Chapter 12 Action Plan

12.1 Basic Consideration for Preparation of Action Plan

The development strategy mentioned in Chapter 10, clarified the relation among respective relevant sectors toward attaining the "mitigation of vulnerability of poor peasants" and "improvement of livelihood of poor peasants", and showed the effective approach to them in consideration of the regional characteristics of Ayacucho Region. In the Master Plan mentioned in Chapter 11, lots of projects were worked out and proposed from each sector based on the results of study on the existing data, field investigation, workshop and the problem analysis in line with this development strategy. In this chapter, the Action Plan is prepared for these projects. For the preparation of the Action Plan, the following basic considerations are determined:

(1) Development in Consideration of Avoidance of Occurrence of Regional Disparity

In the development strategy, the development program reflecting the regional characteristics was prepared aiming to effectively execute the development of Ayacucho Region showing the natural and social diversity. The Action Plan should be so prepared as to avoid the occurrence of regional disparities as much as possible, regarding attainment of "improvement of livelihood of poor peasants". There are lots of SNIP sub-projects which are interspersed in Ayacucho Region. These sub-projects should be concurrently implemented as much as possible and the regional disparities should be avoided accordingly. The same method should be applied for the Action Plan for the "mitigation of vulnerability".

(2) Use of Combined Effect

The factors on "vulnerability" and "livelihood" are not simple, but diverse. In order to attain the "mitigation of vulnerability" and "improvement of livelihood", therefore, consideration is given to the application of plural projects/sub-projects, not the single one. This consideration is due to the expectation of not only the effect of independent project/sub-project, but also the effect of combined effect of respective projects/sub-projects. Thus, the Action Plan should be prepared considering this matter.

(3) Consideration of Development Budget Amount Applicable

It is indispensable to ensure the financial source to implement the Master Plan. In this Study, the development budget to invest for 10 years from 2011 to 2020 is estimated based on the actual amount to be invested in the past 5 years, and thus the Action Plan is prepared taking into consideration this estimated result.

12.2 Action Plan for Year of 2020

12.2.1 Target

The present government takes up the poverty measure as the most important subject, and positively tackles the various problems for poverty reduction, rural area development and social development fields by newly executing the Sierra Exportadora and the "water for everybody" program. On the other hand, GRA takes up the "undeveloped and divided agriculture and livestock activities" as one of subjects under the "economic development and productivity improvement" in PDRC 2007-2024. In this Study, these policies and plan are regarded as the superordinate plan, and thus the Master Plan was formulated in consistency with them. The Action Plan is prepared with the aim of the "contribution to mitigation of vulnerability and improvement of livelihood of poor peasants considering the regional characteristics". As mentioned in Clause 10.3.4, three priority development fields, the

related plural priority development subjects and their development objectives were determined in order to effectively attain this aim. In respective development priority subjects, the necessary projects were determined by classifying the SNIP sub-projects and also new projects were formed and proposed to achieve their objectives. In Chapter 11, the objectives were determined for these classified sub-projects and new projects. In addition, input plans and implementation schedule were prepared to accomplish these objectives.

12.2.2 Development Program by Region

In Chapter 11, the development program for each sector was prepared in consideration of elevation–wise characteristics by each province. In addition, the vulnerability measures program was prepared based on the regional disaster condition. Using these results, the development program by region aiming at improvement of livelihood and the vulnerability mitigation program by region aiming at vulnerability mitigation were prepared as follows:

(1) Livelihood Improvement Program by Region

The program by region for each sector consists of the following development projects:

