production sector, which is agriculture. Strategies based on geographical positions and related potentials are discussed next.

8.1.2 Geographical Positions

Better transportation and communication network is under construction nationwide at present, which also applies to Benguela Province. It took five hours to visit pilot project sites when the Study Team started its research but it now only takes two hours, thanks to

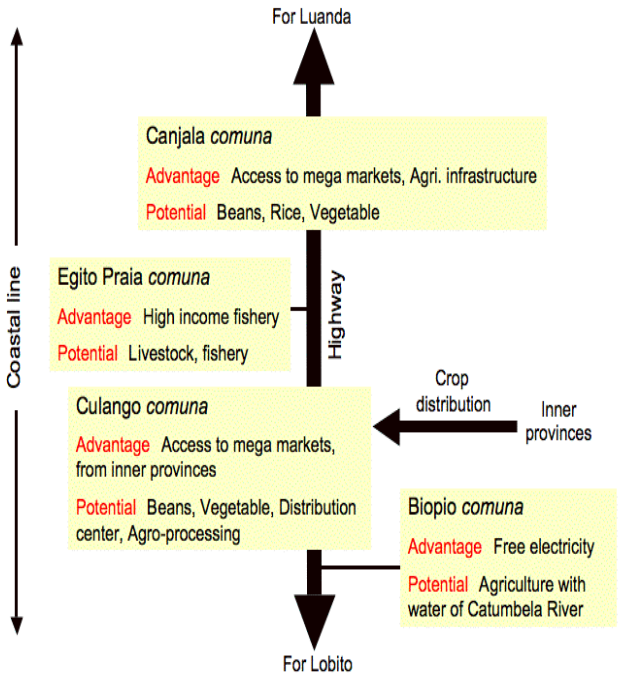


Figure 8-1 Geographical Position of the Target Area

[2] Agricultural Input Project is the example. Fertilizer must be prepared to fit specific areas and conditions and adequate timing of applications is important. But as the Ministry of Agriculture is controlling this project in Luanda, project efficiency was quite low. If the municipality participates in this project, problems could be solved.

the paved highway between Benguela and Luanda inaugurated with a Chinese loan. Cell phones have become available in the target area. This situation is the same in inner provinces. The Lobito commercial port and Benguela railroad between Lobito and Zambia are now being rehabilitated quickly. The Benguela railroad will be extended to the eastern border in Moxico Province by 2010. This infrastructure development could lead to industrial[3] and agricultural[4] development in the inner provinces.

The geographical potential of the target area is discussed below.

(i) Market Potential within the Target Area

Before discussing the potential of a large-scale transportation network, we should focus on market potential within the target area.

Research results by the Study Team clarified that the market in the target area has potential demand that can absorb a production increase at the initial stage of economic development in the target area.

For instance, beans and rice consumed in the target area are produced in other areas. If some conditions such as irrigation are improved, beans and rice can be produced in the target area and the market potential is of a sufficient size to absorb the initial increase[5].

(ii) Access to Outside Markets and Potential

When production expands and exceeds market capacity within the target area, outside markets should be considered. The target area has high potential in this regard.

The largest advantage of the target area is its geographical position, located between Luanda and Benguela. With the paving of the highway between Luanda and Benguela being completed in 2008, the main impediment for economic development in the target area was removed.

The population of Luanda stands at 4 million. That of Benguela and Lobito is 470,000 and 740,000, respectively. The target area is directly linked with these mega markets by the highway and the time needed to access these markets was substantially reduced.[6] This geographical position could be a great advantage in marketing vegetables, livestock products and fish, which are required to maintain freshness, to markets outside the target area.

In addition, a road to the eastern inner provinces, which is going to be paved in the near future, has a fork in the target area. Thus, the target area can be positioned not only as a production center but also as a distribution center between the inner provinces and mega cities.

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[3] Benguela and Huambo provinces have the 2nd and 3rd largest cities in Angola, respectively.

[4] After the construction of highways and railroads, agriculture, forestry and livestock production are expected to develop in the inner parts of Benguela Province.

[5] According to estimates based on the Household Socioeconomic Survey conducted in 2007 by the Study Team, people in the target area are spending Kz 70 million for 860 tons of beans. This includes a fair amount of beans produced outside the target area. They are spending Kz 82 million for purchasing 1,370 tons of rice, all of which are produced outside.

[6] It takes 6 hours from the central point of the target area to Luanda and 2 hours to Benguela and Lobito. It took 8 hours and 4 hours, respectively, before the road was tarred.

Economic development always has to be designed and implemented in consideration of the advantages that a strategic center enjoys with access to good highways and to outside mega markets.

8.1.3 Strategies by Sectors

The development strategies and master plan are designed by sectors, on the basis of the provisional master plan for reconstruction and development. Labor reduction related pilot projects are difficult to be included in the three sectors of agriculture, education and health. To handle these projects, a living improvements sector will be added.

Strategies of the four sectors -- agriculture, living improvements, education and health -- are discussed, and a project implementation system will be explained in terms of three aspects: actors, system and finance.

(i) Agriculture Sector

Strategy 1

Intensive cash farming should be created taking advantage of the characteristics of the target area.

When agriculture in southern Angola is reviewed, the primary agricultural production area is seen to be in the inner provinces, such as Huambo, Huila, Vie and Moxico. There, extensive farming, with almost no inputs except for labor is conducted, depending on reliable rainfall. The yield is low[7] but production in large areas makes it possible to produce a large amount of crops such as maize. As the elevation is higher than in the coastal area, relatively cool conditions are available, even in rainy summer, primarily advantageous for producing beans, which require temperatures of 27 degree Centigrade and below. When focusing on Benguela Province, we see that Cubal, Ganda and Balombo municipalities have similar conditions to the inner provinces.

In contrast, the target area is located along the Atlantic coast and the temperature does not go down in rainy summer. So, farmers cannot grow beans, the biggest cash crop, in the rainy season. As rainfall is unreliable even in the rainy season, staple maize production is not stable. The cropland area is much

Table 8-1 Difference between Coastal and Inner Agriculture

Area characteristics			Rainy Summer October-April	Dry Winter May-September
Inner area	-Large cropland -Small amount of river water and difficulty in irrigation -Beans in cool summer -Long distance to mega markets	Present	Maize Rice Beans	None (Vegetables in *Naca*)
		Future	More maize More rice More beans	None (Vegetables in *Naca*)
Coastal area	-Small cropland -Large volume of river water for irrigation -No beans in hot summer -Short distance to mega markets	Present	Maize	None (Vegetables in *Naca*)
		After irrigated	More maize Rice	Beans Fresh vegetables

Source: The Study Team

[7] For example, rice yield in Vie province stands at 450-500kg/ha, according to the Vie provincial office of the Ministry of Agriculture.

smaller than in the inner provinces, as the average cropland area per family in the target area is only 0.66 ha,[8] while that of Bie Province, for example, is 3-8 ha, according to the Bie provincial office of the Ministry of Agriculture.

Meanwhile, the Balombo and Catumbela rivers run in the target area. The target area is located at the mouth of the rivers, so the water volume available is much greater than in the inner provinces. Thus, once irrigation facilities are constructed or rehabilitated, farmers in the target area will be able to grow beans in dry winter and maize production in summer will become more stabilized. Furthermore, the target area is located along the highway connecting the mega markets of Luanda, Benguela and Lobito and farmers can market fresh vegetables in the target area with a favorable geographical condition.

In short, the target area should aim to develop agriculture in which farmers can produce a high-value cash crop on small cropland, using intensive farming technologies, including irrigation; their products can then be marketed to the mega markets. Thanks to irrigated fields, farmers will be able to plant beans in winter which can then be marketed in Luanda, establishing a brand of the production area. Alternatively, instead of maize, farmers may be able to introduce upland rice in areas with appropriate conditions for upland rice growth, which can then be marketed at higher prices than maize. Although the intensification strategy shows a clear contrast with current extensive farming in the inner provinces during the planned five years, intensive agriculture in the target area could actually pioneer inner-provinces' agriculture, which will be forced to become more intensive as a result of rapid economic development. Agriculture in the target area could play a role in showcasing intensive farming.

Strategy 2

Soil should be improved with organic matter to increase yield in sustainable ways.

Agriculture in the target area has to set out to intensify with necessary inputs, but it should be sustainable at the same time. Small-scale farmers in the target area, however, do not have indigenous farming technology to restore and enhance soil fertility for a longer period, as has been seen in Asian countries. Crop residues, for instance, are burned and not returned to the soil in the target area. Animal manure, which is effective for soil fertility improvement, is not used much.

The government recommends applying chemical fertilizers, but the soil cannot be improved with their exclusive use. Rather, constant application of fertilizer may cause salinization in the field under insufficient rainfall conditions.

When planning intensification of agriculture in the target area, methods to increase organic matter inputs should be designed, and sustainable intensification with long-term soil improvement must be planned. For example, mixing crop residues and grasses with soil and

[8] Result of Household Socioeconomic Survey conducted by the Study Team in 2007

the use of animal manure are recommended.

Strategy 3

Old, unused irrigation canals should be rehabilitated first to expand croplands.

There are several unused irrigation facilities, which were constructed in the Portuguese colonial days and destroyed during the civil war. Generally, it costs much to construct new irrigation canals, but rehabilitating existing canals is less expensive and time saving. According to the Study Team's findings, new canal construction can cost three times as much as rehabilitation. Moreover, if existing canals are rehabilitated, cropland used in the past will revive, which has less risk than cultivating completely new lands with no cropping history.

After croplands are restored in the target area through rehabilitating old canals, farmers will be able to cultivate in dry winter. It will have a significant impact on the cash income of small-scale farmers who can plant beans, which can be grown only in winter because of the climatic conditions in the target area. Creation of irrigated land will allow some farmers to cultivate near their houses. As they are now forced to travel to remote areas for farming in winter, irrigation would contribute to a reduction in labor hours.

(ii) Living improvements Sector

Strategy

Women's domestic labor should be reduced.

Nutrition improvement and domestic labor reduction are two major components of this sector. The nutrition issue will be addressed in the production sector; the domestic labor issue will be discussed here. To create "free time" through domestic labor reduction will play a significant role in improving living conditions. If women have more time, they can attend literacy classes. Domestic labor includes tasks like cooking, washing clothes and child caring, but women seem most desirous to reduce labor required for firewood collection and flour milling. Some women are forced to walk one or two hours to collect firewood, which is necessary for cooking. Some families are purchasing firewood, which costs them Kz3,000 per month. Maize porridge, which is a staple food in the target area, requires flour milling. It takes up much time and energy. Solving the problems of firewood collection and flour milling should be prioritized to significantly improve women's living conditions.

(iii) Education Sector

Strategy

Adult literacy classes should be accompanied by income generating activities to enhance financial sustainability.

A frequent, strong demand for literacy in the target area was shown from the beginning of the Study. Finance for most of the literacy classes depended on foreign donor agencies. However, once the project period comes to an end, classes will not be able to cover the pay of literacy teachers and such classes will end. To solve this problem, literacy classes should be

accompanied by income-generating activities, which can be operated by the literacy class participants themselves.

In the case of the pilot project, literacy class participants are growing beans on collective farmlands and are operating a kiosk, both of which are making profits effectively. Thus, sustainable literacy classes are taking hold. *Comuna* administration staff members in charge of education appreciate this success and they have begun to plan expanding this system to other communities.

(iv) Health Sector

Strategy

Local human resources should be mobilized to prevent diseases.

As there is only one health post per *Comuna* in the target area and the number of nurses is just 0.26 per 1,000 persons, the level of medical support is very low. It is unrealistic under current conditions to plan to have a clinic with a full-time doctor or to rapidly increase the number of nurses. On the other hand, various diseases, such as malaria and diarrhea due to bacterial infection in particular, are the biggest problems in the target area.

Local human resources should promote disease prevention, which is more effective than trying to cure a disease, for protecting family members and the local labor force. Specifically, traditional midwives should be trained and equipped with basic medical knowledge to become local health coordinators. The health coordinators will consult with people who complain about health problems and liaise with health posts in the central area of the *Comuna*. There are, in fact, a few traditional midwives and literacy teachers who have been trained under NGO projects. To expand this attempt to cover the entire *Comuna* is the objective of this strategy.

8.2 The Master Plan

In accordance with discussions in the previous sections, the development master plan that should be given priority implementation in the five year period of the project is shown here as development programs combining several projects. Each project is discussed in depth in Chapter 9.

8.2.1 The Economic Program

The project *Maize Yield Increase with Grasses*, in which grasses and a small amount of fertilizer are mixed with soil for increasing maize yields, targets all maize growers in the target area. The project involves rain-fed maize fields, which are abundant in the target area. The maize yield is expected to increase from 550 kg/ha at present to about 1500 kg/ha as a result of the project. This directly supports Strategy 2 of soil improvement and realizes Goal 1 of ensuring a stable food supply. Grass mixing technology was tested and proven in the pilot project. Unlike chemical fertilizers, grasses are available everywhere and it is easy for small-scale farmers to make use of them.

Participatory Irrigation Rehabilitation, which rehabilitates irrigation canals destroyed in the civil war and expands irrigated fields for cultivation throughout the year, will start in the first year. According to the estimate by the Study Team, 1,500 ha of irrigated fields will be created after all dysfunctional canals are rehabilitated [9] . This project supports Strategy 3 of irrigated field expansion. A participatory approach will be adopted to create a sense of ownership among beneficiaries from the early stages of the project. Beneficiaries will take part in weeding before earthwork and also participate in hand excavation before lining. This participation will also help to establish water users' associations which will be required after the completion of the rehabilitation.

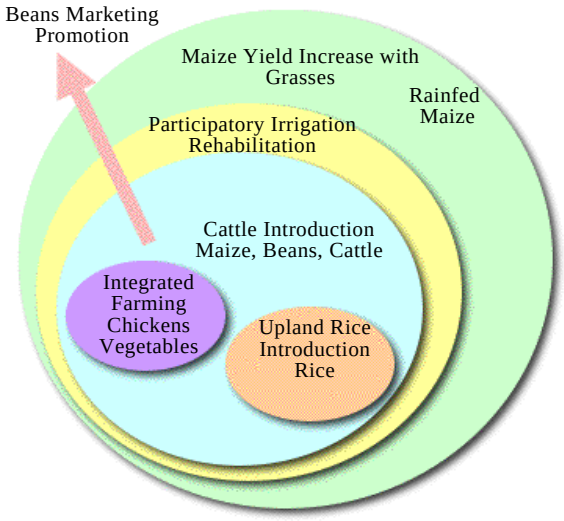

Figure 8-2 Structure of the Economic Program

The *Cattle Introduction* project will start from the area where canals have been rehabilitated. Both plowing and fertilizing are realized concurrently by cattle. Most farmers plow by hand hoes and plowing is their heaviest labor burden. Cattle traction will drastically reduce plowing labor. By confining reared cattle, feeding them forage grasses, the amount of collected manure can be maximized for soil fertilizing. A set of cattle, two bulls and two cows, will be loaned to four farm households. The four farm households will collectively manage and breed the cattle for paying back in kind and to utilize their fields in a sustainable manner. This project supports two goals: labor hour reductions and income generation. Cattle manure application corresponds to Strategy 2 of soil improvement.

On the agricultural infrastructure built by *Participatory Irrigation Rehabilitation* and *Cattle Introduction*, farmers will plant beans in winter for cash and maize in summer for themselves. For the time being, stable bean production will highlight Strategy 1 of intensive cash farming. Beans can be given higher value through a *Beans Marketing Promotion* project. Value will be added by packaging in small "branded," plastic bags in the production area and income will be redistributed to local people in the form of wages of workers. According to the detailed project plan, about 120 days of operation will creates a total of 3,393 days of jobs locally.

The *Rice Introduction* project will be implemented in the irrigated area with high water availability. Rice can be marketed at Kz 50/kg, showing higher profitability than maize which

[9] This includes fields irrigated by Cuvelo canal, part of which was rehabilitated in the pilot project of the Study.

is sold at less than Kz 30/kg. This supports Strategy 1.

The Team recommends an *Integrated Farming* project for irrigated farmers who hope to challenge more intensive farming. The farmers will rear five to six chickens, applying chicken manure to small vegetable gardens for soil improvement. Starting from 0.1 ha, farmers will expand their field area and increase the number of chickens proportionately. This also supports Strategy 1.

Table 8-2 Schedule of the Economic Program

	1	2	3	4	5
Maize Yield Increase with Grasses	X	X	X	X	X
Participatory Irrigation Rehabilitation	X	X	X	X	
Cattle Introduction		X	X	X	X
Beans Marketing Promotion			X	X	X
Rice Introduction			X	X	X
Integrated Farming			X	X	X

In Figure 8-2, the smaller the oval becomes, the more intensive it will be. Thus, Strategy 1 of intensive cash farming creation will be put into practice not only by *Rice Introduction* and *Integrated Farming* but by the entire program with all of the projects.

Maize Yield Increase with Grasses and *Participatory Irrigation Rehabilitation* will be started in the first year of the planned five years. *Maize Yield Increase with Grasses* will last five years, as its targets are all small-scale farm households. Irrigation canals will be rehabilitated until the fourth year. From the second year, cattle will gradually be introduced into the land where irrigation becomes available. *Rice Introduction* and *Integrated Farming* will begin in the third year.

Table 8-3 Economic Impact of the Economic Program

	Area	Beneficiary	Yield	Production	Unit price	Annual Sales	Annual Cost	Annual Profit	Household profit
	ha	household	t/ha	t	Kz/t	Kz	Kz	Kz	Kz
Maize Yield Increase with Grasses									
Rainfed maize, 1 crop	0.5	8,160	1.5	6,120	30,000	183,600,000	-12,865,000	170,735,000	20,923
Participatory Irrigation Rehabilitation/Cattle Introduction									
Irrigated maize, 1 crop	1	1,840	1.5	2,760	30,000	82,800,000		82,800,000	45,000
Irrigated beans, 1 crops	1	1,840	1.5	2,760	85,000	234,600,000		234,600,000	127,500
Irrigation Rehabilitation	1	1,840					-16,709,402		-9,081
Cattle Introduction	1	1,840					-29,085,000		-15,807
Subtotal								271,605,598	147,612
Total						501,000,000	-58,659,402	442,340,598	44,234

Source: The Study Team

The *Maize Yield Increase with Grasses* project could improve nutrition intake as follows. A person in the target area takes in 1,895 kcal per day on average. If they can harvest 1,500kg/ha of maize and all of it is consumed, the average daily calorie intake will become 3,305 kcal. As this figure would exceed a healthful calorie intake, some of the excess maize will be sold. In theory, if people with more than 3,500 kcal per daily intake sell some of the harvested maize, the average calorie intake per person per day becomes 2,110 kcal. The corresponding figure

before the project would be 1,691 kcal. Thus, the project results in a 24.8% increase in calorie intake. Although the starvation problem would not be solved completely, calorie intake should significantly increase. What about the economic impact of this program? *Maize Yield Increase with Grasses* will be implemented in 5,000 ha of land by 10,000 households. Subtracting 1,840 household beneficiaries of *Participatory Irrigation Rehabilitation* and *Cattle Introduction*, 8,160 households will obtain Kz 170.73 million of profit in total, or Kz 20,923 per household.

In irrigated fields where irrigation canals are rehabilitated and cattle are introduced, a household basically will plant maize in summer and beans in winter. Subtracting costs for the two projects, the total profit would stand at Kz 271.61 million and Kz 147,612 per household.

Adding up these three projects, the total profit becomes Kz 442.34 million, or Kz 44,234 per household.

As discussed in Chapter 3.4, the current annual average net income per household in the target area is Kz 107,026. As there are 15,000 households in total, the estimated net income for the area is Kz 1605.39 million. Adding up the total profit of the projects, it becomes Kz 2,047.73 million, which is a 27.5% increase. The average annual household net income is Kz 136,515, or US$0.94 per day per person. In reference to the fact that "25% of the population belongs to extreme poverty, with less than US$0.75 per day," in "*Angola -- Country Memorandum*" by the World Bank, 2006, increased net income from the current US$0.75 to US$0.94 after the projects are implemented, should help alleviate poverty.

The calculation above does not include the economic value or the added value of the *Integrated Farming* project, the *Rice Introduction* project and the *Beans Marketing Promotion* project. Needless to say, when these projects are taken into account and operate full blast, much more economic impact will be realized.

8.2.2 The Social Program

The Social Program with several projects in the living improvement, education and health sectors is discussed here. We note that labor reduction by *Participatory Irrigation Rehabilitation* and *Cattle Introduction* are the prerequisites of the program.

In Canjala *Comuna*, there are 11 communities with 1,861 households along irrigation canals. Many farmers there farm in the rainy season, commuting to a field within a day's reach. Recently, however, about 500 households have been farming in remote hilly areas where they can expect stable rainfall, since recent climate change has made rainfall unreliable.

The required labor hours for a famer growing maize, up until harvest, is estimated at 275 hours per ha.[10] If a farmer travels to a hilly area, the farmer cannot return home for at least a week as it takes 10-20 hours on foot to reach the area. Under this situation, non-farming time in a hilly area--except for sleeping time-- is 180 hours, which can be regarded as actual working hours.