Table 12.2.1 List of Development Projects for Livelihood Improvement

Sector	Project Code	Project
(a) Farming/ Extension	I-(a)- 1:	High Quality Seeds and Nursery Production Project
	I-(a)- 2:	Market Competitiveness Strengthening and Crop Diversification Promotion Project
	I-(a)- 3:	New Crop Production Development Project
	I-(a)- 4:	Agriculture Extension Service Strengthening Project
(b) Livestock	I-(b)- 1:	Milk Production Support Project
	I-(b)- 2:	Beef Cattle Production Project
	I-(b)- 3:	Alpaca Production Support Project
	I-(b)- 4:	Vicuña Management and Protection Support Project
	I-(b)- 5:	Cuy Production Efficiency Improvement Project
	I-(b)- 6:	Mutton and Wool Production Support Project
(c) Inland Fishery	I-(c)- 1:	Inland Fishery Support Institution Capability Strengthening Project
	I-(c)- 2:	Extension System Establishment Project for Small-scaled Aquaculture Production Organization
	I-(c)- 3:	Small-scaled Aquaculture Pond Construction Project
(d) Reforestation/ Environmental Conservation*	I-(d)- 1:	Reforestation Plan Preparation Project
	I-(d)- 2:	Production Forestry Creation Project
	I-(d)- 3:	Agro forestry Support Project
(e) Irrigation	I-(e)- 1:	Cuchoquesera Dam Emergency Discharge System Construction Project
	I-(e)- 2:	Ingalla Dam and Irrigation Canals Construction Project
	I-(e)- 3:	Expansion and Improvement Project of Secondary Canal in Tambillo No. 7 Irrigation Unit, Stage II in the Ex PERC Irrigation System
	I-(e)- 4:	New Construction and Expansion Irrigation Project
	I-(e)- 5:	Existing Irrigation Improvement and Rehabilitation Project
	I-(e)- 6:	Technical Irrigation Project
	I-(e)- 7:	Irrigation Basic Information and Database System Building Project
(f) Road	I-(f)- 1:	Road Infrastructure Development Project
	I-(f)- 2:	Acos Vinchos District Main Road Improvement
	I-(f)- 3:	Vilcanchos-Ccaruaccocco District Main Road Construction Project
	I-(f)- 4:	Ayahuanco-Sntillana-Llochegua District Main Road Construction Project
	I-(f)- 5:	Community Roads Participatory O&M Promotion Project
	I-(f)- 6:	Road Improvement and O&M Strengthening Project
(g) Agricultural Production Distribution/ Agro-processing	I-(g)- 1:	Market Distribution System Establishment Project for Agriculture Production
	I-(g)- 2:	Distribution Infrastructure Construction Promotion Project
	I-(g)- 3:	Agro-processing Industry Promotion Project
(h) Institutional Building	I-(h)- 1:	Support Capability Strengthening Project for Production Organization by Local Government
	I-(h)- 2:	Promotion Capability Strengthening Project for Public Investment Works by Local Government

**: "Soil Conservation Measure Project" is listed in the Vulnerability Mitigation Program by Region due to its role.*

Source: JICA Study Team

The development program by region was prepared by overlaying the development programs by region for each sector. It shows the relation between the development projects and the elevation-wise areas by province, as shown in Table 12.2.2.

Table 12.2.2 Relation between Development Projects for Livelihood Improvement and Elevation-wise Areas by Province