[10] 70 hours for land preparation, 35 hours for sowing, 150 hours for weeding and 20 hours for harvesting

Adding 150 hours for commuting on foot, it requires 615 hours in total.

If irrigation canals are rehabilitated, farming hours will become 329 hours: 275 for faming and an additional 54 hours for irrigating. By subtracting 329 hours from 615 hours, we see that 286 hours are saved. Moreover, plowing labor, which is the heaviest burden in farming, is alleviated by cattle introduction. Thanks to the newly created "free time," farmers could take part in literacy class, for instance.

The Social Program consists of *Cooking Stove Introduction and Living Improvement*, *Literacy Education with Income Source* in the education sector, and *Disease Prevention by Local Human Resources* in the health sector.

The objective of *Cooking Stove Introduction and Living Improvement* is to reduce the labor of collecting firewood and to preserve the environment by reducing the amount of firewood consumed by virtue of the enhanced thermal efficiency of the cooking stove. It was verified in the pilot project that the amount of firewood that a cooking stove consumed was 14% less than that consumed by cooking without a stove. In cooking meat, the cooking time was reduced from 2 hours and 42 minutes to 2 hours and 3 minutes. Reduced labor for firewood collecting and cooking frees up time for participating in a literacy class.

Furthermore, the proposed cooking stove allows two pans for cooking at the same time. Increased opportunities for heating will enable people to sterilize possibly contaminated water by boiling it. As major diseases in the target area are attributable to bacterial infections, water sterilization by boiling could result in disease prevention. Thus, the introduction of the cooking stove with 2 pan-seats could be a connecting point for the health and education sectors. The *Cooking Stove Introduction and Living Improvement* project does not finish when a stove is introduced but commences other living improvement activities on the basis of freed up time.

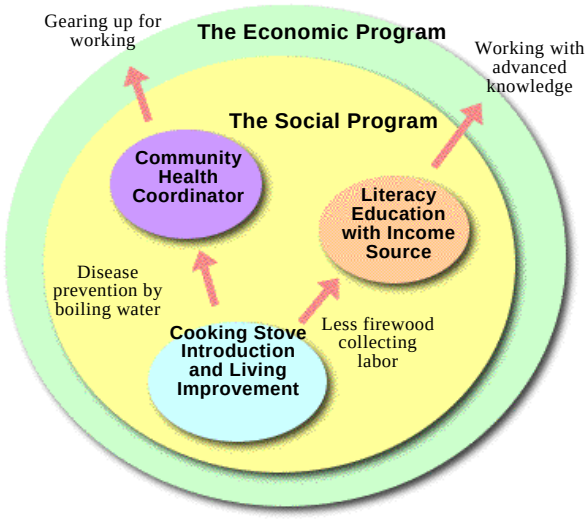

Figure 8-3 Structure of the Social Program

The *Literacy Education with Income Source* is an idea for growing out of financial dependency on outside donor agencies which pay for literacy teachers. In the project, the literacy class itself is accompanied by a cash income source such as crop production. Course contents should be practical and useful for income generation and the direct improvement of

living conditions.

The pilot project in the Study proved that this type of literacy class works well in terms of sustainability. In the recommended project, first, at least 120 literacy teachers should be selected and trained. The Study Team will discuss ideas on income sources with them, checking their economic feasibility. After the literacy class starts, the Team will monitor the classes in order to improve course contents to enhance the capacity of the participants and the literacy teachers. A total of 17,000 people out of an adult population of 50,000 are illiterate. If 100 classes are operated annually over five years with 35 participants per class, without financial support from outside, 7,000people will become literate in the course of the project, taking dropouts and unsuccessful participants into account. The literacy rate will be 80%, which represents an increase by a large margin.[11]

The *Disease Prevention by Local Human Resources* project will train traditional midwives as community health coordinators and enable them to offer consultation to people who complain about health problems; it will help deliver mosquito nets that the Ministry of Health is promoting and will make contact with nurses in the health post in the center of the *Comuna*. Water sterilization by boiling should be demonstrated by the community health coordinators.

Twenty nurses in five health posts will cover 129 communities in the target area. The project will train a community health coordinator per community and about 130 coordinators will be assembled. Compensation for community health coordinators will be financed by community cash income activities like those of *Literacy Education with Income Source*. If a coordinator could influence more or less 20% of the community people, health conditions of people in 3,000 households could be improved and diseases, including malaria and diarrhea, could be prevented.

If the Social Program is implemented, improved health conditions will enable people to gear up for their work and literacy will allow people to learn knowledge of advanced farming technologies. In short, the Social Program could have a positive impact on the economic sector with many positive repercussions in the daily lives of the participants.

8.2.3 Implementation System

Angola is experiencing rapid economic development; an increase in government revenue is one reason for promoting decentralization from the central government to local authorities. A goal of the long-term development plan of the Angolan government is to use the increased revenue derived from abundant natural resources such as oil and natural gas and apply it to domestic human resource development and to construct a public system for further development. Decentralization, therefore, is regarded as an opportunity to enhance the

[11] As it is said that adults comprise 63% of all population and that the literacy rate is 67% of adult population, calculation here was based on this ratio. The dropout rate and the ratio of successful participants are 20% and 50%, respectively, both of which are actual achievements in the pilot project. Population variation and other possible socioeconomic changes after five years are not considered.

functions and capacity of local government.

Even if the central government increases revenue sharing with local governments, it goes without saying that its budget is not sufficient to entirely cover the demands of local development. Budgets coming from the central government and going to local governments, therefore, should be used on the principle of "maximum impact with minimum investment."

The development plan by local governments should indicate the implementation system, taking into account the current and future capacity of actors as well as the projects' contents and scale. Otherwise, it is impossible to implement a development plan from a managerial point of view.

Verifying the provisional master plan, for working the model will be explained first in this section. Then, strategies for three aspects of the plan will be discussed; i.e., in terms of actors, implementation methods, and finance.

(i) Implementation System Model and Basic Strategies

Chapter 1, Framework of the Study, introduced six development actors with their resources, organizations and norms as the local development system. Major actors consist of the administration, community organizations and NGOs. The concept of the model is that these three major actors work together for local development based on their ownership. *Emphasis is on local NGO's capacity in particular.*

Although the capacity of community organizations, administration and local NGOs is significant for impacting development projects and sustaining and expanding the impact in the target area, the capacity of the actors is still under development. As it is not realistic to wait for their capacity to expand sufficiently, a system in which implementation of actual projects enhances actors' capacity should be built into the model. The key role player in the system will be local NGOs.

Some NGOs hired in the pilot projects showed the best growth performance in development capacity among the three actors, though some NGOs showed the limits of their capacity. Mature NGOs proved to make a significant contribution on their improved capacity positioning themselves between administration and community organizations. For the time being, there seems to be no actors that can compensate for the insufficient capacity of administration and community organizations other than NGOs.

There is an opinion that NGOs cannot take root in local society as NGOs work on a contract basis. But the number of staff of local government will not increase after decentralization. Rather, situations in which other actors rely on NGOs will increasingly expand in the reform process of administrative structure, which may result in reducing the number of administrative staff.

***Comuna* Administration**

The most required capacities for *Comuna* administration lie in planning, monitoring and

evaluation.

The Planning Department of Lobito Municipality is responsible for drawing up development plans to submit to the Ministry of Land Management for a share of revenue or to international loan agencies for funding. The Planning Department has to be able to create effective plans for the entire municipality, taking into account consistency with national and provincial plans.

A *Comuna* primarily prepares information for a development plan drawn by the Planning Department of Lobito Municipality. *Comuna* administration is expected to plan with community people and to prioritize local needs.

In monitoring and evaluation, the Planning Department checks the progress on the implementation of plans and evaluates them for reporting to higher organizations and donor agencies. The *Comuna* administration monitors the development project, implemented by community organizations, advises them and reports the results to the municipal Planning Department.

Community Organizations

Community organizations are expected to implement development projects and to maintain sustainable outcomes. But community organizations that are able to implement a project from the beginning are very few and, in reality it is the NGOs that bring projects into operation. It is expected that community organizations will work on projects with NGOs and become actors that can perform community development, replacing NGOs in the future.

The functions of community organizations include arranging and facilitating community participation, and advising beneficiaries as to how to sustain the fruits of the projects. In the planning stage, community organizations need to clarify what they require; they need to present opinions in monitoring and evaluation which reflect the viewpoints of community people.

To play the role mentioned above, it is required that community organizations have a good sense of the community, are able to communicate that sense, and are able to prepare logistics for the implementation of projects.

NGOs

The most significant role of NGOs is the *implementation of development projects*.

Facilitating the participation of community people is the most necessary ability in the implementation of projects. This refers not only to participation, but also to sustaining and expanding project outcomes.

It was clarified in the pilot projects that facilitating community participation becomes possible when NGOs exercise a wide range of capacity, including the ability to explain a plan and vision to community people for the efficient management of projects.

It is expected that NGOs will play a leading role in local community development, such as

supporting administrations and community organizations, in addition to facilitating community participation. For example, NGOs that are familiar with planning and evaluation methods can train *Comuna* administration staff in the process of planning and evaluation. For maintaining the outcomes of projects, NGOs are able to conduct technical support and strengthen community organizations for long-term sustainability.

Principal Strategy 1

Project implementation systems in which actors continuously enhance their capacity on the job should be adopted.

The Angolan government regards the five years from 2009 through to 2013 as a trial period of decentralization. Thus, local governments will have to verify their capacity for managing development projects during this period. But the actual capacity of local government is insufficient and cannot be enhanced in a short space of time. This planned period could be the first step to master the basic capacity that is necessary for actors of reconstruction and development.

The answer to the question of whether they can actually acquire the basic capacity is “Yes.” Actors have a strong sense of ownership and potential capacity, which was shown in planning workshops in the pilot project. It is possible to considerably improve their capacity if they have opportunities for systematic and practical training. Those who are willing to enhance their capacity on their own should utilize methods that are appropriate in municipal planning as well as what is fitting for various individual capacity levels. For instance, Participatory Sector Programming, Project Cycle Management and Balanced Score Card, which the Study Team adopted, are well-known, easy to understand and useful.

Principal Strategy 2

Allowing all actors to experience the entire development process, from planning to outcome dissemination, is effective.

Ownership is indispensable not only for making development projects successful but also for sustaining the outcomes of the projects. Actors, however, have been surrounded by an environment in which ownership was not adequately cultivated in the civil war and post war emergency assistance period.

The Study Team, nonetheless, confirmed strong ownership in all administration staff and the community people who participated in planning workshops conducted in each *Comuna*. Ownership grew during the workshops, and it was clarified that adopted methods were effective for enhancing ownership. Concretely, workshop participants actively and increasingly presented well-considered opinions.

Participants should maintain a high level of ownership and should be leading actors in their local development activities. What is necessary for them to sustain strong ownership and to put it into action?

First, projects that they planned should be implemented. Needless to say, ownership is maintained or fortified when a project that they planned is approved.

Second, after a planned project is implemented, all actors should have opportunities to discuss; revising the plan, monitoring, evaluating and expanding the outcomes of the project.

To share the entire process from planning to expansion of the project outcomes is effective for all actors to grow and sustain strong ownership. *Comuna* administration staff, NGOs and community organizations, all of which shared in the whole project process with the Study Team, not only sustained but also enhanced their ownership. This is why the experience of sharing the entire project process is positioned as a principal strategy.

Trained facilitators are needed for this strategy. It is worthwhile to bring up NGO staff, already trained in the Study, as facilitators.

(ii) Strategy by Actors

(ii)-1 Strategy for Administration

i. The Planning Department of Lobito Municipality

Strategy

The Department should prioritize project lists from multiple *Comuna*s to form a municipal plan.

Municipal plans are evaluated during the application process by the Ministry of Land Management that promotes decentralization; this Ministry oversees the transfer of funds from the central budget to municipal governments. When domestic funds for projects are insufficient, municipal governments may need to apply to international funding agencies, attaching their development plans. Municipal development plans, therefore, are required to be much better organized than *Comuna* plans.

For example, logical development from problem analysis to possible projects should be consistent in municipal development plans. By the end of the five years of the planned period, the Planning Department of Lobito Municipality should be able to master the task of completing well-organized development plans. During the initial stages, specialists should support them.

The most important capacity in planning is to know how to prioritize many projects desired by the *Comuna*s within the scope of their limited budgets. As economic statistics will not be available during the planned period, the Department of Planning does not need to adopt complicated economic analytical methods that require statistics.

In checking the relevancy of each project, a multidimensional review is necessary. For example, when farmers want to introduce a new farming technology, agricultural specialists tend to advise them what is "technically possible," but issues of profit potential and the distribution system also need to be reviewed. If necessary, the Planning Department will consult with multiple specialists in and out of governmental organizations.

There are some projects that have strong local impacts, even if their budgets are small. Literacy classes run by community organizations with *Comuna* administration comprise one such type of project, for instance. While prioritizing, it is necessary to evaluate the significance of projects from an impact point of.

In order to strengthen capacity, officers in the Planning Department need to practice modifying and prioritizing budgets of projects listed by the *Comuna*s. The Planning Department should master planning methods derived from a logical framework. Constructing networks of specialists that can conduct a precise, quantitative survey, the Planning Department needs to institutionalize advice and information for *Comuna* planning.

Experiences since the end of the civil war suggest that lecture-type training does not work well. Thus, training should include possibilities for participants to put what they have learned into practice. Although the Study Team trained the staff of the Planning Department for only two days, it was clear that participants' level of understanding was high. With four weeks of training--three weeks for methods of planning the project/program, and one for documentation of the report, the staff of the Planning Department are expected to reach the necessary capacity level.

ii. *Comuna* Administration

Strategy 1

The first tasks for the *Comuna* administration should be to master the prioritization of projects, and to determine the scales of the projects, providing sufficient reasons.

The *Comuna* administration will work with community people on planning but it does not need to produce official project documents. Rather, the *Comuna* administration should have the capacity to collect necessary information to form its development plan. In other words, the *Comuna* administration should provide well-discussed and analyzed information to the Planning Department in the municipality, which will then produce official development plans. For example, problem trees, such as a professional consultant organizes, are not needed in problem analysis at the *Comuna* level. Various problems in related sectors and their supposed causes should be clarified in problem analysis. In SWOT analysis, particularly in strength analysis, why certain strengths are regarded as strengths, should be adduced. When they propose projects, the project scale and target communities, with accompanying reasons for their decisions, are necessary; the prioritization should also be explained carefully.

The most important capacity for *Comuna* administration, which was shown in the pilot projects, is to convince local people to participate in projects by presenting visions of *Comuna* development. Providing rationales is also required here.

Strategy 2

The project should be monitored frequently to prevent stumbling and taking false steps.

As clarified in the pilot project, when a problem occurred after introducing a new farming

technology, most farmers were not motivated to handle it because they were not yet to be convinced. Therefore, the *Comuna* administration should frequently visit project sites to observe what is transpiring. Identifying problems in the early stages, then solving those problems with the concerned farmers, letting them experience success, would be the most effective motivator.

The literacy class project -- which continues for a long time and accompanies income-generating activities recommended by the Study Team -- requires frequent monitoring. This kind of project sometimes experiences a setback due to troubles over small issues among participants. It was verified during the pilot project that visits of *Comuna* administration staff could solve the problem in the early stages.

(ii)-2 Strategy for Community Organizations

Community organizations should grow ownership by managing the whole processes of small projects.

The capacity of community organizations varies, as seen in the pilot projects. Single community projects such as literacy classes and day-care centers showed stronger ownership (on the basis of which they tried to manage projects without depending on outside support), than did multiple community projects such as irrigation canal rehabilitation. It was suggested that ownership is built up easily if community organizations undertake small-scale projects with full responsibility.

(ii)-3 Strategy for NGOs

NGO staff should be assigned as field staff in project implementation.

Though it is expected for NGOs to play significant roles in every step in the project cycle, the most important phase is the implementation of development projects. Facilitating community participation is particularly required. NGO staff must have planning and explicatory capacities and be able to function as extension officers on behalf of technical staff in the municipality when necessary. It was observed in the pilot project that slightly stalling in a project due to a shortage of these functions can lead to a drastic reduction of participants and a rapid attitude change in which participants stop doing what they should do in spite of their initial strong commitment. If stagnation sets in, projects will stop completely.

Even if decentralization progresses, it does not appear as if the number of extension officers and *Comuna* administration staff will increase due to administration reform. Thus, it is necessary to line up human resources that could be hired in short period of time. The number of civil service officers that organize community people and support them technically in agriculture, education and health is too small. Independent-minded NGO staff with sufficient experience, therefore, should be hired and trained on the job as field staff of the project. They will work on a contract basis during the project period; extension officers and *Comuna* administration staff will supervise them.

Field staff will be trained not in classrooms but in the field. International NGOs will offer many training courses on field methods such as Rapid Rural Appraisal and institutional strengthening. Many Angolan NGO staff members are already taking some of these courses. Acquired knowledge, however, is not used in field activities. This is presumably because NGO staff members do not know how to apply their skills and trainers do not demonstrate how to apply those skills in the field.

The Study Team instructed hired NGO staff in depth, when necessary. For instance, to demonstrate that facilitation in a workshop with community people was effective, the Team provided a good facilitation example in which the motivation level of the community people was clearly enhanced. The NGO staff, who stay in the field and have opportunities to associate with community people, could apply knowledge acquired from the Study Team in the field on their own by trial and error.

These types of effective field training require much cost and time. However, training field staff in the classroom does not require significant cost and time. If a few high quality field staff are trained successfully, those staff can train leaders among farmers, who can work as extension workers. This approach has already been verified in the pilot project and it is possible to actuate it.

When the municipality cannot find and hire these trainers of NGOs, it should request international and bilateral aid agencies to send expatriate specialists through the provincial and national government.

(iii) Implementation System

Strategy 1

The whole process of the project for all actors should be introduced in a selected *Comuna* at first.

It has been emphasized that managing the entire process of a project is necessary for effective capacity development of actors. But, if it is introduced to organizations that have little experience with the concept, it could be confusing. An effective and efficient development project that cannot be effectively implemented and managed could lead to bitter disappointment and frustration. Thus, for the sake of developing a manageable design, the process should be introduced to a selected *Comuna* first.

For example, Canjala *Comuna*, which will likely be the leading case of decentralization, would be the target for the introduction of that approach. This *Comuna*, one of the target *Comuna*s in the Study, has already been trained, to some extent, in planning workshops. It was observed that their capacity on the development project was enhanced. For instance, allowing the Lobito Municipality and this *Comuna* experience the entire project process and clarifying problems through monitoring seems the most realistic and effective approach.

Strategy 2

Successful cases in and out of the target area should be disseminated.

To directly observe factors of success by visiting successful project sites in and out of the target area is influential for making *Comuna* project more effective and sustainable. In the pilot project of the Study, some beneficiaries had opportunities to visit other project sites. If the municipality can receive information from the *Comuna*s and other municipal areas and organize site visits, synergetic effects between different projects could be realized by allocating a small amount of the budget.

For example, the provincial government, sector ministries and UTCAH[12] will cooperate to collect information on successful development projects and organize periodic site visits by target *Comuna* administration staff and community organizations of development projects.

(iv) Finance

The primary goal of decentralization is to make the development project have more impact by designing and implementing a project that is more adapted to local situations. To do so, the *Comuna* administration should be involved at the forefront of development. Budget management needs to have flexibility. Rigid project management significantly undermines the effectiveness of the project. Thus, the budget must be managed with a high level of transparency by increasing the budget management capacity of the *Comuna* administration.

Strategy 1

An emergency fund providing for risk should be allocated from the beginning.

The pilot projects underscored that budgets need to be managed flexibly in development projects implemented by actors at the *Comuna* level, taking into account the capacity development of the actors, including community organizations. In the case of the participatory irrigation rehabilitation project, for instance, there were many small holes dug by animals at the bottom of the canals which had not been used for a long time. It was difficult to identify the holes beforehand. When water rapidly came into the canals, it enlarged the holes and some parts of the canals were destroyed. This kind of unexpected accidents increases expenditure. To cover this kind of demand, an emergency fund, controlled by the administration, has to be allocated from the beginning.

Some projects need to keep part of the requisitioned materials at the project sites in case of an emergency. After natural disasters such as heavy rain and storms, many people might need to be mobilized for first-aid measures. Based on the pilot project experience, 5-10% of the project budget should be allocated as an emergency fund. The *Comuna* administration and municipality should control 1% and 5%, respectively, in the first year. This budget could increase gradually in accordance with the enhanced management capacity of the administrative staff.

[12] Technical Unit of Coordination of Humanitarian Aid

Strategy 2

Information on standard wage and commodity prices in the area should be organized into tables.

In emergency situations, there are many instances whereby obtaining receipts becomes difficult. For example, when heavy rains wash out an irrigation canal under rehabilitation, many mobilized local people pile up sandbags to prevent further collapse. For the purpose of justifying emergency payments, local wages, transportation costs and the price of construction materials available locally should be organized into tables beforehand. This information should be kept in the municipal accounting section as official documents following *Comuna* administration approval. It will be necessary to update these documents periodically to keep up with drastic socio-economic changes in Angola.

Strategy 3

A treasurer should be hired in the *Comuna* administration.

As already explained, accounting related tasks will increase dramatically. When the *Comuna* administration begins to implement development projects and to monitor them, it will be difficult for the current *Comuna* administrative staff to manage the budget and report on it. Presently, there is no treasurer in the *Comuna* administration. As handing over bundles of receipts to municipal treasurers without any accounting report is unrealistic, a treasurer for the *Comuna* should be posted. The primary task of the *Comuna* treasurer will be to report *Comuna* accounting to the municipality; but simple bookkeeping, including the sorting of evidentiary documents such as receipts would be sufficient for the time being.

8.3 General Balanced Scorecard of Reconstruction and Development in the Rural Area of the Municipality of Lobito

The development strategies and master plan are summarized in the Balanced Scorecards. Also, projects presented on the Development Plan at the *Comuna* level are included in the BSC. The relationship between strategies in some sectors and of projects relating to each strategy is made clear by the BSC. The synergistic effects of agriculture, in particular, combined with other sectors, can be understood at a glance.

As an inter-sectoral development plan like this involves a large number of various actors, a communication tool is necessary for all actors to examine how a project contributes to the achievement of the whole municipal development goal and to observe the relationship between various projects. Through the BSC, it is easy to understand the relationship of strategies in terms of sectors, project contents, scale and impact, contribution to the achievement of overall goal and the implementation system. Thus, BSC is a marine chart and a high performance compass all actors can share.

The concept of the BSC was explained in Chapter 1 using a prototype of the BSC; but the BSC

was modified when applied to this master plan, though the concept of the BSC was fully used. The modified BSC is discussed here.

Three components -- the “Development Goal”; the “Development Strategy and Project”; and the “Implementation System” that supports the “Development Strategy and Project” – are shown in the BSC.

The “Development Goal” consists of the “Target”; the “Goal of related organizations”; and “Indicators.”

The “Development Strategy and Projects” are shown sector by sector in terms of “outside support”; “municipal strategy”’ “project”’ “scale”; “target community”; “schedule”; “impact”; and “contribution to the overall goal.”

“Outside support” is the support received to execute the “municipal strategy.” The arrows indicate their interrelationships. The strategies of each sector are connected with vertical arrows and the agriculture-centered impact relationship, or its synergistic effect among strategies, is indicated. The “contribution to overall goal” is the contribution to poverty alleviation after the execution of projects.

The “Implementation system,” is described in terms of “outside support”; “municipal strategy”; “project”; “scale”; “target”; “schedule”; and “impact.” The contents are the same as for the “Development strategy and projects,” except for the “target,” which is not the communities but the organizations. When there are synergistic strategies or causality among strategies in the implementation system, they are shown by arrows.

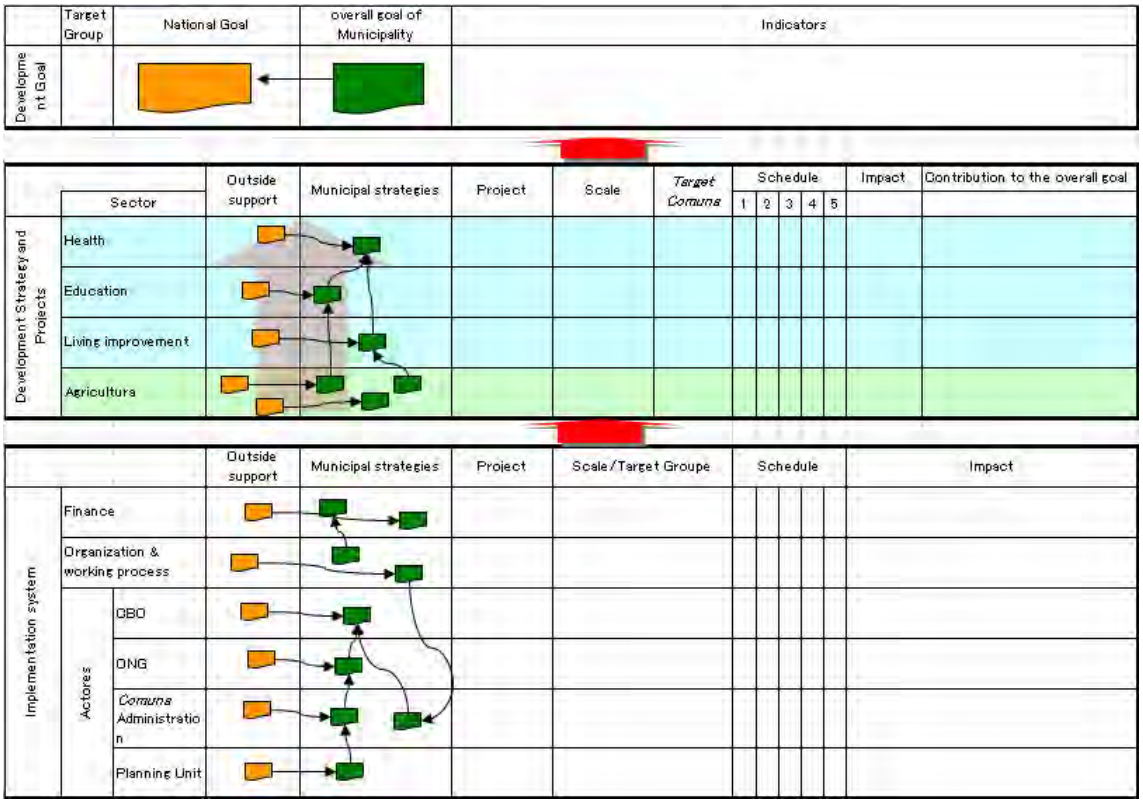

Figure 8-4 General Balanced Scorecard

	Target Group	Objective of the State	General Objective of the Municipality	Indicators (as reference)
Objective	Farmers	Reduction of regional disparity	Alleviation of Poverty	1.Increasing of nutritive food consume to the calorie level by 24% (form 1691 to 2110 calorie per person), 2.Increasing the household income per person of US$0.75per day to US$0.94 per day, 3.Redution of 88 hours of women domestic labor per year, 4. Increasing the literacy education rate from 67% to 80%.

Sectors	Other organizations aid	Development Strategies and its Relation		Project to carry out the Strategy with its prioritization A(recommendation of the Study Team),B(important) and C(less important)	Scale	Targets Communes	Year 1	2	3	4	5	Impact	Contribution for the objective (This estimative is just for recommended projects)
Development Strategies and Projects to be carried out the Strategies													
Health		Taking in maximum the advantage the local human resource to the private health facilities; Support to improvement of medical assistance	A	Capacitating of midwives	130 coordinators	CJ,CL,EP,BP						Health and life condition of 3000 households improved by reduction of diseases, it has reduced the social cost and maintaining labor force for economical development.	
			A	Creating health coordinator		CJ,CL,EP,BP							
			B	Construction of nurse residences	2 classrooms	EP,BP						Increasing the teaching efficiency to the pupils	
			B	Providing ambulance	7 ambulances for 4 health posts	CJ,CL,EP,BP						8400 estimated people x 5 years=42000 people	
			C	Enrolling more nurses	60 nurses in total	CL,EP,BP							
Education		Promoting literacy education lessons with income generation activities; Extension of school service network; Improving the education level by community initiative	A	Literacy education lessons with income generation	120 literacy teachers and 100 lessons as minimum	CJ,CL,EP,BP						6800 educated people during 5 years	Literacy education rate from 67% to 80%
			B	Acquisition of power generators	13 power generators for 13 schools	CL						More literacy education lessons	
			B	Construction of schools near the villages (Including teacher´s residence)	55 schools in total	CJ,CL,EP,BP						Capacity of 10360 students for all lessons without consideration of study by turns	
			C	Enrolling more teachers	100 teachers in total	CL,EP,BP						Having attendance capacity of students	
			C	Distribution of didactical material	1500 games until 6th grade	CL						1500 students with didactical material will have high study performance	
			A	Creating of parents committee	7 committees for 7 villages	EP						Improvement of teaching quality by parents care	
Improvement of life	Providing experts	Reducing women domestic labor; Spreading service network of social infrastructure	A	Improved oven (by suggestion of the Study Team)	500 ovens	CJ,CL,EP,BP						Reduction of 3 hours of work per day for 500 women	Reduction of 88 hours of women labor per year at the level of 4 Comunas (Approximately 20000 women will be labor force involved in the economical activity)
			B	Providing corn grinder	4 grinders	CJ,CL,EP,BP						Reduction of 2 hours of work per day for bruising the corn to 4000 women	
			B	Rehabilitation of roads between villages	110Km in total	CJ,BP						13750 persons per year and US$23,375,000 per 5 years	
			B	Construction of bridge	One bridge of 50m in the Chimbambu village	CL						760 persons per year and US$963,333 per 5 years	
			A	Installation of latrines	For 1000 households	BP						Improvement of hygiene condition for diseases reduction	
Agriculture	Providing experts; More opportunity to the extensionists capacitating	Introducing intensive form of crop by taking advantages of the zone; Spreading more efficiently the service network; Improving the soil with organic material; Rehabilitating the irrigation canal in the targets zones	A	Introduction of the rice production	300 ha for 300 households	CJ,CL,EP						1.2t x 300ha=360t per year (Kz163444 including the beans sales produced after rice harvest)	
			A	Integrated agriculture	Vegetable crop for 500 households	CJ,CL,EP,BP						(2t of tomatoes per 1/10ha + 30 chicken) /year=Kz60,000/household/year Kz60,000 x 500=Kz30,000,000	
			A	Promotion of the beans sales	450,000kg locally packed	CJ						450,000kg=Kz31,076,000 (20% of estimated total production of the zone) with a employment of 3393 men/day per year	
			C	CDA	2 with office, dormitory and store	CJ,EP						Having capacity of farmers attendance for increasing their capacity not only in crop techniques but also in their chain management between cropping and selling	
			C	Enrolling of more extension workers	4 extension workers	BP							
			C	Capacitating of agricultural extension workers	28 extension workers	CJ,CL,EP,BP							
			A	Capacitating of cooperative managers	25 members	CL						Increasing of organization management capacity	
			A	Increasing maize production with grass	5000ha for 10000 households	CJ,CL,EP,BP						Increasing of production (550kg→1500kg/Ha) for 8160 households	Nutrition improvement at all communal level from 1691cal to 2110 Kcal per person (24% ↑) and increasing the income, half year of Kz20,923 per household
			A	Providing of agricultural inputs to the bank loan	Bonus, tools for 2520 households	CL,BP						Increasing agriculture production by US$2,523,000	
			A	Introduction of attraction cattle	1524 cattle for 1524 households	CJ,CL,EP,BP						1500ha of cropped farms per half year	Increasing half year income of Kz147,612 per household for 1840 households (Note : it is not included the project effect of electro pumps for irrigation to Commune of Biopio)
			A	Participatory rehabilitation of the irrigation system	4 irrigation canals	CJ,CL,EP						Increasing of 1500 ha of farms	
			B	Providing electro pumps for irrigation	2 pumps for 120ha	BP						Increasing of 120 ha of farms	

		Other organization aid	Development Strategies and its Relation		Project to carry out the Strategy	Scale/Target Person	Year 1	2	3	4	5	Results
Implementation System												
Organization and operational system	**Finances**	Extra fund aid; Providing experts	Making budget of emergence fund for projects execution; Preparing one price lists of teams and labor table in; Providing counter	A	Feasibility study of budget according to projects types	Responsible people from Municipal planning and finance section						Having in adequate emergence budget system according to project type
				A	Accountability study for available fund							The projects can be implemented considering any problems type which may happen during execution without interruption for lack budget problem
				A	Price study and labor of each Comuna	All members of communal administration						Having the very rational execution of budget using
				A	Training of regulation and accountability methods							
	Organization and operational system	Providing information fr other municipalities and provinces	Giving na opportunity of experimenting of pilot project execution process from one representative commune; Applying good examples ou experience in other	A	Feasibility study of small-scale projects	Responsible people from planning section and Communal Administration						Responsible people from planning section may have planning capacity about small-scale projects, and knowing before the real project management capacity by communities organizations
				A	Preparation of one model projects list to the provincial level	Responsible people from planning section						Responsible people from planning section may have planning capacity of buying and evaluating results and sustainability among several projects at provincial level
				A	Study implementation (exchanging of experience among farmers at the provincial level)	Responsible people from planning section and Communal Administration						Responsible people from planning section, communal administration as communal organization members may have analytical capacity to evaluate and projects planning
	Actors OBC		Strengthening the ownership notion	A	Small-scale project for notion promotion and capacity of project management	Organization leaders based in the communities (villages and Comuna)						The communal organization leaders may notion and project management capacity and influencing positively to the other village inhabitants at the communal level
	NGO		Training the real field staff	A	Training and exhaustive practice of participatory planning and monitoring	All representative members from main NGO´s						NGO´s members must have planning capacity and monitoring properly the projects
				A	Training and facilitation exhaustive practice							NGO´s members must have farmers leading capacity who have property notion and organization capacity
	Communal Administration	Providing experts	Having capacity to prioritizing several kinds of projects with logical reasons; Establishing well efficient monitoring system	A	Training and exhaustive practice of participatory planning	All members of communal administration						Communal Administration must have capacity of leading participatory planning workshop and determining dates of workshops for informing properly its result to Municipal planning section
				A	Training and exhaustive practice of monitoring method and report preparation							
	Municipal Administration		Having capacity to prioritizing several kinds of projects between sectors	A	Training and exhaustive practice of program´s planning and projects by Logical Frame	Responsible people from planning section						Responsible people from planning section may have capacity at the international level for projects planning, monitoring and evaluation
				A	System formation of specialists network							Planning section may have planning capacity at high level of specification and safe budget

Note:

1. The final BSC is combined between presented projects in 4 *Comunas* and recommended projects during Basic Plan joined to its categories A,B and C.
2. The strategies with white ground (without color) and with violet in the frame, in the agriculture sector are strategies formed by *Comunas*.
3. The letters A (in red color) and colored columns are standing for recommended projects by the Study Team.
4. In the "contribution for objective" it has just been calculated recommended projects by the Study Team.

Figure 8-5 Balanced Scorecard of the Reconstruction and Development Programme for the Rural Area of Municipality of Lobito

Chapter 9

Recommended Projects

9.1 Agriculture

9.1.1. Maize Yield Increase with Grasses

The proposed project is designed to solve the problem of starvation by increasing the maize yield by placing grasses with small amounts of fertilizer into the field. As the technology is simple, it can be disseminated easily. It is not so difficult for small-scale farmers to adopt the technology because limited risk is incurred to their small cash expense outlay. The technology has been validated in the pilot project and has been accepted and approved among farmers through word-of-mouth communication.

Farmers will sow maize after placing grasses with small amounts of fertilizer into soil. The grasses are not specified, and weeds around the field and crop residue are sufficient. By placing grasses, farmers can reduce the amount of fertilizer to a lower level than standardized recommendations.

A Background

The staple food of small-scale farmers in the target area is maize, most of which is produced by themselves. Since the yield is very low, there are households that face starvation. The survey conducted by the Study Team estimated that the average calorie intake of the farmers is insufficient.

In the same survey, it was calculated that the average maize yield in the target area is just 537kg/ha. In the typical farming system, maize yield depends on rain and soil and sun, but no fertilizer. It was observed that the soil's organic matter in most crop fields is insufficient for satisfactory yield outcomes; the soil's physical property as well as its fertility should, and can, be improved.

Small-scale farmers in the target area burn crop residue and miss the opportunity to return the residue to the soil. Abundant grasses are not utilized at all. The farmers seem to have a shorter history of constant field cultivation than other areas such as Asia and do not have empirical knowledge on how to maintain and enhance soil quality.

The Angolan government and some NGOs recommend the application of chemical fertilizers. But, if farmers use chemical fertilizers consistently, the soil will soon fail to support sound root development and salinization could result. Increasing fertilizer costs is another concern for small-scale farmers who have little cash leverage.

B Objective

The objective of the project is to enhance maize productivity to 1,500 kg/ha through improving the soil's fertility and physical properties by mixing crop residue and grasses around the field. Fertilizer is used to improve the soil's fertility, but the amount is reduced to a lower level than the standard recommendation.

C Target

Under the proposed project, ten thousand farm households that can harvest at least a crop of

maize are targeted. The supporting unit area is 0.5 ha per farm, so the total supported area is 5,000 ha. The project does not support unit areas above 0.5 ha, since it does not support plowing by tractors, and it is difficult to plow more than 0.5 ha by hand.

D Proposed Schedule

Five years from the first year to the last year.

E Process

1. The project team will select a couple of model farm households per community. Calling the model farmers to the center of the *Comuna*, the project team trains them. In a highly populated *Comuna*, the training should be in 3 or 4 separate blocks.
2. The model farmers will plow fields by hand hoes and construct rows three weeks before sowing. Putting a lot of grasses and crop residues such as maize stalks and leaves in the bottom of the furrows with fertilizer, the model farmers will cover it with soil from the top part of the rows, making new rows (refer to Figure 9-1). Be sure to put enough grass because the effect will be limited when the amount of grass is not sufficient.
3. After the first rain, the model farmers will sow maize on the top of the rows.
4. For the second crop, put grass at the bottom of the furrows and cover it with soil from the top part of the row.
5. Fertilizer delivery is only for the first crop. Farmers should prepare fertilizer on their own from the second crop onward. Seed is not delivered by the project team but prepared by the farmers themselves from the first crop because seed cost is low.
6. The model farmers disseminate the technology and the actual results of the first crop to 20-30 other farmers in the community. The project team supports the farmer-to-farmer dissemination.

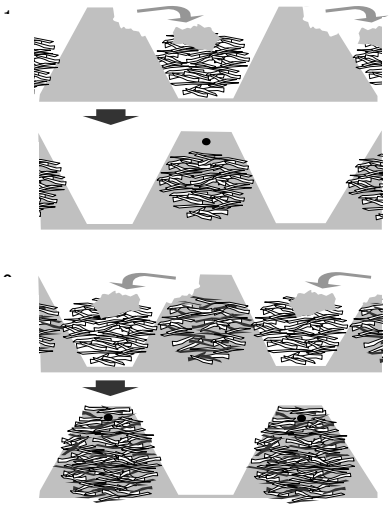

Figure 9-1 How to Mix Grasses in the 1st and 2nd Crop

F System

Extension officers will direct the entire project with a couple of NGO staff members. Calling selected model farmers to the center part of the *Comuna*, the extension officers will train them and deliver fertilizer. The NGO staff will go to sites of model farmers and follow up on their procedures. After the first harvesting, the model farmers will be responsible for disseminating the results and technology to other farmers. The NGO staff will follow up on the dissemination process of the model farmers. The NGO staff will engage in the project during the first 2 years. After that, the dissemination will be done by the farmers themselves, under the supervision and advice of the extension officers.

G Support

As the technology itself is simple, it is not necessary to support the project from outside. The project scale, however, is extensive, since it targets almost all farm households in the target area. Outside specialists should support the implementation system and project operation in the matters of organizing farmers and on-the-job training. The outside specialists will support the project as advisors to extension officers and NGO staff.

H Rationale

In the pilot project, the plot with grasses and fertilizer (plot A) showed higher yields than the plot only with fertilizer (plot B). Furthermore, in the second trial, the plot with grasses and half the amount of fertilizer (plot A) showed a higher yield than the plot with grasses and the full amount of fertilizer (plot B). It suggested that the amount of fertilizer could be reduced when grasses are put into the soil.

Both in Canjala and Dombe Grande, some other farmers who saw the difference between plots A and B in the first crop understood what had happened and started to adopt the technology spontaneously. Nucleo, a community-based organization in Dombe Grande, started its own original project for disseminating the technology.

I Characteristics

As the technology is simple, it is easy for small-scale farmers to adopt it. Grasses are available anywhere. Although labor for collection is required, a cash expense is negligible. Thus, this technology is for small-scale farmers whose cash income is limited.

In this project, basic cultivation technology, except for placing grasses and fertilizer, should be based on the current practice of small-scale farmers. As a result, almost all farmers in any kind of field, from irrigated fields to the rain-fed fields, harvesting only one crop, can participate in the project.

“Soil fertility” in the project will basically depend upon the use of chemical fertilizer because there is little material for organic fertilizer, animal manure in particular, as a consequence of the dramatic reduction of herds in the civil war. The recommended amount for application of chemical fertilizer in the project, however, is only a third of the recommendation by the Ministry of Agriculture and Rural Development. However, as already noted, the yield appreciably increases even with this reduced amount, due to mixing fertilizer with the grasses.

J Expected Difficulties

There are no difficulties involved when farmers cultivate less than 0.5 ha of land. Farmers that succeed in the first crop could start to expand cultivation. But it is difficult to plow wider areas by hand. The proposed cattle introduction project in irrigated areas, which is discussed later, is for meeting the demand for more extensive land use.