Region	No.	Province	Elevation (m)	Farming/Extension				Livestock						Inland Fishery			Reforestation/ Environment Conservation			Irrigation							Road						Agriculture Production Distribution/ Agro-processing			Institutional Building	
				I-(a)-1	I-(a)-2	I-(a)-3	I-(a)-4	I-(b)-1	I-(b)-2	I-(b)-3	I-(b)-4	I-(b)-5	I-(b)-6	I-(c)-1	I-(c)-2	I-(c)-3	I-(d)-1	I-(d)-2	I-(d)-3	I-(e)-1	I-(e)-2	I-(e)-3	I-(e)-4	I-(e)-5	I-(e)-6	I-(e)-7	I-(f)-1	I-(f)-2	I-(f)-3	I-(f)-4	I-(f)-5	I-(f)-6	I-(g)-1	I-(g)-2	I-(g)-3	I-(h)-1	I-(h)-1
All Provinces				◎			◎							◎			◎								◎										◎	◎
Northern	1	Huanta	2000-4000		◎			○	○			○	○			○		◎	◎				◎	◎	◎		◎	◎					◎	○	◎		
	2		<2000		◎							○				○		◎									◎						◎	○	◎		
	3	La Mar	2000-4000		◎			◎	◎			◎	○			○		◎	○				◎	○	○		◎						◎	○	◎		
	4	Huamanga	2000-4000		◎	◎		◎	◎	◎	△	◎	◎			△		○	◎			◎	◎	◎	◎		◎			◎			◎	◎	◎		
Central	5	Cangallo	≧4000			○		○	○	○	△		◎			○							○				◎						○				
	6		2000-4000		◎	◎		◎	◎	△	△	◎	◎			○		△	△	◎	◎		◎	◎	◎		◎						◎	◎	○		
	7	Vilcas Huaman	2000-4000					○	○			○	○			○		△	△				◎	○	○		○						△	○			
	8	Victor Fajardo	≧4000					○	○	○	△		◎			△							△	△									△				
	9		2000-4000					◎	◎	○	○	△	◎			○		○	△				○	◎	○		◎		◎				△	◎			
	10	Huanca Sancos	≧4000					○	○	△	○		◎			△							△				◎						△				
	11		2000-4000					○	△		△	△	○			△		△	△				◎	◎			◎						△	◎			
	12	Sucre	≧4000					△	△	○	△		△			△																	△				
	13		2000-4000					○	○	◎	○	△	○			△		○	◎				○	○	△		◎						△	○			
Southern	14	Lucanas	≧4000				○	◎	○	◎	◎		◎	◎	◎	○								○			◎						○		○		
	15		2000-4000		◎	◎		◎	◎	○	◎	△	◎	◎	◎	◎		○	◎				◎	◎	○		◎						◎	◎			
	16	Parinacochas	≧4000					○	○	◎	○		○	◎	◎																		○		○		
	17		2000-4000					○	○	○	○	△	○	◎	◎			○	△				◎	◎	○		◎						◎	◎			
	18	Paucar del Sara Sara	≧4000					△		○	△		△	◎	○									○			○						△				
	19		2000-4000					○	○	△	△	△	○	◎	◎			△	◎				◎	◎	○		◎						△	○			

Remarks : ◎ (Contribution Large) 、○ (Cpntribution Medium) 、△ (Contribution Small)

: List of Development Projects

I-(a)-1	High Quality Seeds and Nursery Production Project	I-(e)-2	Ingalla Dam and Irrigation Canals Construction Project
I-(a)-2	Market Competitiveness Strengthening and Crop Diversification Promotion Project	I-(e)-3	Expansion and Improvement Project of Secondary Canal in Tambillo No. 7 Irrigation Unit, Stage II in the Ex PERC Irrigation System
I-(a)-3	New Crop Production Development Project	I-(e)-4	New Construction and Expansion Irrigation Project
I-(a)-4	Agriculture Extension Service Strengthening Project	I-(e)-5	Existing Irrigation Improvement and Rehabilitation Project
I-(b)-1	Milk Production Support Project	I-(e)-6	Technical Irrigation Project
I-(b)-2	Beef Cattle Production Project	I-(e)-7	Irrigation Basic Information and Database System Building Project
I-(b)-3	Alpaca Production Support Project	I-(f)-1	Road Infrastructure Development Project
I-(b)-4	Vicuña Management and Protection Support Project	I-(f)-2	AcosvinchosDistrict Main Road Improvement
I-(b)-5	Cuy Production Efficiency Improvement Project	I-(f)-3	Vilcanchos-Ccaruaccoco District Main Road Construction Project
I-(b)-6	Mutton and Wool Production Support Project	I-(f)-4	Ayahuanco-Sntillana-Llochegua District Main Road Construction Project
I-(c)-1	Inland Fishery Support Institution Capability Strengthening Project	I-(f)-5	Community Roads Participatory O&M Promotion Project
I-(c)-2	Extension System Establishment Project for Small-scaled Aquaculture Production Organization	I-(f)-6	Road Improvement and O&M Strengthening Project
I-(c)-3	Small-scaled Aquaculture Pond Construction Project	I-(g)-1	Market Distribution System Establishment Project for Agriculture Production
I-(d)-1	Reforestation Plan Preparation Project	I-(g)-2	Distribution Infrastructure Construction Promotion Project
I-(d)-2	Production Forestry Creation Project	I-(g)-3	Agro-processing Industry Promotion Project
I-(d)-3	Agroforestry Support Project	I-(h)-1	Support Capability Strengthening Project for Production Organization by Local Government
I-(e)-1	Cuchoquesera Dam Emergency Discharge System Construction Project	I-(h)-2	Promotion Capability Strengthening Project for Public Investment Works by Local Government

Source: JICA Study Team

The development projects related to all provinces are implemented targeting at whole Ayacucho Region. On the other hand, for the northern region, central region and southern region, the development projects required for the improvement of livelihood are clarified from the respective regional characteristics. The proposed development projects and the main sectors related to development plan for each region are briefly mentioned below.

【Northern region】

Northern Region	Main Relevant Sectors
All region	Farming/Extension, Livestock, Reforestation/Environmental conservation, Irrigation, Road, Agriculture production distribution/Agro-processing

The development projects for farming/extension and agriculture production distribution/agro-processing sectors will be implemented in order to develop the strong points which the access to Ayacucho City, the largest consuming city is good, the agriculture production is higher than the other regions, and the crop diversity is high.

In the area less than 2000 m in elevation in Huanta Province and in La Mar Province, the perennial crops (commercial crops) are widely cultivated, but their production and quality are not so high due to insufficient production technology. In order to conquer such situation, the development projects for farming/extension sector are introduced in this region.

In order to link the production of livestock with improvement of livelihood, the development project (except Vicuña Management and Protection Support Project) is implemented in this region.

In Huanta and La Mar Provinces where there is a potential in large area forestry management, the development project for reforestation/environmental conservation sector is implemented.

The development projects to satisfy the high development needs of irrigation (including technical irrigation) and roads are introduced in this region.

This northern region has the highest development potential among 3 regions of Ayacucho Region, northern, central and southern regions, and the combined effect of the development projects introduced can be also expected. Besides, this region plays a key role in leading the activities for improvement of livelihood in Ayacucho Region.

【Central Region】

Central Region	Main Relevant Sectors
Adjacent provinces of Huamanga	Farming/Extension, Agriculture production distribution/Agro-processing
Middle-elevated area	Farming/Extension, Livestock, Reforestation/Environmental conservation, Irrigation, Road
High-elevated area	Livestock

In Cangallo Province and Vilcas Huaman Province which are adjacent to Huamanga Province, the development projects for farming/extension sector are applied considering the geographical advantage which the consuming city is close, and the effective use of products from them are sought. To this end, the development projects for agricultural production distribution/agro-processing sector are introduced.

The development projects for livestock sector could be implemented in not only middle-elevated area, but also the high-elevated area where the agriculture production is difficult.

In the middle-elevated area enabling the agriculture production, the development projects to meet the development needs of irrigation and road are applied.

In this region, irrigation and road are developed in the middle-elevated area enabling the agriculture production, and livestock is promoted in higher-elevated area. In the suburban area close to the Ayacucho City, it is required to improve of production of high quality agricultural crops and establish the distribution system to link the market with them.

【Southern Region】

Southern Region	Main Relevant Sectors
The area around Puquio city	Farming/Extension, Agriculture production distribution/Agro-processing
Middle-elevated area	Farming/Extension, livestock, reforestation/environmental conservation, irrigation, road, inland fishery, agriculture production distribution/agro-processing
High-elevated area	Livestock, Inland fishery

In the area with good access to Puquio City, central city of southern region of Ayacucho and Ica Provinces, the

development projects for Farming/Extension and Agriculture production distribution/Agro-processing sectors are implemented.