K Budget

A total of 10,000 farm households will be involved in cultivating a total area of 5,000 ha. The

project team will deliver 50 kg of urea or ammonium sulfate and 25 kg of mixed fertilizer "12-24-12" per farm of 0.5 ha. Distribution of the fertilizers is only for the first crop and farmers are required to prepare to purchase their own fertilizers from the second crop onward. Seeds will be prepared by the farmers themselves.

NGO staff will be deployed as support staff to extension officers. Five in total, two for Canjala and one each for the other three *Comuna*, will be deployed for two years. A motor-bike per NGO staff will be procured for their mobility. The extension office and the salaries of the extension officers are not included in the project budget as they are covered by the general budget of the Ministry of Agriculture. The total project cost will be Kz64.32 million, or US$857,600.

Table 9-1 Budget of the Maize Yield Increase with Grasses Project

Item	Specifications	Unit price (Kz)	Number of unit	Amount (Kz)	Amount (US$)
Fertilizer	Urea	4,000	10,000	40,000,000	533,333
	12-24-12	2,800	5,000	14,000,000	186,667
NGO personnel	Personnel cost for 2 years	900,000	5	4,500,000	60,000
NGO allowance	Accommodation/food for 2years	900,000	5	4,500,000	60,000
Motorbike	125cc, 2 cycle engine	225,000	5	1,125,000	15,000
Gasoline	1000 liter per bike for 2 years	40,000	5	200,000	2,667
Total				64,325,000	857,667

Source: The Study Team

L Expected Impact

This proposed project is primarily a response to the problem of starvation. Thus, an increase in calorie intake should be discussed as an indicator to measure the impact of the project. According to the survey by the Study Team, a person in the target area takes in 1,895 kcal per day on average. This project makes it possible to harvest 1,500kg per ha, and if all of it is consumed, the average calorie intake would be 3,305 kcal per day. As that target figure would actually exceed a healthful calorie intake, some percentage of the harvested maize would be marketed. In theory, if people with more than 3,500 kcal per daily intake sell some of the harvested maize, the average calorie intake per person per day becomes 2,110 kcal. The equivalent figure before the project would be 1,691 kcal. Thus, the project would realize a 24.8% increase at the lower levels of caloric intake. Although the starvation problem may not be solved entirely, the project would significantly improve the current situation in caloric intake.

In terms of economic impact, 7,500 tons of maize is expected to be harvested from 5,000 ha, or 10,000 farms, which is worth Kz225 million in sales based on a unit price of Kz30/kg. The net profit would stand at a total of Kz212.14 million per year and Kz21,214 per 0.5 ha of farmland. Family labor is included in the profit.

Table 9-2 Economic Impact of the Maize Yield Increase with Grasses Project

Item	Note	Unit price (Kz)	Number	Amount(Kz)	Amount (US$)
Sales	Maize 0.5 ha/farm, 1500kg/ha、Kz30/kg	22,500	10,000	225,000,000	3,000,000
Project cost				12,865,000	171,533
Annual profit in total				212,135,000	2,828,467
Annual profit/farm				21,214	283

Source: The Study Team

9.1.2. Participatory Irrigation Rehabilitation

This proposed project is aimed to rehabilitate irrigation canals, primarily using the labor resources of the beneficiaries in the target area. There are four canals in the target area; 1,524 ha will be irrigated after the canals are rehabilitated, according to calculations of the Study Team.

The target area does not cover an extensive tract of land, such as we find in the inner provinces. Rehabilitating the canals is the best way to promote agriculture in the target area where land cultivation averages 0.7 ha per household. Irrigation is the most important condition for elevating the level of cultivation.

Who will take the initiative in the maintenance of rehabilitated canals as well as for the rehabilitation itself is the main issue to be worked out. In this project, the beneficiaries themselves will take part in the first half of the rehabilitation; then, it is envisioned that they will become canal managers after the rehabilitation. The project team will facilitate their participation.

A Background

The leading actors of agriculture in the southern part of Angola are the inner provinces such as Huambo, Bie, Huila and Moxico. Farmers there practice extensive agriculture in which input, except for labor, is minimized, relying on reliable rainfall. Although the yield is low, they produce large amounts of products in an extensive land mass. In contrast, the target area in the coastal region of Benguela Province allows farmers to cultivate merely 0.7 ha per farm household on average. Agricultural production can be promoted only through intensified land utilization. Considering that there is less reliable rainfall compared to the inner provinces, irrigation infrastructure is indispensable for the target area.

Four irrigation canals were constructed during the Portuguese colonial era, but they were all destroyed in the civil war. Cuvelo canal, one of the four canals, was rehabilitated in the pilot project in the Study. The basic rehabilitation was completed and 796 ha were irrigated. As lining of the canal has not yet to be completed, it should be finished during this project. When the other three canals are rehabilitated, 728 ha will be added on and 1,524 ha in total can be

irrigated, including the Cuvelo canal.

It is possible to construct new canals sourcing the Balombo River as the water volume of the Balombo River, a primary river in the target area, is plentiful. New canal construction, however, costs 3 times as much as rehabilitation. Rehabilitating existing dysfunctional canals should be the first priority.

One of the typical problems in irrigation construction and rehabilitation worldwide is that water users' associations are not effective because the users lack ownership rights. In the worst cases, new canals have not been used. This problem tends to be more serious when government or donor agencies simply assign the project to engineering firms, as construction is then carried out by hired labor with machinery, totally excluding the potential beneficiaries from the project. Then, it is often the case that farmers have nothing to do with the project until the completed facilities are handed over to them.

In this proposed project, farmers will participate in the construction process. Participating farmers will employ their rights of ownership at an early stage, allowing smooth transition to become central players in the maintenance of canals after rehabilitation is completed. This process has been validated during the first half of the rehabilitation process of the Cuvelo canal in the pilot project.

The most important point is that an experienced engineer plans the rehabilitation process technically at an early stage of the project. Before lining the canal by concrete, weeding and soil excavation was completed primarily by farmers by hand. Some areas may require machinery for the soil excavation process due to the shape of the land and conditions of canal destruction. In those cases, the project must immediately hire machinery, while wages will have to be paid to laborers to operate in narrow places in which machinery cannot operate. Engineers, who explore the site, will have to foresee the process and devise a scenario that allows for rehabilitation according to specific plans, and budgetary and materiel requirements. It is essential that beneficiaries are not forced to work in unreasonable places. In the second half of the rehabilitation process, the lining should be conducted by machinery and by appropriately hired labor.

B Objective

The objective is to rehabilitate four irrigation canals in the target area in order to irrigate 1,524 ha, using a participatory approach. Beneficiaries will primarily take part in weeding and excavating soil in the first half of the rehabilitation process.

C Target

As the excavation of the soil at the Cuvelo canal in Canjala (796 ha) has been completed, only lining should be conducted during this project. For the Hanha canal in Culango (337 ha) the Pamda canal in Culango (152 ha), and the Sede canal in Egito Praia (239 ha), full rehabilitation from excavating soil to the lining process will take place.

D Proposed Schedule

From 1st year to 4th year

E Process

1. For the Cuvelo canal, the project team will order civil engineering contractors a detailed design for the lining. Consulting with the rehabilitation committee on the schedule of construction, the project team implements it.
2. On the other three canals, the project team will order civil engineers to plan a rehabilitation scenario based on site exploration. The engineers should distinguish the part that can be excavated by beneficiaries by hand and the part that machinery should be utilized.
3. In Egito Praia and Culango, NGO staff will organize irrigation rehabilitation committees.
4. The irrigation rehabilitation committees will convene to determine rules, schedules and responsibility regarding community participation in the rehabilitation work.
5. According to the determined schedule, beneficiaries will start weeding and excavating soil. A couple of weeks prior to the initiation of machine operations, the rehabilitation committees will ask the project team to hire machinery for the aspects of the projects that need to be done by machinery.
6. The rehabilitation committees should discuss not only the progress of the rehabilitation but also the water distribution plan to utilize the completed canals efficiently. The committee should inform beneficiaries of plans and rules on water distribution.
7. After completing rehabilitation, the committee will distribute water based on the distribution plan.

F System

An engineer who can plan the rehabilitation process in detail, and NGO staff who support the extension officer while mainly being in charge of organizing farmers are necessary. Two NGO staff members are needed: a person for Canjala and Egito Praia and another person for Culango, as Canjala farmers have already been organized.

G Support

If engineers cannot be recruited in Angola, expatriate experts should be assigned. In addition, an expert on organizing farmers will be required to support NGO staff. The expert will advise NGO staff, so as to balance the physical construction and the beneficiaries' sense of ownership rights and responsibilities..

H Rationale

Cuvelo canal was rehabilitated during the pilot project based on a participatory approach, involving machinery hiring and wage payouts in some difficult parts of the rehabilitation process. The rehabilitation committee faced difficulties in facilitating beneficiaries' participation in the rehabilitation process, but it managed to overcome them by remaining

patient. Based on the judgment of an engineer, the pilot project's use of hired machinery and paid laborers for some parts of the canal work did not seem to hinder the ownership cultivation process. At present, the committee manages water distribution efficiently on a trial basis.

I Characteristics

To foster the ownership of beneficiaries, the project team involves beneficiaries on the basis of a detailed rehabilitation plan drafted by an engineer. In many cases of irrigation projects in the past, mostly designed and implemented only by engineers, beneficiaries could not have the kind of ownership rights and responsibilities that are indispensable for the maintenance of irrigation facilities as they were excluded from the project until the facilities were completed. On the other hand, full participation may force beneficiaries to work in unreasonably difficult places. This project is designed to avoid these extreme cases.

J Difficulties

If the initial forecast by an engineer is incorrect, problems and delays in schedule could arise. Thus, the engineer should be very careful in planning the rehabilitation process in detail. This not only affects the actual progress of rehabilitation but also the ownership fostering process. In addition, the schedule must allow for unexpected accidents.

K Budget

It will require Kz12.75 million per 1 km of canal rehabilitation, including all materials and engineering costs. Two NGO staff members will have motorbikes supplied to facilitate their mobility.

Table 9-3 Budget for Participatory Irrigation Rehabilitation

Item	Specification	Unit Price (Kz)	Number	Amount (Kz)	Amount (US$)
Rehabilitation	Unit price is per 1 km	12,750,000	33	420,750,000	5,610,000
NGO staff	Salary for 4 years	1,800,000	2	3,600,000	48,000
NGO staff allowance	Accommodation/food for 4 years	1,800,000	2	3,600,000	48,000
Motorbike	125cc, 2 cycle	225,000	2	450,000	6,000
Gasoline	1000 liter/bike for 4 years	80,000	2	160,000	2,133
Total				428,560,000	5,714,133

Source: The Study Team

L Impact

A total of 1,524 ha will be newly irrigated, enabling farmers to harvest maize and beans each year. The economic impact is discussed here (disregarding the introduction of cattle, which will be described in the next section). An irrigated field per farm household is estimated at 1 ha, but 0.5 ha will not be used under the condition of hand hoe plowing. It is impossible to input cattle manure without the introduction of cattle. Thus in this impact calculation, farmers will have to purchase fertilizer to achieve adequate soil fertility. The amount of fertilizer

required will be the same as in the case of the proposed project of Maize Yield Increase with Grasses. The annual profit per farm household, including family labor, will be Kz73,476. The combined economic impact of irrigation and cattle introduction will be discussed in the next section.

Table 9-4 Economic Impact of Participatory Irrigation Rehabilitation

Item	Specification	Unit Price (Kz)	Number	Amount (Kz)	Amount(US$)
Sales	Maize 0.5ha, 1.5t/ha, Kz30/kg	22,500	1,524	34,290,000	457,200
	Beans 0.5ha, 1.5t/ha, Kz85/kg	63,750	1,524	97,155,000	1,295,400
Fertilizer	Urea 50kg/ha、Kz4000/50kg	2,000	1,524	-3,048,000	-40,640
	"12-24-12" 25kg/ha, Kz2800/50kg	1,400	1,524	-2,133,600	-28,448
Project cost	Annual cost of 30 years depreciation			-14,285,333	-190,471
Annual profit				111,978,067	1,493,041
Annual profit per farm				73,476	980

Source: The Study Team

9.1.3 Cattle Introduction

When the cultivation area exceeds 0.5 ha, farmers face an additional problem of plowing labor and fertilizer costs. To solve this problem, cattle should be introduced to the farms that participated in the Maize Yield Increase with Grasses project. Plowing labor is alleviated by cattle traction and soil fertility is increased by cattle manure. The target should be limited to irrigated areas because the cultivation of beans, the most reliable cash crop which are grown only during the dry season in the target area, is necessary to cover the cost of cattle. The effectiveness of cattle traction has been verified in several similar projects funded by the World Bank.

A cattle group, consisting of two males and two females, is delivered to a group of four farm households. Cattle are not grazed but confined to a kraal and farmers plant forage crops to feed the animals. Management responsibility among the four farm households should be well discussed and if the cattle are managed appropriately, the project could succeed.

A Background

Farmers in the target area could expand their crop-land as some parts of the canals are rehabilitated. But farmers are plowing by hand and when they plan to expand their land, they have a problem with plowing labor.

Before the civil war, there were many cattle in the target area, according to the local people. But the target area was the bloodiest battlefield during the civil war and the number of cattle decreased dramatically. Even if farmers would like to use animals to plow, there are few cattle. There are several tractors at large-scale farms in the target area and some of them are available.

The number of tractors, however, is limited and it is impossible to plow all irrigated areas by tractors.

Theoretically, it is possible for small-scale farmers to form a cooperative to purchase a tractor to share. A new tractor will cost them more than Kz2 million. Who will provide this capital? Even if a bank were to offer a loan and the cooperative were to acquire a tractor successfully, it would be extremely difficult for small-scale farmers to manage it by themselves, providing for expensive maintenance, etc.. In many cases in other developing counties, donated or lent tractors are abandoned after they are broken as resource-limited small-scale farmers cannot repair them.

The most realistic plowing method in the wider area, therefore, is the animal traction provided by the introduction of cattle. In some projects funded by the World Bank, traction animals have been introduced into several areas in Benguela Province and they have performed well, according to Study Team interviews of the beneficiaries. But there are two problems in the current animal traction projects.

First, only two bulls were introduced to 45 farm households in those projects. Traction is done only by powerful males but, of course, without cows, they never propagate. After 6-7 years they are to be culled and no animals remain. Farmers will then face the same situation as they faced before.

To solve the problem, bulls and cows should be introduced. Cows are strictly for propagation because propagation performance will be terrible when they are used for traction. As sound propagation requires management techniques, farmers should be trained in the project. But when the project gives up the area of propagation, sustainability goes down dramatically.

Second, cattle are grazed in the current projects. Grazing leads to two problems. One is the difficulty of introduction where there are no large grazing lands. The other problem is that a sufficient amount of cattle manure cannot be collected if they are grazed.

Cattle should not be grazed but confined in a kraal, being fed grasses planted by farmers. In the areas where grassland is limited, the project recommends planting tall grasses such as elephant grass to save land. When cattle are confined, the cattle produce sufficient manure to fertilize 1 ha of cropland.

B Objective

In order to realize expanding the cropland to more than 0.5 ha, cattle will be introduced both for animal traction and fertilization with manure. As a result, farmers will be able to cultivate crops in all 1,524 ha of irrigated land in the target area.

C Target

A total of 1,524 farm households with irrigated cropland, including, 796 farms in Canjala, 489 farms in Culango, 239 farms in Egito Praia, are targeted.

D Proposed Schedule

A 4-year project from the 2nd year to the 5th year

E Process

1. The project team will train farmers on the growth and propagation of cattle six months before the actual cattle introduction.
2. The project team facilitates farmers' planting of forage grasses such as elephant grasses in 2 ha per group six months before cattle introduction. Planting should be conducted at the beginning of the rainy season.
3. Farmers will construct a kraal on their own. Materials, which are found easily in the target area, should be procured by farmers and the project will not supply such materials. A kraal will be 5m by 7m in size, divided by small spaces of 5m by 1.5m. About half of the area, including the small spaces, should be covered by thatch to create shade. Farmers should plant fast growing trees such as Neem and Moringa around the kraal.
4. Cattle variety will be a cross-bred of Zebu imported from Brazil, which shows high quality in meat, and an Angolan indigenous breed, which has strong traction power. A cattle set consisting of two bulls and two cows and an iron plow will be delivered to a group of four farm households.
5. Cattle will be confined and will not be grazed. Planted grasses such as Elephant grass will be fed to them. Daily management work should be appropriately shared among the four farm households based on discussions.
6. Farmers will use two bulls for traction. The order of plowing by oxen should be discussed well among farmers within the group. At least a crop of irrigated beans in the dry season and a crop of maize in the wet season should be cultivated.
7. Cattle mating is done naturally, and a cow produces a calf once every 18 months. The propagation cycle is shown in the table. The first four calves are for a next new beneficiary, while the next four are for the replacement of

Table 9-5 Propagation Cycle of Cows

Year		Number of Calving					Number of calves	How to use them
		1	2	3	4	5		
1	1						4	
	2						4	
2	1	2					6	Paying back
	2						8	
3	1						6	
	2		2				7	Paying back
4	1						8	
	2						8	
5	1			2			10	Replacing
	2						10	
6	1						10	
	2				2		12	Replacing
7	1						12	
	2						12	
8	1					2	14	Marketing
	2						14	

Source: The Study Team

the first generation, and the ninth and those after it can be marketed.

8. Disease control is implemented by veterinarians in the provincial office of the Ministry of Agriculture through necessary measures such as vaccination programs.

F System

A project secretariat, consisting of cattle experts in the provincial office of the Ministry of Agriculture, an expatriate cattle specialist, an expatriate extension specialist and extension officers, will be formed. Six NGO staff, three in Canjala, two in Culango and one in Egito Praia, will support the extension officers. Extension officers and NGO staff members will first receive technical training on cattle management. In the communities, the extension officers and NGO staff will be responsible for daily activities and will monitor and advise the cattle experts. Disease control such as vaccination programs will be covered by the experts.

G Support

There are some cattle experts in the provincial office of the Ministry of Agriculture, but the number is insufficient for the project and they have other tasks. Thus, expatriate specialists, a cattle technical expert and an extension specialist with experience in project management and organizing farmers, will be necessary. The expatriate cattle specialist with the specialists in the Ministry of Agriculture will train extension officers and NGO staff to enable them to advise farmers on technical matters. During the implementation stage, specialists will support extension officers and NGO staff and help them procure cattle and forage seedlings.

H Rationale

In projects funded by the World Bank and implemented by NGOs in some provinces, including Benguela, introduced traction animals successfully help farmers to reduce their plowing labor.

I Characteristics

Though traction speed by cattle is slower than a tractor, total costs, including maintenance, as well as the acquisition cost of cattle is lower than that of a tractor. Also, since tractor costs can be covered only when multiple small-scale farmers use it, the tractor project must handle large-scale, difficult group management. A unit in this project consists of merely four farm households and management is much easier.

A confinement rearing system, such as a kraal, conserves area vegetation and maximizes the amount of cattle manure realized for soil fertilization without much cash expense. The project has another advantage in that cows will enhance its sustainability through propagation. This project is not only for crop production but also for animal production by the project design of introducing female cattle.

J Difficulties

Technology on nutrition and reproductive management is required for sound cattle propagation. Whether farmers without experience in cattle propagation will be able to obtain

the technology through training is the key for the success of the project. Disease control is another significant aspect for cattle management. This should be offered primarily by cattle specialists in the project team.

K Budget

Four cattle for 381 groups will cost Kz57.15 million and 381 iron plows will cost Kz5.71 million; initial bean seeds for 1,524 farm households will cost Kz7.62 million. Adding training, NGO staff and affiliated motorbikes, the total project budget will total Kz93.96 million.

Table 9-6 Budget of Cattle Introduction Project

Item	Specifications	Unit price (Kz)	Number	Amount (Kz)	Amount (US$)
Cattle	4 heads by 381, 1524 heads in total	37,500	1,524	57,150,000	762,000
Plow		15,000	381	5,715,000	76,200
Beans' seed	50kg/ha of Kz100/kg	5,000	1,524	7,620,000	101,600
Training	Instructor, transportation, teaching materials and so on	43,000	1	43,000	573
NGO salary	For 4 years (CJ3、CL2、EP1)	1,800,000	6	10,800,000	144,000
NGO allowance	Accommodation/food for 4 years	1,800,000	6	10,800,000	144,000
Motorbike	125cc, 2cycle engine	225,000	6	1,350,000	18,000
Gasoline	1000 liter/bike for 4 years	80,000	6	480,000	6,400
Total				93,958,000	1,252,773

Source: The Study Team

L Impact

Thanks to the introduction of cattle, 1,524 ha of all irrigated land can be utilized as crop field. At least a crop of maize and a crop of beans can be harvested from the land. Yields of maize and beans with cattle manure are both 1,500kg/ha, respectively. Unit prices of maize and beans are Kz30 and Kz85, respectively. As irrigation is a prerequisite for this production, annual depreciation of the irrigation project is also included in this impact calculation here. The total annual profit will be Kz225.12 million and the annual profit per household will be Kz147,713. Cattle introduction will enable farmers to cultivate double the area. Considering that the annual profit per household in the Participatory Irrigation Project was Kz73,476, the profit more than doubles after subtracting the cattle project cost.