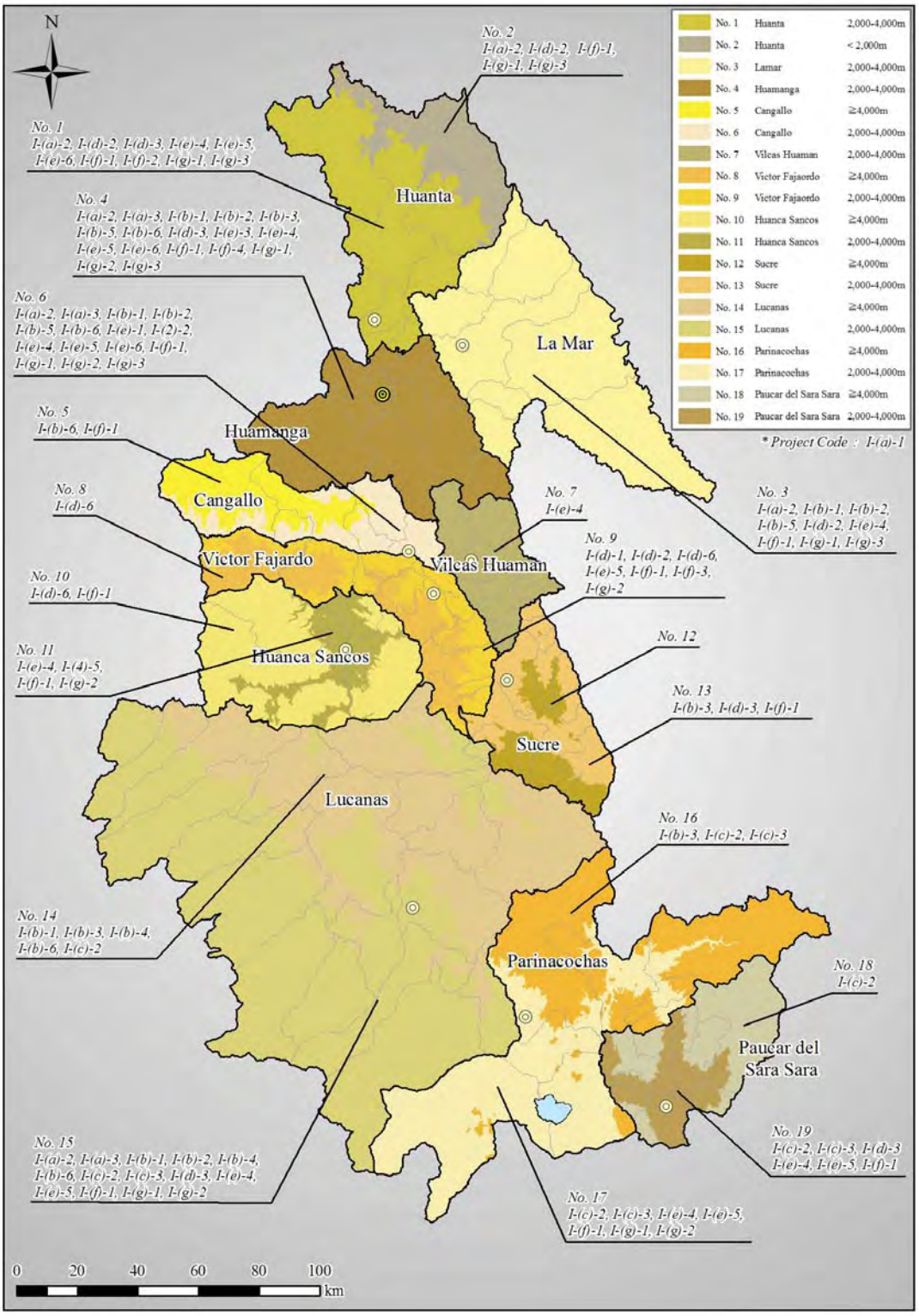
The development projects for livestock sector are introduced in this region using the favorite condition which is the largest inhabitant area of Vicuña, high quality fur wild animal in Ayacucho Region.

As there is a potential of inland fishery due to lots of lakes and marshes, the Ayacucho Regional Government regards this region as promoted area of inland fishery. The development projects for inland fishery sector are therefore introduced in this region.