Cattle production is not included in the sales because produced cattle are for recompense through the fourth calf. After that, four more calves should be kept on the farm to replace the first generation. Then, farmers will be able to sell subsequent calves and cattle to the market from just six or seven years from the beginning of the project, hopefully, contributing to enhanced sales and profits.

Table 9-7 Economic Impact of Cattle Introduction Project

Item	Specification	Unit price (Kz)	Number	Amount (Kz)	Amount (US$)
Sales	Maize 1ha	45,000	1,524	68,580,000	914,400
	Beans 1ha	127,500	1,524	194,310,000	2,590,800
Total				262,890,000	3,505,200
Project cost	Annual portion of 4 year depreciation of the Cattle project			-23,489,500	-313,193
	Annual portion of 30 year depreciation of the Irrigation project			-14,285,333	-190,471
Annual profit				225,115,167	3,001,536
Annual profit per farm				147,713	1,970

Source: The Study Team

9.1.4 Upland Rice Introduction

The Study Team clarified that many households are purchasing rice for their own consumption in the target area whose average daily net income is merely US$0.74--slightly lower than the extreme poverty line of US$0.75. In Benguela Province, rice was produced in some areas in the past but production disappeared during the civil war. There are farmers who desire the revival of rice production. As rice is widely consumed, the rice market seems to be large in and out of the target area. Compared to the market price of maize, which fluctuates widely, rice is stable so it is a better cash crop than maize.

Rice is produced primarily in the eastern part of Bie and Moxico provinces in Angola. According to a survey conducted there by the Study Team, it is possible to introduce upland rice into irrigated fields in the Benguela target area.

A Background

According to a household expense survey in this study, as discussed in Chapter 3, there are many households that purchase rice as one of their primary calorie sources. Our calculations show that there is a 1,300 ton annual rice market, worth Kz82.18 million, in the target area. It goes without saying that there is a huge rice market in Luanda, Lobito and Benguela.

The reasons why even poor people, some of whom are not consuming sufficient calories, purchase expensive rice could be attributed to their strong preference for the taste of rice and for its ease of preparation and cooking as compared to maize, for example, which requires grinding to meal.

Rice is cultivated in natural rain-fed swamps, which emerge for a couple of months during the rainy season, in the eastern, inner provinces. Though there is no rice production in the target area, rice was once produced in other areas of Benguela Province, such as the Balombo

Municipality. During the long civil war, rice production in Balombo disappeared but there are farmers who hope for the revival of rice production.

The Study Team did not discover rice production experience in the Lobito rural area. But there are low, swampy lands called *naca* and the water volume of the Balombo River is more than sufficient to provide irrigation for upland rice because the target area is located at the river's mouth. Thus, when irrigation canals are rehabilitated completely, upland rice production with irrigation water will become possible.

Rice production in the target area could provide more intensive rice cultivation than that of inner provinces where rice is produced with almost no inputs. This intensive rice production system with irrigation, cattle traction and cattle manure, therefore, could be a progressive rice production model in Angola.

B Objective

The objective of the proposed project is to introduce rice production to the target area as a substitute for maize production in summer. The yield target is 1500kg/ha.

C Target

Three hundred farm households with irrigation and cattle, 300 ha in total, with 1 ha per farm, are targeted. Two hundred farms in Canjala, 50 farms in Culango and 50 farms in Egito Praia are targeted.

D Proposed Schedule

From the 3rd year to the 5th year

E Process

1. The project team will invite participation from 30 farms that are eager to start rice production: 20 in Canjala; and five each in Culango and Egito Praia. Those farms, forming an upland rice production committee by *Comuna*, will be responsible for disseminating rice production technology to 10 farms each after they master rice production in the first project year.
2. Inviting an upland rice specialist from Bie/Moxico, the project team will train the committee farms. The training program will include site visits in Bie/Moxico.
3. The project team will procure rice seeds, a rice huller and a rice-milling machine. The machinery will be installed in extension centers in the *Comuna*, managed by extension officers and operated by the rice production committee.
4. Farmers will put cattle manure on the field and plow by cattle until November. The cultivation area should be less than 0.2 ha during the first year. That can be expanded in the second year onward.
5. Farmers will sow rice seeds in December.
6. Farmers will sometimes weed.

7. After harvesting, farmers will dry rice and thresh grains by themselves.

8. Farmers will hull and mill rice grains using machinery.

F System

Four NGO staff will support extension officers, two in Canjala and one each in Culango and Egito Praia. Working with extension officers, NGO staff in charge of rice production will invite rice production experts and arrange site visits in Bie/Moxico. A rice production specialist can be selected in the provincial offices of the Ministry of Agriculture in rice production areas such as Bie and Moxico. After implementation begins, NGO staff will monitor and support farmers in their operations.

G Support

As the project covers the introductory phase, the technology that is introduced to the target area should be Angolan rice production technology because it has higher adaptability and lower risk compared to foreign technology. Support from outside, therefore, should initially be from Bie and Moxico. After farmers experience rice production to some extent, more intensive technology from Japan can be introduced in the second phase of the rice production project.

H Rationale

A great amount of rice is produced in Bie and Moxico provinces in Angola. On the other hand, many people in the target area are purchasing rice. The rice market in the target area is expected to reach 1,300 tons per annum. Large cities such as Luanda and Lobito consume much greater amounts of rice.

I Characteristics

By changing the current standard farming pattern of summer maize and winter beans into summer rice and winter beans, based on irrigation rehabilitation and cattle introduction, farmers can enhance profitability in their farming.

In major rice production areas in the inner provinces, farmers are producing rice in a rain-fed, extensive system, whereas the project's proposal is for rice farming that is more intensive, based on irrigation and cattle plowing/fertilization. As intensive rice production systems are rare in Angola, this project could become a progressive model of rice production.

J Difficulties

It is hard to know whether rice production will take root in the target area, as there is no rice production there at present. Thus, a successful model of the first year's 30 farms will be crucial for further dissemination of rice production in the target area. It is essential that the project team give full support to the first generation of farms in order to obtain success.

K Budget

Rice seeds, rice hullers and rice milling machines and NGO staff are the major cost items of this proposed project. Kz14.98 million for the three years is requested.

Table 9-8 Budget of Upland Rice Introduction Project

Items	Specification	Unit Price (Kz)	Number	Amount (Kz)	Amount (US$)
Rice seed		1,500	350	525,000	7,000
Rice huller		375,000	3	1,125,000	15,000
Rice milling machine		450,000	3	1,350,000	18,000
Training	Instructor, teaching materials etc	43,000	1	43,000	573
NGO salarie	3 years (CJ2、EP1、CL1)	1,350,000	4	5,400,000	72,000
NGO allowance	3 years of accommodation/food	1,350,000	4	5,400,000	72,000
Motorbike	125cc, 2 cycle engine	225,000	4	900,000	12,000
Gasoline	3 years of 1000 liter/bike	60,000	4	240,000	3,200
Total				14,983,000	199,773

Source: The Study Team

L Impact

The economic impact is calculated based on the crop rotation system of summer rice and winter beans. The project restricts the rice farming area to 0.2 ha maximum in the first year since it is the very first trial, not only for farmers, but also for the project team. Nevertheless, economic impact will be calculated on the basis of full-scale 1 ha of rice cultivation, which will start from the second year.

Because upland rice production requires irrigation rehabilitation and cattle introduction, the profit of rice production is calculated after subtracting these project costs, resulting in Kz163,444 per annum per farm household. This is higher than the profit of Kz147,713 of summer maize and winter beans with irrigation and cattle.

Table 9-9 Economic Impact of Upland Rice Introduction Project

Item	Specification	Unit price (Kz)	Number	Amount (Kz)	Amount (US$)
Sales	Upland rice in 1 ha, 1.5t/ha, Kz50/kg	75,000	350	26,250,000	350,000
	Beans 1ha, 1.5t/ha, Kz85/kg	127,500	350	44,625,000	595,000
Project cost	Annual cost of 3 years depreciation of upland rice project			-4,994,333	-66,591
	Annual cost of 4 years depreciation of cattle project			-5,394,570	-71,928
	Annual cost of 30 years depreciation of irrigation project			-3,280,752	-43,743
Annual profit				57,205,344	762,738
Annual profit per farm				163,444	2,179

Source: The Study Team

9.1.5 Integrated Farming

The highway to Luanda in the north and to Benguela in the south runs through the western edge of the target area and fresh vegetable marketing along the highway makes it possible to increase cash income for small-scale farmers.

Though vegetable production requires a higher level of growth management than that of grain crops, soil quality improvement, which fortifies the vital power of vegetables, is more important. Vegetables, which are highly susceptible to diseases in general, cannot be grown if the soil quality is insufficient.

Organic materials are indispensable for soil improvement. Grasses, which are primary organic materials for farming, are grown everywhere in the target area, but it is not easy to find organic materials that contain high levels of nutrients including nitrogen. Thus, the Study Team recommends utilizing manure excreted by a small number of introduced chickens. Containing phosphorus and potassium as well as nitrogen, chicken manure works effectively, especially in fruit crop production such as tomatoes and bell peppers.

A Background

The target area is located along the highway connecting Luanda and Benguela and it is in an ideal location to market agricultural products to huge consumption areas in the north and the south. If vegetables are produced in the target area, it would be advantageous because shorter transportation time is desirable, especially for vegetables, which are required to preserve their freshness.

Small-scale farmers in the target area traditionally have conducted extensive farming without agricultural inputs. They do not have the knowledge to maintain and enhance soil fertility, which is necessary for the constant utilization of fields. They seldom practice soil improvement technologies such as returning organic materials to soil in the form of animal manure application, etc., which are widely used in other areas such as Asia.

Vegetable production requires a higher level of soil fertility and a richer soil physical property than do general crops. The best way to achieve the desired soil condition is to introduce a small number of livestock and apply their manure to vegetable gardens. Fortunately, many farm households in the target area keep some chickens in their backyards and have basic experience of rearing chickens. But their method of raising chickens is a scavenging system with neither nutrition management nor disease control, missing much manure. It is possible for the farmers to improve current practices and collect more manure. In the pilot project, farmers knew a great deal about the strong power of chicken manure for growing vegetables.

Participating farmers in the pilot project, however, became confused, as vegetable production, which was a very new experience for most participants, required more intensive management skills compared to maize production. But, if they acquired successful experience in sound harvesting and marketing to generate an actual cash income at an early stage, with the support

of outside experts, it was clear that they would be strongly motivated to drive themselves forward. The Study Team designed this proposed project with a primary consideration of how to motivate farmers.

B Objective

The objective of the proposed project is that small-scale farmers be introduced to chickens and vegetable production with chicken manure to increase cash income. They are set out to receive a net income of Kz60,000, including family labor, by means of marketing 30 chickens and 2 tons of tomatoes from the input of six chickens and 0.1 ha of vegetable garden.

C Target

Five hundred farm households with irrigation are targeted. The breakdown is: 300 farms in Canjala; 100 farms in Culango; and 50 farms each in Egito Praia and Biopio.

D Proposed Schedule

From the 3rd year to the 5th year

E Process

1. The project team will invite 50 model farms that are eager to produce vegetables and raise chickens; including, 30 farms in Canjala, 10 farms in Culango, and five farms each in Egito Praia and Biopio. These farms will be responsible for disseminating their mastered technology to 10 farms each after they have succeeded in integrating farming and livestock -- chicken-raising.
2. The project team will train model farmers on the best methods of chicken production in November.
3. Model farmers will plant sunflowers in 0.2 ha of land in January. Farmers will apply grasses and unused cattle manure collected nearby into their sunflower fields.
4. Model farmers will construct four chicken sheds--traditional in style, made of mud, but larger than the traditional ones by approximately 20%. A high floor type shed for protection against predators is recommended. The project team will not supply chicken shed materials because the sheds can be prepared by the farmer themselves.
5. In August, the project team will deliver five hens and a cock to a farmer who has successfully harvested sunflower seeds and completed the chicken shed construction. As baby chicks are susceptible to cold in winter and some may be killed, hatching should be timed for after September.
6. The project team will administer New Castle disease vaccines to the introduced chickens under the supervision of the provincial office staff of the Ministry of Agriculture.
7. Model farmers will call chickens for feeding at 3 p.m. in order to confine them in the sheds afterwards.
8. Model farmers should collect manure from sheds once a week and keep it in a separate

place to prevent spoilage from rainwater.

9. The project team will train farmers on vegetable production in October.
10. Model farmers will grow vegetable seedlings in October.
11. Applying grasses and chicken manure, model farmers will prepare 0.1 ha of vegetable gardens, using a model like 30m by 33m, or 20m by 50m, making rows with an interval of 1m between the rows for cultivating tomatoes.
12. Model farmers will transplant seedlings at the appropriate time, and with the appropriate intervals in rows.
13. Model farmers will sell their vegetables in local markets or to traders in trucks who drive along the highway.
14. Cooperating with the NGO staff members, model farmers will transfer their technology to 10 new farmers in their community.

F System

Five NGO staff members will support extension officers, 2 in Canjala and 1 each in Culango, Egito Praia and Biopio. The project team will gather information on vegetable and chicken production from outside experts. The provincial office of the Ministry of Agriculture will advise on disease control in chickens.

G Support

Expatriate specialists on chicken production and vegetable production are required. The specialists will prepare training materials and train NGO staff and model farmers. Consulting with the specialists, NGO staff will monitor and advise farmers once the project has started.

H Rationale

Through the pilot project, the Study Team verified that natural conditions in the target area were sufficient for this farming model and that farmers had the capacity to carry out the project.

I Characteristics

Even when organic material with high nutrients is not available, the problem can be solved if farmers rear livestock and apply their manure to the fields. Just six chickens and 0.1 ha of garden would produce more than half of the current annual income of a small-scale farmer.

J Difficulties

Farmers must face problems such as predators, shortages of proper nutrition and diseases even if they are familiar with chicken rearing. The project team advises farmers to rear birds near humans, to confine birds to sheds after evening, to feed sunflower seeds as supplemental protein and to administer vaccines. If even one counter-measure does not work well, it will be difficult to obtain satisfactory results.

As vegetable production is a new experience for most farmers, the project team needs to

support them very carefully from the time of seedling production. It is a common failure that some farmers expand their gardens without increasing the number of chickens; the consequence is that it is impossible to grow vegetables in the expanded field area if the available amount of chicken manure remains the same. The project team needs to check the balance between the number of chickens and the garden area.

K Budget

The proposed project will not support chicken sheds because it would be sufficient to construct traditional chicken sheds made of mud, modifying them so they are 20% larger. Netting wire can be utilized to prevent predators (although it was not effective in the pilot project as farmers were not familiar with handling the netting wire). It is best to use mud for patching slits or small holes in the shed. The project team will deliver sunflower seeds for planting. Vaccination is indispensable. In vegetable production, the team will deliver tomato seeds for the first production. Farming tools should be supplied by the farmers themselves, except for a watering can for seedling production.

Table 9-10 Budget of Integrated Farming Project

Item	Specification	Unit price (Kz)	Number	Amount (Kz)	Amount (US$)
Chickens	1 Cock and 5 Hens, Kz900/bird	5,400	500	2,700,000	36,000
Sunflower seed	500g	350	500	175,000	2,333
Tomato seed	100g	1,200	500	600,000	8,000
Watering can	For seedling production	1,500	500	750,000	10,000
Vaccination	New Castle Disease	400	60	24,000	320
Training	Instructor, teaching materials etc	43,000	3	129,000	1,720
NGO Salary	For 3 years (CJ2、CL1、EP1、BP1)	1,350,000	5	6,750,000	90,000
NGO Allowance	Accommodation/food for 3 years	1,350,000	5	6,750,000	90,000
Motorbike	125cc, 2 cycle engine	225,000	5	1,125,000	15,000
Gasoline	1000 liter per bike for 3 years	60,000	5	300,000	4,000
Total				19,303,000	257,373

Source: The Study Team

L Impact

The Study Team has estimated that the standard tomato yield for this project will stand at 2 tons/0.1 ha. It is not easy to harvest 2 tons from 0.1 ha if the management level is low, but it could be enhanced up to three times as management capacity increases. The price, which fluctuates widely, was estimated to be Kz500 per crate, which holds more or less 20 kg. A hen can produce more than 10 chicks per annum; five hens can theoretically produce more than 50 birds a year. As predators attack and nutritional problems occur, the team estimated that 30 chickens could be marketed a year. Ten percent of the irrigation project cost is included because the area is 0.1 ha. The annual profit of a farm household is Kz60,475. When farmers build up their experiences and expand their land to 0.2 ha with 10 hens, the annual profit will

be Kz120,000, which is more than the current average annual income in the target area.

Table 9-11 Economic Impact of Integrated Farming Project

Item	Specification	Unit price (Kz)	Number	Amount (Kz)	Amount (US$)
Sales	Tomato 0.1ha = 2000kg =100 crates, Kz500/crate	50,000	500	25,000,000	333,333
	30 chickens、Kz800/bird	24,000	500	12,000,000	160,000
Project cost	Annual cost of 3 years depreciation of integrated farming project			-6,434,333	-85,791
	10 % of annual cost of 30 years depreciation of irrigation project			-328,075	-4,374
Annual profit				30,237,591	403,168
Annual profit per farm				60,475	806

Source: The Study Team

9.1.6 Beans Marketing Promotion

The target area was once well known as a beans production center. When irrigation canals are rehabilitated and cattle are introduced to make all the fields available for farming, beans will be the primary cash crop.

Beans are being sold along the highway at Kz85/kg, but if they are packed into 1kg packages in the target area and are marketed in large cities such as Luanda, value will be added. Specifically, the project will hire local people for sorting and packing the beans and will pay wages. According to the business plan, which is discussed later in depth, this business will create 3,393 jobs for 120 days per year.

A Background

Canjala *Comuna*, one of the *Comunas* in the target area, was once known as the production center of quality beans particularly in the Portuguese colonial days, when Canjala beans were reportedly exported to European countries. Small-scale farmers in the proposed irrigated fields in the target area now are most desirous of producing beans. The farmers planted beans everywhere in the area irrigated by the Cuvelo irrigation canals, tentatively rehabilitated in the pilot project, and the scenery of the target area changed drastically after the beans grew. Beans bring in substantial cash income as they can be sold at Kz85/kg. Beans have another advantage: the problem of keeping them fresh—as with vegetables—is practically eliminated because beans are marketed after they are dried.

After beans produced in the target area have been transported from the farm gates to the highways little by little by local small-scale traders on motorbikes, wholesalers with trucks can purchase them along the highway and sell them at Luanda, Lobito and Benguela. Thus,

beans produced in the target area have already been marketed in large cities.

Beans produced in the target area are marketed in 50kg sacks, without any indications of the production area or brand. It is impossible to identify them as Canjala beans from the outside. As the quality of Canjala beans is actually high, the beans are traded for good prices even if the name of the production area is not indicated. But if the production area or brand is promoted, the beans can be marketed at higher prices with more stability.

Furthermore, if the beans are packed by local people in the target area into small packages that can be displayed on racks of supermarkets in large cities, substantial value can be added.

B Objective

Small-scale bean producers will form a cooperative for the sake of “branding” their products and will make sales contracts with wholesalers and supermarkets in large cities such as Luanda. The cooperative will create jobs in the target area through the packaging of beans into 1kg packages with the brand name clearly indicated. Added value will re-distributed among locally hired packaging workers as their wages.

C Target

Small-scale bean producers in the target area will be targeted.

D Proposed Schedule

Five years from the 3rd year of the master plan. This would exceed the planned period, but five years of support will be necessary from a cash management point of view. This point will be discussed later.

E Process

1. A cooperative with small-scale bean producers in the target area will be formed. The cooperative should decide on how to build the brand name of the production area, by designing a logo, selecting board members and drawing up a set of rules of the organization.
2. The cooperative will commission a marketing specialist to research the market, primarily in Luanda. The specialist will visit food wholesalers and supermarkets with samples to check conditions, such as required quantity and package quality, for making sales contracts.
3. The cooperative will contract with multiple wholesalers and supermarkets whose demands the cooperative can meet.
4. A financial specialist will train the NGO staff on cash management, including daily bookkeeping.
5. The cooperative will print the design logo on labels for packages, taking into account governmental regulations for indications such as weight, nutrition facts and the address of the producer.

6. The cooperative will construct a building for packing and will procure furniture and equipment.
7. When the bean-harvesting season comes, the cooperative will start to hire workers in the target area and to purchase beans to pack into small packages. The daily operation will be run by the NGO staff.
8. Contracting with transporters, the products to business partners.
9. The operation will continue for about 120 days. It is not realistic to attempt selling all the beans at once because business partners will not be able to sell such large amounts within 2-3 weeks. The cooperative will end its operation before the rainy season when farmers become busy with other tasks.

F System

A marketing specialist and a financial management specialist will work for the cooperative. The cooperative will hire three NGO staff members who will be in charge of daily operations and will manage the purchasing of beans from farmers, the hiring of workers for packaging, the delivery of products to customers, and of cash management. Local people will be hired by the cooperative as workers for sorting and packaging beans and other management work such as loading products to trucks and guarding the building. It is ideal for some local personnel to replace the NGO staff members after five years of experience.

G Support

Expatriate marketing and financial management specialists should be provided.

H Rationale

Beans are the largest cash crop in the target area. The Canjala *Comuna* was once known as the beans production center in Angola and small-scale farmers in the target area are actually maintaining technologies for growing quality beans. According to our calculations, producing small packages in the production area will add substantial value to beans and will create jobs.

I Characteristics

It is rare for a cooperative with small-scale farmers to contract with wholesalers and supermarkets in a bid to build up its brand. It is also rare to add value by preparing small packages in the production area. Thus, this project could be a leading model for branding and marketing by small-scale farmers in Angola.

J Difficulties

It could be a challenge for the cooperative to find supermarkets and other retailers who require quality beans. Another difficulty would be whether the cooperative will be able to handle a large amount of cash without miscalculations and mismanagement. Preventing corruption will be another challenge. It will be necessary to establish rules such as cash handling under the inspection or with the oversight of multiple staff as well as the periodical auditing of accounts by board members.

K Budget

The cooperative will receive financial support for variable costs such as beans and small plastic bags for packaging as well as fixed costs such as initial research, building, equipment and NGO staff salary[1]. This project is significant enough to receive government support, as the project could be a leading model of a value-added agricultural project by small-scale farmers in Angola.

The cooperative will depend on outside support for almost all of its initial financing . But as explained in the next section on the economic impact of the proposed project, if it increases internal reserves by accumulating annual profits in addition to paying back project costs, it could accumulate operating capital without borrowing after the fifth year. The project will loan operation capital from paid back cash until then. The cooperative will become independent after the sixth year.

The building, 25m by 6m, made of blocks with a slate roof, is configured at 10 years of depreciation; equipment such as working tables are configured at 5 years of depreciation. NGO staff costs, beans and plastic bags for packaging are configured at one year of depreciation.

The wage of workers for sorting and packaging would be Kz300 for four hours of work. As the present average wage of a large-scale farm laborer for around 4 hours of labor is Kz250, a job at Kz300 for 4 hours is a job with favorable conditions. A group of workers will sort beans and other workers will pack beans into a plastic bag and seal it using thermal compression sealers. A worker could pack 200 bags in 4 hours. The estimated production for this business would be 457 tons, which comprises 20% of the total production in 1,542 ha of all the irrigated fields. Thus, 2,285 units of 4 hour jobs will be created. In addition, 3,000 units of sorting and 1,500 units of other management and maintenance work will be needed. In total, 6,785 units of 4 hour jobs will be created. When calculated as 8 hour jobs, 3,393 jobs with eight working hours, will be created. If 100 people are hired, for instance, the average number of working days will be 33.9 days. They will receive Kz600 per day and Kz20,340 for 33.9 days, which is more or less 20% of the average annual income in the target area. Thus, the created jobs will be sources of substantial secondary income for small-scale farmers.

The cooperative will hire a 6-ton truck approximately 76 times, or 457 tons divided by 6 tons, for transportation to and from Luanda. At present, transportation by a 6-ton truck from the target area to Luanda costs Kz52,500.

For a simple cash management calculation, an operating period of 120 days will be divided into 2 parts of 60 days and cash collected in the first half will be used for cash payment in the second half. As cash trading is the primary payment method with other business partners, cash could conceivably be collected more rapidly. But the cooperative should keep operating cash

[1] If the cooperative obtains other loans, it could prepare demanded fund for operation and governmental support would not be needed but it seems to be very difficult under current situations.

for at least 60 days in consideration of a possible delay of payment by other business partners and for the daily payment of employed workers. The cooperative will pay back annual project costs at the end of the annual operating period and will borrow cash for the first half of the next operating period.

Table 9-12 Budget of Beans Marketing Promotion Project

Items	Specifications	Unit price (Kz)	Number	Amount (Kz)	Amount (US$)
10 years of depreciation					
Building for working	25m by 6m made of blocks with slate roof	7,500,000	1	7,500,000	100,000
5 years of depreciation					
Market research	Specialists,transportation etc	1,950,000	1	1,950,000	26,000
Equipments	Working tables, chairs, scales etc	1,000,000	1	1,000,000	13,333
Sealer	Thermal compression sealer	150,000	10	1,500,000	20,000
Motorbike	125cc, 2 cycle engine	225,000	3	675,000	9,000
Subtotal				5,125,000	68,333
A year of depreciation					
NGO staff salary	One person per year	450,000	3	1,350,000	18,000
NGO staff allowance	Accommodation, food etc per year	450,000	3	1,350,000	18,000
Gasoline	1000 liters per year per bike	20,000	3	60,000	800
Beans	1kg Kz100	100	457,000	45,700,000	609,333
Plastic bags and labels	1kg bag for thermal compression sealing	20	457,000	9,140,000	121,867
Cardboard box	For 12 bags	100	38,083	3,808,333	60,933
Transportation by truck	6 ton truck for Luanda x 76 times	52,500	76	3,998,750	53,317
Wage for sorting	Kz300/4 hour x 30 person x 100 days	300	3,000	900,000	12,000
Wage for packing	Kz300/200 bags /4 hours	300	2,285	685,500	9,140
Wage for other tasks	Kz600/8 hours x 15 persons x 50 days	600	750	450,000	6,000
Subtotal				67,442,583	899,234
TOTAL				**80,067,583**	**1,067,568**

Source: The Study Team

L Impact

As of September 2008, the price of 1 kg of a small package of white beans, one of the highly evaluated beans in Angola and the overseas market, is Kz260 in Benguela and Kz280 in Luanda. The project targets Luanda due to more opportunities to seek business partners based on its bigger market size.

The farm gate price of beans is about Kz85/kg but it becomes Kz100 when they are transported to the highway. Thus, the cooperative will purchase beans at Kz100/kg at the cooperative building. As the wholesale price is about 60% of the retail price, the selling price by the cooperative to business partners in Luanda will be Kz168, which is 60% of Kz280 – the

price of 1 kg of white beans in Luanda. This will be the unit price of the sales by the cooperative. Supposing that the cooperative handles 20% of total beans produced on 1,524 ha of the irrigated land, as discussed in the previous section; then the marketing quantity and total sales are calculated as 457 tons and Kz76,776,000, respectively.

Subtracting fixed cost and variable costs of paying back project costs, the cooperative will acquire a profit of Kz7,550,000 per operating period. If the cooperative continues at the same profit rate for five years, Kz37,790,000 will be reserved. The operating capital for half of the operating period is Kz33,720,000--half of Kz67,440,000--, so the inner reserve of five years becomes the operating capital for the first half of the 6th term. The cooperative will become financially independent afterward, covering full cash requirements for operating on its own.

Emphasis will be placed on job creation in the target area; this will come in the form of wages for hired workers rather than through maximizing cooperative profit. That is why the wage for a 4 hour job is set at Kz300, which is favorable for re-distributing added value to the people in the target area. The business will create 3,393 eight-hour jobs with a total of Kz2,035, 800 in wages during an annual operation of approximately 120 days.

Table 9-13 Economic Impact of Beans Marketing Promotion project

Items	Specifications	Unit price (Kz)	Number	Amount (Kz)	Amount (US$)
Sales	1kg x 457,000 bags (1524ha x 1.5ton x 20%)	168	457,000	76,776,000	1,023,680
Project cost 1	Annual depreciation of the 10 years depreciation portion			-750,000	-10,000
Project cost 2	Annual depreciation of the 5 years depreciation portion			-1,025,000	-13,667
Project cost 3	A years depreciation portion			-67,442,583	-899,234
Annual profit				7,558,417	100,779

Source: Study Team

9.2 Living Improvement

9.2.1 Cooking stove introduction and Living Improvement

This proposed project aims to reduce women's domestic labor conditions by introducing cooking stoves with two pan seats. Beneficiaries will plan and implement further living improvement projects utilizing the spare time created by using the 2 pan-seat cooking stove.

First, a 2 pan-seat cooking stove will directly help reduce domestic labor such as collecting fuel woods. And beneficiaries can take part in literacy classes thanks to the newly created time; they will also be able to prevent infectious diseases by boiling drinking water with the 2 pan-seat cooking stove. The possibility of getting these synergetic effects has already been proven in the pilot projects dealing with cooking stoves and literacy classes.

A Background

A rural woman works a very long day. She cooks, washes clothes, cares for children, collects firewood, fetches water and crushes maize. The drudgery of women's work life, common in many African countries, is also seen in Angolan rural areas.

Three stones are popularly used for cooking, which is common in African countries, in both areas where firewood is readily available and where firewood is not so easy to collect because of aridity.

Even in areas where firewood is sufficient, it is difficult to "collect" and the native people have already begun to slash forests. Getting firewood is not easy and it takes much more time than before. As shown in Chapter 3.4, some women in the target area who collect firewood spend 4-5 hours walking, twice a week. In semi-arid areas, on the other hand, as it is almost impossible to collect firewood, they have to purchase firewood and its cost is not inconsiderable. For example, a farm household, which participated in the cooking stove pilot project, spent 25% of its income on firewood.

Nonetheless, the thermal efficiency of three stones is low and much firewood is consumed with this process. A fair proportion of the energy from firewood, which women spend so much time collecting, is vanishing into air.

Problems in rural lives go far beyond the long labor hours of women. They have many health and sanitation problems with resultant malaria and infectious diarrhea, and they suffer from a low school enrollment ratio and a low literacy rate in education. The Study proved that these problems could be improved dramatically by reducing labor hours.

For instance, two of the five women that dropped out of the literacy class in the pilot project said that they could resume attending class if they could reduce their labor hours by two hours per day. In the pilot project on day care for children, community participation was lower than expected at first. After discussions with community people, it was learned that this was because they did not have sufficient time to take part in the project. It was also confirmed that community people desired to participate not only in day-care projects but also in other community activities such as cleaning public spaces in the community--if only they had enough time to spare. These observations suggest that creating spare time could activate the entire community as well as individual family lives.

If 2 pan-seat cooking stoves are introduced in the target area and women can utilize time created by the stove introduction to start some other activities for improving their lives, a synergistic effect could occur.

B Objective

The objective of the project is to reduce the labor hours of rural women by two hours per day so that they can spend the spare time created for other living improvement activities.

C Target

Five hundred farm households in 33 communities, or 25% of the households in the target area, are targeted. The target should be selected on the basis of (1) the current average of time spent to collect firewood and (2) the possible further impact resulting from the introduction of cooking stoves. The latter, for example, might involve a community that is suffering from diarrhea because of the direct intake of river or well water; or a community that indicates a strong willingness to participate in literacy class if they could reduce labor time.

D Proposed Schedule

From the 1st year to the 3rd year

E Process

1. The Ministry of Women and Family, the *Comuna* administration and an NGO will form the project team; we'll also use a living improvement specialist.
2. The living improvement specialist will design a research plan for selecting target communities, based on discussions with *Comuna* administrative staff and NGO. The research should collect information as follows:

   Firewood: the monthly consumption amount, the collecting time, the purchased amount and price, the number of charcoal producing households and their average income.

   Labour Hours: working time spent on fetching water, farming, crushing maize and other domestic labour.

   Education: the school enrolment ratio, the dropout ratio and its causes, and willingness to participate in literacy classes.

   Health and Sanitation: the number of boreholes and water quality, river water quality, kinds of diseases as a result of unboiled water, and the number of registered patients to the health posts, as well as attitudes toward diseases.
3. The selection of target communities and model farm households should be based on the result of the research. The models will be 3-4 households per community. The project team will train model households on how to make a 2 pan-seat cooking stove. The collective training should take place separately in a couple of areas in highly populated *Comunas*.
4. The model farm households will prepare materials such as soil for the making stoves.
5. The project team will monitor the effects of the stove after the stove is made and used.
6. The project team will disseminate the stove in the target communities, cooperating with model farm households.
7. The project team will monitor the effect on labor reduction and check on their hope for subsequent living improvements.
8. The project team will conduct a mid-term evaluation and plan the next activities for further

living improvements with community people. Instead of individual activities, organizational activities such as the introduction of a community milling machine, or borehole construction, a disease prevention campaign and a literacy class are recommended.

9. The same process will be followed in other communities.
10. The project team will present a seminar to share overall evaluation results.

F System

The Ministry of Women and Family will be the counterpart organization; the *Comuna* administration will become the supervisor of the project on site. A living improvement specialist will advise the entire project management. Staff in charge of the social sector in the *Comuna* administration will manage the initial research conducted by an NGO. The project team, which consists of the Ministry of Women and Family, *Comuna* administration and the NGO, will select *Comunas* and beneficiaries.

The NGO will handle daily project activities such as training people to make a cooking stove, monitoring the performance and the impact of the stove, organizing people, and selecting other activities for living improvements.

For two years the NGO staff will conduct the project with the assistance of an outside specialist. After that, the *Comuna* administration and community organizations will be responsible for disseminating stoves and information and implementing other living improvement activities. The Municipality and the Ministry of Women and Family will conduct mid-term and final evaluations. The NGO will transfer technology to administrative staff on planning, monitoring/evaluation and dissemination methods throughout the whole term of the project.

G Support

The introduction of cooking stoves does not present technical difficulties. After the NGO and community leaders master how to make the stove, outside support will not be necessary. But, as the project covers one third of the target area and develops further living improvements, an implementation system, project management, monitoring and planning for further activities will require outside support.

H Rationale

In the pilot project of the cooking stove, cooking efficiency increased by 25%, or a 40 minute reduction of cooking time. It will save 80 minutes in the preparation of two meals. In addition, the beneficiary liked using the cooking stoves and tried to find more efficient ways to use it. After a beneficiary becomes more familiar with the stove, it won't be difficult to save 2 hours a day.

The beneficiary in the pilot project was a teacher in elementary school and a leader of her community. She has a plan to start a literacy class, utilizing school buildings. She would like

to help enhance the literacy rate with the spare time created through the introduction of the cooking stove. In the communities where women with strong leadership like this beneficiary live, cooking stove introduction could have a positive impact on other aspects of their lives.

I Characteristics

As the cooking stove is technically easy to make and does not cost much, the possibility of dissemination would be high if the beneficiaries receive a small amount of support. If they have cooperation of other sectors, the impact of the stove may be very large.

For example, stove introduction may reduce diarrhea, decrease the adult illiteracy rate and have a positive impact on forestry conservation. The project may benefit from investment by private sectors through the acquisition of emissions credits.

J Difficulties

Cooperation and participation among related organizations is necessary to create synergistic effects between cooking stove introduction and other living improvements. Coordinating the various interested parties and elements will be the biggest challenge for the implementation body.

K Budget

In the initial research for the selection of target communities, four staff members will travel to four communities in 10 days and compile results in five days – requiring 60 days in total. The cost, including accommodation and transportation, will be Kz15,000 per day.

The figures in Table 9-14 show the materials needed for a cooking stove. Mud bricks for the bottom part of the stove should be prepared by beneficiaries.

One hundred beneficiaries out of 500 should be selected and the project team will organize 5 study tours, each with 20 beneficiaries, to exchange experience and to discuss how to disseminate information. In addition, a total of 120 administration and NGO staff should be trained on study tours for the purpose of planning and achieving synergistic effects in other sectors.

Five NGO staff will be hired for two years, and be provided with motorbikes to ensure their mobility. Mobility costs for the administration staff is not included because such costs should be covered by the general budget of the ministries.

Table 9-14 Materials for a Cooking Stove

Item	Specifications	Unit price (Kz)	Number	Amount (Kz)	Amount (US$)
Iron plate	2m x 1m x 4mm	11500	1/2	5,750	77
Iron place cutting	1m x 0.8m x 2 for pan seats, 1m x 0.2m x 2 for gate	4000	1	4000	53.3
Hinge		400	2	800	10.8
Grill	Grill for fish x 2	200	2	400	5.4
Brick	For stove and chimney	100	24	2400	26.0
Cement	25kg/bag	1800	1	1800	24
Mud brick	25cm x 25cm x 30cm	0	50	0	0
Total				15,150	196.5

Source: The Study Team

Table 9-15 Budget for Cooking Stove Introduction and Living Improvement Project

Item	Specifications	Unit price (Kz)	Number	Amount (Kz)	Amount (US$)
Cooking stove		15,360	500	7,680,000	102,400
Milling machine	5t/day, building	1,875,000	4	7,500,000	100,000
NGO staff	Salary for 2 years	900,000	5	4,500,000	60,000
NGO staff allowance	Accommodation/food for 2 years	900,000	5	4,500,000	60,000
Motorbike	125cc, 2 cycle	225,000	5	1,125,000	15,000
Gasoline	1000 liter/bike for 2 years	40,000	5	200,000	2,667
Initial research	Local consultants	15,000	60	900,000	12,000
Study tour	Transportation and other for 5 time per year x 2 years	15,000	10	150,000	2,000
Monitoring and evaluation	Transportation and allowance for business trip of 20 persons x 2 times x 3 years	225,000	6	1,350,000	18,000
Total				28,775,000	372,067

Source: The Study Team

L Impact

Three hours per household, including collecting firewood, will be saved. Labor hour reduction through the introduction of a milling machine is also shown in the table.

Consumption of firewood per household per day will decrease by 1.75 kg, amounting to 315,000 kg for 500 households annually as a result of this project.

Labor hour reduction could lead to enhancing the literacy rate and a decrease in the incidence of diarrhea diseases as a result of drinking boiled water, utilizing the 2 pan-seats cooking

stove.

Table 9-16 Impact of Cooking Stove Introduction and Living Improvement Project

Item	Specifications	Hours /household	Number of beneficiary	Total hours
Labor hour reduction	1 hour for collecting firewood and 2 hours for cooking/household/day	3	500	1,500
	From manual crashing to machine	2	4000	8,000
Indirect impact	Reduction of the amount of forest slashing1.75kg/household/day x 500 households x 360 days = 315,000Kg/year			

Source: The Study Team

9.3 Education

9.3.1 Literacy Education with Income Source

This project will train village inhabitants as literacy teachers and will open literacy classes during inhabitants' available hours. In order to maintain a sustainable operation, part of the operating costs will be covered by the gains of community-driven, income-generating activities. Also, the project aims at not only improving the literacy rate of rural people, but also developing programs for functional literacy education which can lead to higher incomes of the learners.

In order to improve the quality of the program and the learning achievement of the students, the monitoring of literacy classes will focus on capacity development of teachers. In addition, the project, which introduces the above-mentioned new methodology, will be developed as a prototype applicable to other areas.

A Background

The Ministry of Education will prioritize adult education including literacy education in order to achieve the target of the MDGs and "Education for All" by 2015. In Lobito, the literacy rate has improved in the past 3 years from 40% in 2004 to 63% in 2007.[2] This statistics, however, include the rate of urban and rural areas together. During this period, literacy classes had seldom been held in rural areas. Therefore, it is estimated that a majority of literate people live in urban areas. The rural areas of Lobito, the target area of the project, have various income-generating means, such as agriculture, fishery and charcoal production. In order to introduce technology for improving production and sales, it is indispensable to develop the basic abilities of literacy. Corresponding to the needs of literacy education, the Study revealed that people in the target area are highly interested in learning reading, writing and calculation.

Literacy classes are normally operated by non-government funds such as from NGOs or churches. However, there have been many cases in which classes were closed because of the

[2] Plano de Desenvolvimento Económico e Social do Município do Lobito 2009 – 2013, Tabela 10

withdrawal of such funds. The pilot project proved the possibility of sustainable operation of literacy classes by introducing income-generating businesses simultaneously, thereby raising the interest of other villages. This effort, which utilized inhabitants' initiative to sustain the operation of the class, was the first attempt in the target area.[3]

Effectiveness in operating literacy classes needs to be improved in order to elaborate the model and make it applicable to other areas. For that, the plan is to improve the pedagogical and monitoring method and to secure countermeasures against detected factors which hinder learning, after ensuring the sustainable operation of literacy classes.

B Objective

The objective of the project is to develop a system to conduct sustainable and functional literacy classes. In other words, the project will establish a self-sustaining implementation system of literacy classes (utilizing the inhabitants' initiative) and will build on the quality of existing literacy education.

Concretely, the project will develop the beneficiaries' ability for earning by developing the institutional and financial operation system and improving functional literacy education.

C Target

The project targets four *Comunas*: the entirety of the rural areas of the municipality. Village inhabitants and administration staff will be educated (and monitored) to serve as teachers and students. The plan is to train 200 candidates as teachers and 120 of them are actually expected to become teachers. The program is expected to create 7,000 literate people in the five years of the proposed program period.