In the middle-elevated area, the development projects for irrigation and road sectors of which the development need is high, are introduced.

This region is possible area where the means of improvement of new livelihood such as inland fishery could be introduced, with an eye on the markets in other provinces as well as those in the Ayacucho Region.

With the results mentioned above, the elevation-wise development map by region is prepared as shown in Figure 12.2.1.



Source: JICA Study Team

Figure 12.2.1 Map of Elevation-wise Livelihood Improvement by Region

(2) Vulnerability Mitigation Program by Region

The development projects composing the vulnerability mitigation program by region for each sector are shown in the following table. As for the development projects for irrigation sector, one of their purposes is to make stable supply of required water. This means that irrigation is so useful for vulnerability of drought. Only the development

projects for irrigation sector are therefore included in the vulnerability mitigation program by region.

Table 12.2.3 List of Development Projects for Vulnerability Mitigation

Sector	Project Code	Project
(a) Vulnerability Measures	II-(a)- 1:	Basic Information Arrangement Project for Vulnerability Mitigation Capability Building
	II-(a)- 2:	Climate Monitoring Strengthening and Observation Network System Establishment Project for Vulnerability Mitigation Capability Building
	II-(a)- 3:	Community Vulnerability Mitigation Capability Building Project
	II-(a)- 4:	Urgent Rehabilitation Project for Frequent Disaster Occurrence Roads
(b) Reforestation/ Environmental Conservation	II-(b)- 1:	Soil Conservation Measure Project
(c) Irrigation	I-(e)- 1:	Cuchoquesera Dam Emergency Discharge System Construction Project
	I-(e)- 2:	Ingalla Dam and Irrigation Canals Construction Project
	I-(e)- 3:	Expansion and Improvement Project of Secondary Canal in Tambillo No. 7 Irrigation Unit, Stage II in the Ex PERC Irrigation System
	I-(e)- 4:	New Construction and Expansion Irrigation Project
	I-(e)- 5:	Existing Irrigation Improvement and Rehabilitation Project
	I-(e)- 6:	Technical Irrigation Project
	I-(e)- 7:	Irrigation Basic Information and Database System Building Project

Source: JICA Study Team

The vulnerability mitigation program by region showing the relation between these development projects and the elevation-wise areas by province as shown in Table 12.2.4:

Table 12.2.4 Relation between Development Projects for Vulnerability Mitigation and Elevation-wise Areas by Province

Region	No.	Province	Elevation (m)	Vulnerability Measures				Reforestation/ Environment Conservation	Irrigation						
				II-(a)-1	II-(a)-2	II-(a)-3	II-(a)-4	II-(b)-1	I-(e)-1	I-(e)-2	I-(e)-3	I-(e)-4	I-(e)-5	I-(e)-6	I-(e)-7
All Provinces				◎	◎		◎								◎
Northern	1	Huanta	2000-4000			◎		◎				◎	◎	◎	
	2		<2000			○									
	3	La Mar	2000-4000			△		○				◎	○	○	
	4	Huamanga	2000-4000			◎		◎			◎	◎	◎	◎	
Central	5	Cangallo	≧4000			○						○			
	6		2000-4000			◎		○	◎	◎		◎	◎	◎	
	7	Vilcas Huaman	2000-4000			△		△				◎	○	○	
	8	Victor Fajardo	≧4000			○						△	△		
	9		2000-4000			◎		○				○	◎	○	
	10	Huanca Sancos	≧4000			△						△			
	11		2000-4000			△		△				◎	◎		
	12	Sucre	≧4000			○									
	13		2000-4000			◎		○				○	○	△	
Southern	14	Lucanas	≧4000			○							○		
	15		2000-4000			◎		◎				◎	◎	○	
	16	Parinacochas	≧4000			△									
	17		2000-4000			△		△				◎	◎	○	
	18	Paucar del Sara Sara	≧4000			○							○		
	19		2000-4000			◎		△				◎	◎	○	

Remarks : ◎（Contribution Large）、○（Contribution Medium）、△（Contribution Small）

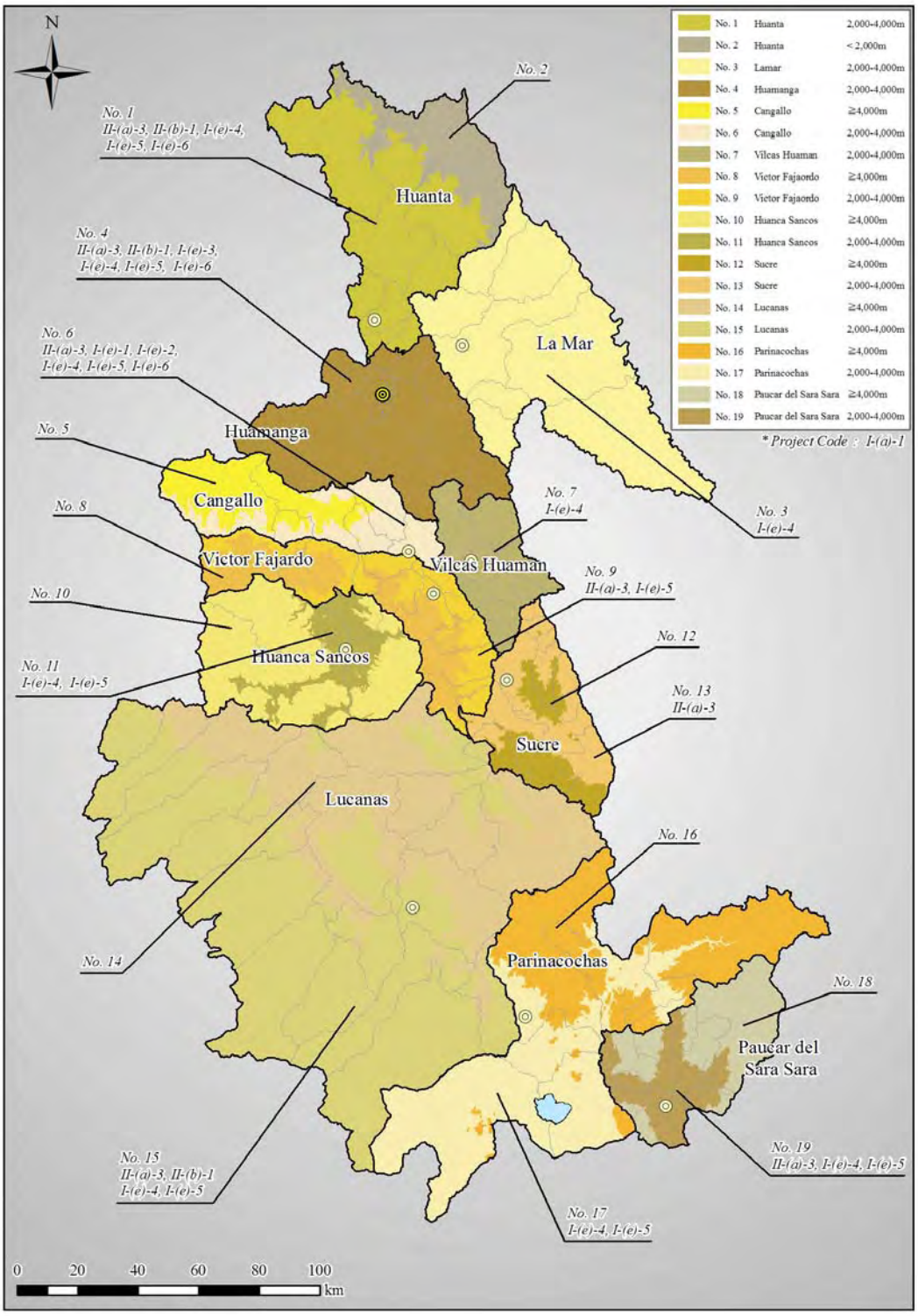
: List of Development Projects

II-(a)-1	*Basic Information Arrangement Project for Vulnerability Mitigation Capability Building*	I-(e)-2	*Ingalla Dam and Irrigation Canals Construction Project*
II-(a)-2	*Climate Monitoring Strengthening and Observation Network System Establishment Project for Vulnerability Mitigation Capability Building*	I-(e)-3	*Expansion and Improvement Project of Secondary Canal in Tambillo No. 7 Irrigation Unit, Stage II in the Ex PERC Irrigation System*
II-(a)-3	*Community Vulnerability Mitigation Capability Building Project*	I-(e)-4	*New Construction and Expansion Irrigation Project*
II-(a)-4	*Urgent Rehabilitation Project for Frequent Disaster Occurrence Roads*	I-(e)-5	*Existing Irrigation Improvement and Rehabilitation Project*
II-(b)-1	*Soil Conservation Measure Project*	I-(e)-6	*Technical Irrigation Project*
I-(e)-1	*Cuchoquesera Dam Emergency Discharge System Construction Project*	I-(e)-7	*Irrigation Basic Information and Database System Building Project*

Source: JICA Study Team

This table indicates the relevant projects necessary for the mitigation of vulnerability at the northern, central and southern regions in the Ayacucho Region. Generally, the vulnerability measures are needed for whole Ayacucho

Region, however the northern and the central near the northern regions require more the vulnerability measures. Figure 12.2.2 shows the elevation-wise vulnerability mitigation map by province which was prepared based on the results mentioned above.



Source: JICA Study Team

Figure 12.2.2 Elevation-wise Vulnerability Mitigation Map by Province

12.2.3 Implementation Schedule

(1) Basic Considerations

The implementation schedule was worked based on the following basic considerations:

- Application of the short term (2011-2014), medium term (2011-2017) and long term (2011-2020)
- Implementation order among sectors
- Efficient revelation of projects effect

In addition, it should be noted that consideration should be given to avoidance of regional disparities when the projects including lots of SNIP sub-projects are implemented.

(2) Preliminary Estimate of Total Project Cost

Based on the development investment budget preliminarily estimated in Section 11.2, the project cost was studied for the following 3 cases:

Case 1