D Proposed Schedule

Five years

E Process

1. Training literacy teachers.

   The proposed project will conduct one-week training sessions for literacy teachers by employing specialized NGO staff for literacy education. Participants will be candidates for literacy teachers. *Comuna* administrative officials will be responsible for monitoring, and the school principal will be assisting administrative officials. Candidates chosen to be literacy teachers will be village inhabitants who have finished six years of primary education. Qualified candidates will need to understand and commit to a literacy education program based on community-driven, income-generating activity. From among selected candidates, administrative officials, village leaders and the school principal will recommend and select the final, eligible candidates.

2. Workshops to promote inhabitants' participation and to enhance the "stakeholders' mind."

[3] Similar efforts (literacy classes funded by the community's income-generating activities) were seldom found even in other countries.

A unique feature of this project is the community-driven, income-generating activity; therefore, motivating beneficiaries is a prerequisite of this project.

Based on the experience of the pilot project, although the villagers understood the idea of this activity, they hesitated to participate when they had to face the process of village selection. To broaden their appreciation of their roles as stakeholders, periodical workshops are planned. In addition, to discover their real intention to commit, it might be effective to conduct actual activities such as mowing of farmland. Another way to promote inhabitants' participation might be through interviews conducted with experienced beneficiaries of past projects.

3. The establishment of a steering committee for community-driven, income-generating activity and its implementation.

   The pilot project during this Study revealed that projects like community farms or kiosks for daily commodities are reasonable as income-generating activities, taking into account the beneficiaries' implementation capacity and the project scale.

   For implementation, it would be necessary to establish a steering committee managed by inhabitants' representatives. The committee would be responsible for preparation, implementation and management of the income-generating activities. Since the duties of the committee require the ability to read, write and calculate, it is important to involve literacy teachers.

4. Implementation of literacy classes.

   The timetable of the classes will be set in accordance with the inhabitants' available hours. Since the majority of beneficiaries are farmers, the classes will be held when they are off-duty, such as early morning or evening/night. Monitoring of the class will be conducted by administrative officials responsible for education and by school principals who will assist with monthly visits to each class.

   For monitoring literacy classes, the general progress of the class, the quality of instruction and the attendance rate of students will be observed. As for the income-generating project, its progress and the status of beneficiaries' participation will be monitored. Such monitoring will help teachers to improve their methods and to grasp factors that hinder effective learning.

   When monitoring the class, it also would be important to advise or intervene in the class to resolve difficulties of literacy teachers and students.

5. Supplementary training for literacy teachers.

   During time off, supplementary training will be held for teachers. This is unprecedented in existing literacy education. It aims at capacity development of teachers whose performance has been found to be unsatisfactory through the aforementioned monitoring process. It also

aims at capacity development for problem solving related to the community-driven business program.

Especially for the teachers' capacity development, an evaluation method and supplementary program will be developed in accordance with the existing school teachers' training program and with the support of specialized NGOs for literacy education.

6. Post-literacy program.

   Becoming literate by completing the literacy program and final exam is one of the intended outcomes of this project. However, it is more significant that beneficiaries use their basic knowledge of reading/writing/calculation in their livelihoods. If they are able to conduct basic calculations -- addition, subtraction, multiplication and division -- they would easily be able to conduct necessary calculations for their business. Also, it is also expected that they would be able to read manuals on basic agriculture knowledge such as fertilizer and insecticide. This program will focus on practical literacy training to meet the needs of beneficiaries.

7. Dissemination model.

   The target area of this project will be the headquarters for disseminating the model (the combination of literacy education and a community-driven, income-generating activity) to other provinces countrywide.

   By conducting training in the target area, participants will have the chance to visit the project site and interview stakeholders. The demonstration of successful practices by stakeholders (not by the external supporters) will be effective for both participants and stakeholders, since it will be more persuasive for participants and will motivate stakeholders.

F System

Administrative officials responsible for education will direct the entire project and 1 or 2 assistants will be appointed for them. To maintain future sustainability, ideal assistants will be school employees or principals in the villages. For the initial 1-2 years, NGO staff will help improve their monitoring of literacy classes and the community-driven, income-generating activity by using an On the Job Training (OJT) approach.

As was mentioned before, a prerequisite of the community-driven, income-generating activity will be the beneficiaries' positive mind-set as stakeholders; therefore, it is important to motivate them from the preparation stage. For that purpose, highly motivated villages will be selected as initial targets to use their successful practices for dissemination. From the second year, steering committee members from the initially selected villages will join the workshops held in other villages to attract their attention.

Dissemination to other *Comuna*s, in coordination with the municipality education division, will be supported by experienced *Comuna* administrative officials responsible for education.

From the experience in the pilot project, it was confirmed that administrative officials will be able to enhance their management capacity during the initial 18 months of the OJT (workshop, teachers' training, literacy class and community-driven, income-generating activity).

G Support

Since the project targets approximately 130 villages, almost all the villages of the four *Comuna*, external support for implementation and management is desirable. The expertise of the inhabitants' organizer, as well as practical training, will be required. External specialists will work as advisors of *Comuna* administrative officials/NGO staff to support project management.

As was mentioned earlier, 1-2 years of supervision will help improve their capacity. As part of the technical support, training, evaluation, and developing a supplementary program by specialized NGO of literacy education will be required.

By applying these methods and programs, the project aims at improving teachers' quality and motivating students, thereby reducing the dropout rate and disqualification rate of the final exam.

H Rationale

The pilot project during this Study proved the feasibility of workshops for motivating *Comuna* administrative officials and inhabitants for community-driven, income-generating activity. Community-driven, income-generating activity is feasible enough to generate profit by using the accessible resources (i.e., human resources and land).

Although a self-sustaining implementation system was not established during the pilot project, it was confirmed that the capacity of administrative officials and the steering committee was adequate for maintaining their functionality.

I Characteristics

As one of the characteristics of the project, the operational expense of the literacy classes is designed to be covered by the community-driven, income-generating activity.

Normally, the majority of the budget would be allocated to teacher training and teachers' salaries; however, this project does not require continuous expenditures on teachers' salary, since funds for teachers’ salaries will be generated by the community-driven, income-generating activity. Therefore, greater outcomes can be expected from a smaller budget.

Here is one actual example from the result of the pilot project.

For example, other than the necessary expense for teacher training, the annual operational expense of 5 villages for 10 months amounted to US$5,000 (5 teachers x US$100/person/month x 10 months). Therefore, it costs US$25,000 in 5 years and US$50,000 in 10 years. On the other hand, literacy classes with income-generating activities costs total US$22,500 only in the first year; US$17,500 (5 villages x US$3,500) for first investment

costs for income-generating activities plus US$25,000 for teachers' salary of the first year. As salary from the second year can be covered by income-generating activities, without additional budget the literacy class can be sustainable for 5 or 10 years. This approach will enable the creation of sustainable literacy education classes in post-conflict countries or countries with insufficient budgets. Additionally, the program will greatly contribute toward achieving MDGs goal.

Another characteristic is the establishment of a viable model and system for dissemination to other areas. A combination of different programs to maintain sustainability, such as community-driven, income-generating activities and functional literacy education, is the new approach in Angola.

By using the target area as headquarters for dissemination, it will be possible to increase the number of beneficiaries, and we can expect to apply the model in other cities and provinces.

J Difficulties

Motivating the inhabitants is the important prerequisite for the success of the project. Before starting the pilot project, the Study Team spent considerable workshop time explaining this new concept and elaborating their roles as stakeholders. Thanks to this process, the project went relatively smoothly without motivation-related problems.

In terms of technical aspects, as mentioned in Section G. Support, it is necessary to develop practical literacy, in addition to the development of a teaching and evaluation method. It is also important to follow-up on the post-literacy program, as it aims at improving productivity and income levels in the target area, where agriculture and small-scale businesses are the core industries.

K Budget

Table 9-17 Budget for Literacy Project

Item	Description	Unit price (Kz)	Quantity	Amount (Kz)	Amount (US$)
Teacher training, supplementary program	Personnel expense, per diem for teacher (per training program)	64,500	10	645,000	8,600
	Per diem for participants (per person) through all year	3,000	520	1,560,000	20,800
	Textbooks, material(per person)	3,000	520	1,560,000	20,800
Initial investment for community-driven, income-generating activity	Average per village	37,500	120	4,500,000	60,000
Salary for literacy teacher	For initial 3 months/person	11,250	120	1,350,000	18,000
Capital investment for classroom	Blackboard, generator/classroom	40,000	120	4,800,000	64,000
NGO commission	Annual expense	900,000	5	4,500,000	60,000
Development of training material	Personnel expense inclusive			375,000	5,000
Development of post-literacy program				375,000	5,000
Dissemination program	Annual expense	150,000	5	750,000	10,000
Administrative official training	Annual expense for planning/monitoring training	150,000	5	750,000	10,000
Total				21,165,000	282,200

＊does not include expenses for trainees from the non-target area.

Source: The Study Team

L Impact

In the initial year, 40 literacy teachers will each teach 1 class of 35 students[4]; the number of teachers will increase to 80 and 120 in the second and third year, respectively. Based on the results of the pilot project, it is estimated that there will be a 20% dropout rate and that 50% of the remaining students will pass the final exam of the first year program.

If the estimate is right, it will be possible to graduate 6,720 literate people in five years. Basically, if our estimate of the population of the target area remains constant for the next five years, the literacy rate will be improved to 80% from the current 67% (out of the over-18 population, which comprises 63% of the whole population).

[4] Based on the number of students in the pilot project, the size of the class and capacity of teachers were considered.

Table 9-18 Impact of Literacy Project

Item	1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr	Total
Candidate of teacher (No of trainees)	50	50	50	0	0	150
Number of teacher (accumulated) (80%of candidate)	40	80	120	120	120	120
No of students	1,400	2,800	4,200	4,200	4,200	16,800
Estimated number of successful applicant (40% of students)	560	1,120	1,680	1,680	1,680	6,720
NO of students of post-literacy program (80% of estimated successful applicant)	0	896	1,344	1,344	1,344	4,928

Source: The Study Team

If we estimate an 80% participation rate from graduates in the post-literacy program for functional literacy, it will create 4,928 literate people in the end.

Other than these quantitative outcomes, it will be possible to achieve the following outcomes.

- Establish an evaluation system and criteria for literacy teachers.
- Develop a post-literacy program.
- By obtaining functional literate ability, beneficiaries would be able to enhance opportunities to receive micro-credit and implement small-scale business, thereby increasing their income and food production.

9.4 Health

9.4.1 Disease Prevention with Local Human Resources

This proposed project trains local persons, much interested in health promotion in their communities, as community health promoters. The community health promoters will conduct an educational campaign focusing on the prevention of malaria and infectious diarrhea, whose incidence rates are high, and on maternal and child health. To make it more sustainable, the project will include community income generating activities to cover the cost of the campaign by community health promoters.

The number of people who enjoy a low incidence of diseases could increase through this campaign, and the community can sustain the lives of active local people for further community development.

To begin with, the project will ascertain the level of knowledge of health post nurses concerning medical care and public health and develop a picture of the actual state of community public health. Then, nurses will be trained under the project, working with the Ministry of Health. The training will include methods on communicating basic health knowledge to community people. Trained nurses will train candidate health promoters selected in target communities with the cooperation of the NGO.

Trained community health promoters will implement a health promotion campaign in their communities. Using money from income-generating activities, they will establish community emergency posts and a community pharmacy. Nurses in the health posts will support these activities by community health promoters. Community health promoters will make community people aware of their own health conditions through the campaign. They will also take measures to avoid a deteriorating situation when someone in the community falls sick and when the sick person is yet to be transferred to the care of nurses in the health posts.

The Study team confirmed that nurses in the health posts and community people communicate well and that there are some community people who have a volunteer spirit and certain health knowledge. The Team also understood that community people could manage income generating activities through some pilot projects and are convinced that a sustainable project implementation system can be established on such activities.

A Background

The number of nurses in the target area is 0.26 per 1,000 people, which is far less than the national average of 1.0 per 1,000 persons. Improvement in the medical care system, including an increase in the number of nurses, is happening primarily in urban areas.

For rural areas, the Angolan government is making efforts to increase the number of foreign doctors, such as from Cuba, to visit rural health posts once a week. But in the meantime, it seems difficult to increase the number of nurses, who care for community people everyday, as the nurses' college has yet to be resumed and is not expected to resume in the near future.

On the other hand, there are many diseases in the target area. Malaria and bacterial diarrhea are the biggest problems throughout the area. Cholera sometimes becomes epidemic in some areas. There are numerous challenges in the health sector. Most of these diseases, however, can be prevented by community people themselves if they have some knowledge and small support from outside. This can be achieved by nurses in the health posts. They should engage in a disease prevention campaign, cooperating with the community people. They would have to travel to communities in order to administer vaccinations and to explain the use of a mosquito net. Thus, it will be possible for them to conduct a disease prevention campaign if some conditions are met. However, the small number of nurses will remain a problem for the foreseeable future.

There are many traditional midwives and volunteers who can assist with vaccinations in the communities. Some of them have already attended training sessions organized by the Ministry of Health and international NGOs. It will be impossible to maintain the current high vaccination ratio without the support of these trained volunteers in the communities.

It is possible to reduce the incidence ratio of diseases if nurses, midwives and volunteers are trained strategically and mobilized for a disease prevention campaign. For instance, health promoters can take part in the cooking stove introduction project and instruct community people on the importance of drinking boiled water to decrease diarrhea.

B Objectives

The objective of the proposed project is to train 130 community health promoters primarily for disease prevention by building up the system of income generating activities in some communities for a sustainable prevention campaign.

C Target

All 129 communities in the four *Comunas* are targeted. Community health promoters will be trained in the 129 communities and income generating activities will be implemented in 33 communities. Community health promoters will be selected on their willingness and education level--especially their literacy.

D Proposed Schedule

From the 1st year to the 3rd year.

E Process

1. The Ministry of Health, the municipality and outside health specialists will form a steering committee.
2. The outside health specialists will design a research plan for the target communities working with the Benguela provincial office of the Ministry of Health and NGOs. The project team will select 33 communities based on the results of the research; and the research should include the following questions:
    - The number of community people who received training in public health and medical care (as well as the nature of their training).
    - The knowledge level of nurses, teachers and trained persons based on a basic test on medical care and public health.
    - The educational background of candidate community health promoters.
    - The current disease status in the target communities, based on disease registration records in the health posts and interviews of affected people.
3. The project team will train nurses on the following topics regarding public health, the awareness campaign and communication methods:
    - Communication methods.
    - Health and diseases.
    - Hygiene and health, including cleaning, drinking water and toilet habits.
    - The causes, symptoms, prevention methods and medical treatments of major diseases such as diarrhea and Malaria.
    - Vaccinations.
    - Nutrition.
    - Dental health.
    - AIDS.
4. Working with NGOs, trained nurses will train candidate community health promoters on issues such as the above.

5. Outside specialists will design community projects such as emergency posts, income generation and community pharmacy with administrative staff and NGOs.
6. The project team will begin community projects, a disease prevention campaign and a maternal and child health campaign. If other, related projects, such as cooking stove introduction, are being implemented, the project will coordinate with those related projects. The team will also handle delivery of mosquito nets and instruct how to use them. It will advise on community solid waste management, the necessity of vaccinations, and it will disseminate information on maternal and child health. The team will work with churches and community organizations. Teachers should be targeted in the campaign at schools.
7. The project team will monitor the campaign effects and management of the community projects.
8. The team will hold a final seminar to share overall evaluation results with related organizations.

F System

Nurses trained in public health, basic medical care, and campaign methods will take the initiative on the disease prevention campaign. NGO staff will be deployed at each health post. Trained nurses will train candidate community health promoters on the contents of the project. *Comuna* administration and NGO staff will explain community projects to community people.

The campaign by community health promoters will be conducted every weekend with the support of churches in the community. Community health promoters will collect information on health, working with community leaders, and will try to visit patients, the elderly and handicapped and maternity patients as frequently as possible to advise and assist them.

When community health promoters conduct their campaign in the elementary school, they should try to get the full support of teachers. Nurses will support their activities.

Some part of the reward for community health promoters will be covered by community income generating projects. For the first two years, NGO staff will manage the project, but they will gradually hand over the reins to community organizations and *Comuna* administration staff in charge of social matters.

The municipal health office will monitor *Comuna* activities as much as possible, focusing on the number and kinds of diseases registered in order to estimate the effect of the campaign.

G Support

Outside specialists will be necessary to advise on the best ways to implement, manage and monitor the community projects.

The municipal health office will serve as the direct counterpart to the outside specialists, but trainers for nurse training should be sent by the Ministry of Health. When nurses expand the

campaign in the communities, the cooperation of health NGOs will be indispensable.

H Rationale

There are some trained health promoters in some communities. A high vaccination ratio is achieved in rural areas by these human resources. Also, there are cases in which community people with some knowledge and experience in the health sector are helping the health post. Thus, strategically it is possible to train these community people, imbuing them with the sprit of volunteerism, involving them in the disease prevention campaign and utilizing health booklets written by the Ministry of Health.

In the pilot project, it was verified that community people could conduct a community project to generate income. Similar income generating activities can be built into this project in order to make the disease prevention campaign more sustainable.

I Characteristics

Community health promoters and a community pharmacy will be supported financially by community income generating activities. In general, an implementation system fully dependent on unpaid volunteers inevitably breaks down.

J Difficulties

The organizing capacity of community people to implement income generating activities is important. Also, it is necessary that the *Comuna* administration and the NGO can facilitate the activities of community people.

K Budget

The annual project budget stands at Kz99,337,500. First, it will take 10 days for four investigators to conduct field research in four *Comunas* and another five days for wrapping up. In total, 60 days will be necessary.

The training of 21 nurses in four *Comunas* will be conducted *Comuna* by *Comuna,* for 20 days each, on public health and basic medical care utilizing campaign methods. The budget will include accommodation, transportation and food for trainees and costs for an instructor over 80 days.

A total of 130 community health promoters from 128 communities will be recruited. The training period will be 20 days with 5-6 trainees per class. Lunch for trainees will be included in the budget.

Kz9 million will be budgeted for the NGO staff's salary and allowance over two years. They will coordinate the entire project, including, transferring the methods of the campaign and monitoring the progress of the project.

As for materials, five health post buildings, motorbikes for the NGO staff, mosquito nets, medicines, operating capital for the first year of the community project and emergency posts for 33 communities will be budgeted.

The monitoring of the campaign by nurses and NGO staff will require 462 visits, as nurses will travel to 33 communities twice a year over three years and NGO staff will travel to the communities four times a year over two years. Compensation for community health promoters will be covered by income-generating community projects. Posters and pamphlets for the campaign will be budgeted.

Monitoring twice a year by the Ministry of Health, the municipality and/or donors will be budgeted. This includes bus rental fees and accommodation costs for the visits.

Table 9-19 Budget of Disease Prevention by Local Human Resources Project

Item	Specification	Unit price (Kz)	Number	Amount (Kz)	Amount (US$)
Preliminary research	NGO	15,000	60	900,000	12,000
Nurse training	Accommodation/food for 21 participants x 20 days	7,500	21	15,7500	2,100
	Fee with accommodation/food for an instructor x 20 days x 4 times	7,500	80	600,000	8,000
Community Health Promoter training	Kz750/person/day x 20 days (130 persons)	750	2600	1,950,000	26,000
NGO Salaries	For 2 years	900,000	5	4,500,000	60,000
NGO Allowance	Accommodation/food for 2 years	900,000	5	4,500,000	60,000
Motorbike	125cc, 2 cycle engine	225,000	10	2,250,000	30,000
Gasoline	50 liter/visit (including maintenance)	2,500	462	1,155,000	15,300
Mosquito net	Normal net without special treatment	750	5,000	3,750,000	50,000
Medicine	Antibiotics set such as Penicillin	15,000	50	750,000	10,000
Emergency post, community pharmacy and kiosk	30 ㎡ with block and galvanized iron roof	22,000,000	33	66,000,000	880,000
Operational capital for community projects	Kiosk business of daily goods such as soap and cooking oil	75000	33	2,475,000	33,000
Poster for disease prevention campaign	5 kinds x 1,000 sheets	750	5,000	3,750,000	50,000
Pamphlets for disease prevention campaign	10 kinds x 5,000 books	75	50,000	3,750,000	50,000
Health booklets	For households	1,500	1000	1,500,000	20,000
Monitoring/evaluation by MOH, donors,	Bus rental Kz22,500/time, Business trip cost (Kz10,125/person/day) 20 person x 2 times/year x 3 years	225,000	6	1,350,000	18,000
TOTAL				99,337,500	1,324,500

Source: The Study Team

L Impact

Output of the project will be increased knowledge, and practices that are enhanced by utilizing the knowledge. To measure the increase of knowledge, nurse and community health promoters will conduct a simple pre-test for community people. Then, they will visit the same

community after six months to ask the same questions to people to measure their level of knowledge.

The project team will judge that the project is effective if housewives in the 3,700 target households, or 70% of all target households, achieve a certain level in the test. Practice can be measured through checking the ratio of mosquito nets being used in households and the ratio of households drinking boiled water. The project expects that 3,000 households, or 53% of all households, will put the new knowledge into practice.

Table 9-20 Expected Output of the Disease Prevention by Local Human Resources

Item	Details	Number(ratio)
Acquiring knowledge	3,700 housewives out of 5,300 achieve passing score on the oral pre-test.	3,700 households (70%)
Practicing the knowledge	53% of households are practicing the knowledge of mosquito net and boiled drinking water	3,000 households (53%)

Source: The Study Team

9.5 Institutional Capacity Development

9.5.1 Institutional Capacity Development for Lobito Municipality Administration

A Background

Angola's political system, since the time of the civil war to date, has been adopting a strongly centralized system. Therefore, the role and power of local authorities have been limited and their own development plans and projects have been very few.

On the other hand, as was described in Chapter 2.5.3 on Decentralization, the government of Angola promotes decentralization in accordance with the current long-term development plan. A partial transfer of power and budgets is ongoing on a pilot basis within local authorities, including the Lobito Municipality. In order to accelerate this trend, it is significant to improve the capacity of municipality administration which is expected to play a critical role in the decentralized administration system.

However, under the current centralized system, the capacity of local authorities is limited both in terms of quality and quantity; especially, the lack of manpower is obvious. Besides, considering the shortage of local administrative officials, it is not effective to focus on the capacity development of local administrative officials. Now they manage to provide administrative services by involving other stakeholders such as local NGOs, religious groups and citizens.

In order to effectively improve the capacity of the local administration, it is necessary to grasp the local resources, including the various stakeholders and to structure a system which involves those available resources. Without the above mentioned system, it is difficult to promote effective decentralization.

Through the experience of the pilot project and workshops (for planning) conducted during this Study, the Study Team was able to confirm the capacity and potential of the human resources necessary to promote development; it was also able to conceive how to structure the best system for such development.

The concept of a "participatory regional development plan" is the common character of the recent decentralization policy of African countries (such as Uganda, Tanzania, etc). Since African countries have common issues (such as an undeveloped local administration system--both in quality and quantity), practically speaking, they need to involve various stakeholders and to promote both capacity development and institutional support for their decentralization policies.

If the systematic model of capacity development of stakeholders is structured successfully, it may be possible to apply this experience not only for the whole of Angola, but also to other countries in the process of post-war reconstruction.

B Objective

The system will be structured so as to formulate the development plan/project in such a way to enable stakeholders to experience the whole project cycle from formulation of the development plan to the dissemination of outcomes. In order to correspond to Angola's decentralization policy, the project also will aim to establish a model of regional development which is applicable to other local authorities.

C Target

1. Pilot municipality: Administrative officials of the Lobito Municipality

   The Study Team has selected the Lobito Municipality as the pilot authority; the relevant stakeholders are: the planning division of the municipality government, local NGOs, *Comuna* inhabitants.

   The target *Comuna*s are the four primary *Comuna*s of Lobito Municipality, namely Canjala, Egipto-Praia, Biopio and Culango.

2. Officials from pilot municipalities subject to the decentralization program of the government.

   The project calls for the participation of other municipalities to utilize the project as an applicable model. Target municipalities will be selected with the coordination of the Ministry of Planning; the 60 pilot municipalities of the decentralization program might be a reasonable selection.

   Although other municipalities won't be involved in the pilot project directly, the project suggests that they participate in the training program and workshop, so that they can use their experience when they apply this model in their own municipalities.

D Proposed Schedule

5 years.

E Process

The project objective is to improve the capacity of the local administration.

In a broader context, the project aims to develop the capacity of "stakeholders" or municipal/*Comuna* administrative officials and citizen representatives so that they can control the cycle of the development plan (from planning, implementation, monitoring/evaluation).

However, in reality, it may be difficult to develop stakeholders' capacity by utilizing an independent approach, as these stakeholders will only have had limited involvement in administration. To support their efforts, during the initial stage of the project, it is planned to utilize NGOs, which have been involved in administration.

Simultaneously, through this process it is aimed to improve the capacity of NGOs as well.

Based on the experience of this development study, the Study Team believes that traditional, school-style seminars and workshops may not be helpful for capacity development. Therefore, the Team plans to start the pilot project at an earlier stage. Through the implementation of the pilot project, stakeholders will be able to experience the whole process of development, clarifying their roles and responsibilities, thereby developing practical capacity.

i. Project outline

The project consists of the following three components, with a corresponding arrangement of the program suitable for respective stakeholders:

1. Mastering the concept of the project cycle.
2. Establishing a section for the development program in the planning division of the municipality.
3. Training of planning/monitoring/evaluation (OJT style by implementing the pilot project).

Following are the programs for respective stakeholders:

1. For the municipality government (its role in the development program = Planning/Project selection, implementation/monitoring/ evaluation)

   The planning division of the Lobito municipality government is targeted.

   - It will support creating a project cycle (implementation, monitoring and evaluation) and an implementation system.
   - A training program for planning, monitoring and evaluation (OJT style; taking into account the national development plan and decentralization policy).
   - Training of a facilitator.

2. For NGOs (their role in the development program = Facilitator of the planning

/implementation body of the project).

Several NGOs with experience of administrative support will be selected as pilot organizations.

- Capacity development of staff via pilot project (planning, implementation, monitoring).
- Training of a facilitator of project planning (workshop style).

3. *Comuna* administrative officials and citizen representatives (their role = finding beneficiaries' needs)

   Administrative officials and citizen representatives from four *Comuna*s will be selected.

   - Uncovering needs and creating a decision making process will be prioritized.
   - Capacity development of needs finding, prioritization, project monitoring through workshops and the pilot project will be the sought outcomes.

4. Other municipalities

   As mentioned in the program above, they are expected to participate in the training of the project cycle, workshops of development planning and inspection of pilot projects.

5. Pilot project

   The primary objective of the project is to change the mind-set of development stakeholders through "experience," rather than the simple dissemination of knowledge.

   Since the Study Team believes the selection process of the pilot project itself can provide a significant opportunity to improve capacity, development stakeholders themselves will select the pilot project through workshops. Therefore, at this moment the Team has not planned any concrete project ideas, although the pilot project in this Study can be used as a good reference, considering its similarity to any final project selected in terms of scale and approach.

   The Study Team suggests the following three project types which can involve multiple stakeholders and can identify targets of capacity development. From the experience of the pilot project (in this Study), if stakeholders experience these three types of projects, they will be able to improve management capacity to a level necessary for the development program.

   - **Infrastructure Development:** road rehabilitation and public building initiated by municipality officials and private enterprises.
   - **Rehabilitation of Irrigation Infrastructure:** O&M by inhabitants will be expected, with the cooperation of NGOs and inhabitants' association.
   - **Literacy Classes:** a project which can involve municipality officials and inhabitants.

   The pilot project will start on a small scale, and with the process of monitoring and evaluation, stakeholders will consider further development, including expansion or

revision of the plan.

An advantage of a small scale project is its flexibility in adjusting its direction according to stakeholders' capacity. Also, it is advantageous for maintaining the motivation of stakeholders, since they can have the experience of project "growth" (if successful).[5]

ii. Implementation schedule

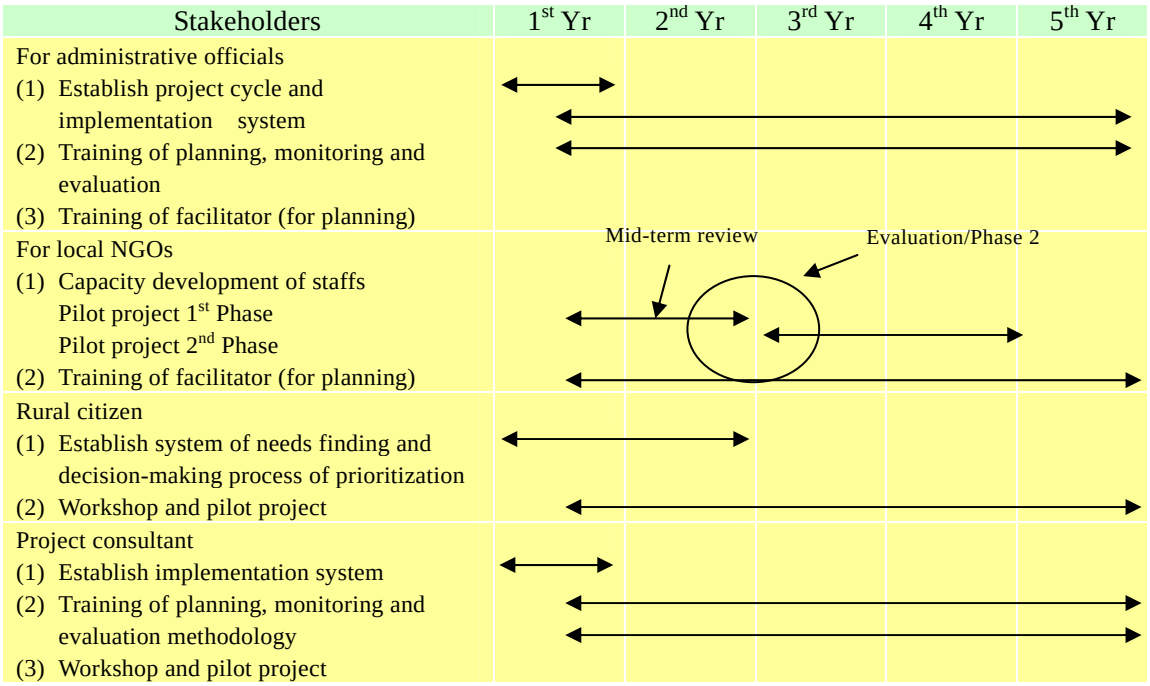

Figure 9-2 Schedule of Institutional Capacity Development Project

F System

During the initial three years, consultants will conduct planning/monitoring training, and support the installation of a planning and monitoring system in the municipality planning division. During this period, stakeholders will implement several pilot projects and experience the whole project cycle from planning to evaluation.

In the latter half of the program period, NGOs trained by this project will conduct facilitator training of administrative officials who participate in the workshops. This aims to establish the self-sustainment of the training program after the withdrawal of consultants by training administrative officials and NGOs as facilitators.

G Support

During the first few years of the project (at the stage of training facilitators), international experts will support the installation of the system and provide advisory service. Although local NGOs have acquired certain capabilities in administrative services, it is still desirable to introduce the external support of international consultants and finance for solidifying the concept and system of the project cycle and for better implementation of the pilot project. During the latter half of the project, the plan is to conclude the support of the international

[5] The empirical finding through the implementation of the pilot project also supports this analysis.

expert(s) and hand over responsibility to local NGOs in order to secure sustainability of local resources.

H Rationale

To make the program feasible, it is important to raise the consciousness of the "stakeholders (of the development program)" and to motivate their commitment. The Study Team, given the experience of this Study, believes that it is feasible to promote the development program through stakeholders' initiative. During the workshop for needs finding and project selection, the Team was able to confirm stakeholders' strong motivation and commitment to development.[6]

In terms of capacity, presumably stakeholders are capable enough to understand and implement the planning process for development, if they receive continuous support through seminars and workshops.

I Characteristics

The following are the findings during this Study that make the development plan and project in Angola feasible.

- Structure a system which involves a broader base of stakeholders of administration service (other than administrative officials).
- Judge required capacity correctly, corresponding to the level of each stakeholder; structure a self-sustaining implementation of their own ideas.
- Focus on "learning from experience" by implementing small-scale projects, rather than concentrating on creating manuals and textbooks.

This program, implementing the pilot project in parallel with the system structure, is designed to utilize "their experience (either success or failure)" as useful feedback to structure the system.

J Difficulties

i. Consistency with the program of higher authorities

Since the planning process adopts a bottom-up approach from the *Comuna* level, it is necessary for the Municipality Planning division to plan and select the project in consideration of its consistency with the upper level plan (such as the central or provincial level development plan and the strategic role of the Lobito Municipality in those plans). Simultaneously, the municipal government is required to send needs from the bottom level up through channels to higher authorities. So, when formulating the framework of the project selection, it is necessary to coordinate well with higher authorities.

[6] Although the approaches taken during the workshop (problem analysis and SWOT analysis, suggestion of project ideas) were a new experience for them, they were able to understand the program and maintain their motivation to participate if facilitators support them sufficiently.

ii. Fluidity of local administrative officials (municipalities and *Comunas*)

On this type of capacity development project, there is always the problem of a high turnover ratio of public officials. In Angola too, there are concerns of frequent transfers and job-hopping of local officials, who are expected to play critical roles in the planning process.

However, if closely contacting and coordinating with municipality government, it can be possible to reduce the risk to some extent on the following grounds.

- Stable administration is expected in the meantime due to a landslide victory by the ruling party in the September 2008 general election.
- The program does not target specific persons, and aims to structure the system for capacity development.

K Budget

The program cost estimate consists of personnel expenses (for the international experts and local NGOs), administration costs and investment in the pilot project. The table below does not include costs generated from participation of administrative officials and inhabitants. The total program cost for the five years amounts to approximately US$1.5 million.

Table 9-21 Budget of Institutional Capacity Development Project

	Item	Details	Unit price	Quantity	Amount (Kz)	Amount (US$)
1	Consultant	Consultant fee/3 years (7M/M/year)	US$270,000	3	60,750,000	810,000
2	Direct expense of consultant	Transportation, other direct expense/year	US$100,000	3	22,500,000	300,000
3	Personnel expense for NGO	Staff remuneration for 5 years	Kz2,250,000	5	11,250,000	150,000
4	Administration cost for NGO	Per diem, accommodation for 5 years	Kz2,250,000	5	11,250,000	150,000
5	Pilot project	4 Small-sized project*4 *Comunas*/year	US$5,000	16	6,000,000	80,000
6	Transportation (motorcycle)	125cc, 2 cycle	Kz225,000		0	0
7	Fuel	1,000l/unit * 2 years	Kz40,000		0	0
	Total				111,750,000	1,490,000

Source: The Study Team

As is obvious from the scale of the investment, it is indispensable to utilize external finance.

External sources of funding can be expected from: the technical cooperation project supported

by JICA[7]; and the joint trust fund for supporting governance and the fund to support human resource development--both jointly funded by the African Development Bank and JICA.

Also, the Policy and Human Resources Development Fund (PHRD)[8], operated by the World Bank (funded by the government of Japan), is an eligible finance source.

L Impact

Since the program's major goal is to develop administration capacity, it is difficult to measure its outcome in a quantitative and objective manner. Results obtained from our pilot project are insufficient to correctly evaluate a major effort in the realm of capacity development. Rather, it is more important to grasp the changes that occurred during the implementation process.

With a view to the above, the Study Team can still suggest the following as likely outcomes of the program:

Table 9-22 Outcome and Indicators of Institutional Capacity Development project

Stakeholders	Outcome	Indicators
(1) Municipality planning division	1) Development planning consistent with higher level program. 2) Improve appraisal capacity 3) Improve implementation/monitoring/evaluation capacity 4) Increase capacity and numbers of facilitator	・ Approval of central government ・ Number of approved project ・ Budget execution rate ・ Number of projects ・ Number of project evaluation ・ Number who received training ・ Number of workshop ・ Number of facilitator
(2) Local NGOs	1) Increase capacity and numbers of facilitator 2) Improve implementation and monitoring capacity	・ Number who received training ・ Number of facilitator ・ Number of project ・ Number of monitoring activity
(3) *Comuna* representative	1) Improve *Comuna* inhabitants' capacity for needs finding and project selection 2) Improve implementation and monitoring capacity	・ Number of workshop ・ Number of project ・ Number of monitoring activity

Source: The Study Team

[7] For example in Tanzania, JICA supported local administration reform programs and cooperation to basket fund program.

[8] Eligible project on this fund are the grants or technical cooperation to support human resource development and development policy planning, or to strengthen partnership with Japan/the World Bank.
Approximately US$520 million has been funded since 2000 to date. In Angola too, it funded the development program of market-oriented small-sized farming project in 2005.

Chapter 10

Conclusions and Recommendations

10.1 Conclusions

After the civil war terminated, emergency assistance by international agencies and donors started and participatory planning methods--such as Rapid Rural Appraisal--and a logical framework were introduced. Some local NGOs understand and utilize these new methods and framework and the Angolan government itself is trying to promote participatory planning. But participation under the new systems has been minimal, if not merely token.

Community people, who should have been leading actors in the planning for reconstruction and development, tended to show a shopping list of possible projects that they wanted to ask the *Comuna* administration and the Study Team to implement. The *Comuna* administration promoted projects in a top-down style (as if still under the constraints of fighting a civil war), though they advocated participatory planning in word, if not in deed.

Many NGOs heavily depended on donors, looking for future sources of funding after present, immediate funding sources were depleted. They did not have a self-help and future-looking concept.

The Study Team tried to inaugurate and facilitate participatory planning in the target area during the three years of the study period (including the project formulation study) and the Team offered various opportunities for actors to experience participatory planning.

The Study Team fortunately had an opportunity to draw up the master plan at the exact moment the government was starting decentralization. The higher management-capacity that the municipality will achieve, the more finance could be handed over by the central government. But, the actual municipal management capacity is unknown. Because of this "unknown" dimension, for at least, the first five years of the master plan should be regarded as a test run. The central government should make as much effort as possible to support municipalities in their management capacity enhancement. Otherwise, the present attempts to decentralize could end up in smoke.

Every actor involved in this Study was well-prepared for development work. Therefore, the sector administration, the *Comuna* administration, the community organizations and the NGOs with which the Study Team worked on pilot projects and participatory planning could, optimally, learn methods and concepts on planning, on the importance of implementation systems, technologies with implementation systems that can take root in the soil of the target areas. Thus, they had ample opportunities to fortify their capacity for socioeconomic development. The largest harvest for them is the lesson that the individual outcomes of each development effort could have synergistic effects when all stakeholders have strong ownership and act as an integrated system.

The reconstruction and development plan in the Lobito rural area is based on the concept that community people, the *Comuna* administration and local NGOs work on development in an integrated manner. However, because they could not gain insight into local potentials

and prioritize possible projects accordingly, the Study Team designed a reconstruction and development plan according to its best lights and understanding, taking responsibility for its interpretation of the results of the pilot projects and the participatory planning workshops in four *Comuna*s and three sectors.

The reconstruction and development master plan made it clear that it is most effective and efficient to place a maximum emphasis on agriculture for achieving development goals. Agricultural development could positively impact living conditions, including education and health sectors, in the rural areas.

The master plan utilized indicators and synergy effects between sectors in order to maximize the effect of minimal investment being transferred from the central government to the Lobito Municipality. With the intention of enhancing the development capacity of the stakeholders, the plan included not only project ideas but also their possible implementation system. The master plan could be an important guide in implementing the present five-year development plan of the Lobito Municipality.

The analytical framework and methods adopted in this master plan can be applied not only to other municipalities in Benguela Province but also to other provinces. The Angolan government should regard the Lobito Municipality as a model of rural reconstruction and development and implement this master plan primarily on its own budget with supplemental donor funds.

Last, the Team concluded that implementing this master plan will contribute to substantial poverty alleviation in the target area.

10.2 Recommendations

Agricultural budget should be expanded more than ever

As emphasized in the conclusion, this master plan for reconstruction and development puts its foundation on agricultural development. Needless to say, education and health sectors will also be important areas of development. But, when people suffer from food shortages, they cannot concentrate on learning and cannot maintain their basic physical power to be healthy.

As a result of their uniformity in terms of project specifications, the construction of schools and health posts and the staffing of sufficient numbers of teachers and nurses can be implemented as national projects. In contrast, agriculture programs and policies cannot be implemented nationally, but should be tailored to meet local area conditions. It is also clear that agricultural development will have significantly impact living conditions, including education and health care. Furthermore, as decentralization requires the achievement of maximum outcome within a given, often limited, budget, it is most efficient to focus investments on agriculture in municipal development plans.

Although the significance of agriculture is clearly evident, the actual budget allocation to

agriculture is insufficient. Revising the budget is essential in order to consider the synergistic effects agriculture has on other sectors**.**

Stakeholders' capacity should be enhanced and implementation system should be established during initial five years.

Projects are not evaluated right after their termination but after several years. When the local government administration, the community people, and the NGOs have performed their respective roles, implemented and monitored projects in an integrated manner, and when project outcomes have been achieved and sustain, the plan is evaluated as "well-planned" and successful. To accomplish that worthy goal, the capacity building of stakeholders is indispensable, but it takes time.

This initial five years should be regarded as a capacity building period for stakeholders to implement projects through on-the-job-training, and for the Angolan government to invest in the projects shown in the development master plan, including a human resource development project.

Local government should work with local NGOs to a maximum extent

Because the number of local government staff cannot be increased dramatically, the government should hire local NGOs for project implementation. When the government deploys NGOs in development projects appropriately, the sustainability of the projects can be enhanced substantially.

The Study verified the capacity of local NGOs. The most significant point was that some NGOs showed clear potential to grow into capable NGOs for socioeconomic development, though their present organizational capacity was limited. Opportunities to grow into fully capable and competent NGOs for socioeconomic development should be given to them. The Angolan government should offer opportunities for project implementation and training to NGOs by recruiting prepared consultants as trainers.