This case targets the implementation of 1st development priority group in SNIP sub-projects. This case shows the total project cost of S/.516 million, including contingency amount (15% equivalent). The cost corresponds to 76% of development investment budget (S/.676 million) with annual growth rate of 3% in GDP, and 65% of development investment budget (S/.799 million) with annual growth rate of 6% in GDP. This case indicates still enough room for the budget

Case 2

This case includes the implementation of 1st and 2nd development priority groups in SNIP sub-projects. The total project cost was estimated at S/.1,109 million including contingency amount (15% equivalent). This cost largely exceeds the development investment budget (S/.799 million) with annual growth rate of 6, say 39% higher than the budget.

Case 3

This case targets the implementation of 1st development priority group in SNIP sub-projects for irrigation and road sectors, and the implementation of 1st and 2nd development priority groups in SNIP sub-projects for other sectors. The main reasons that only 1st development priority group in SNIP sub-projects for irrigation and road sectors is taken up, are the remarkably higher cost than other sectors, the larger number of sub-project than other sectors and the limited executing capacity of regional and local governments. In particular, consideration was also given to start of implementation of 7 sub-projects (6,134 ha in total) under the small and medium irrigation infrastructure development program in Ayacucho The total project cost for Case 3 was estimated at S/.665 million. This cost is almost the same with the development investment budget (S/.676 million) with annual growth rate of 3% and is equivalent to 83% of the development investment budget (S/.799 million) with annual growth rate of 6%.

With the study results mentioned above, it is proposed to apply Case 3 in the Study.

(3) Study on Commencement Time of Projects

On preparation of implementation schedule for 39 projects proposed in Section 11, these projects were studied for commencement time “among sectors” and “in sector”.

Study on Commencement Time among Sectors

- The projects for institutional building is planned to be started early since these are considered to be indispensable for project sustainability.
- The vulnerability measurements should be executed centering on the short term taking it into consideration that the vulnerability is serious problem to be urgently settled for the poor peasants.
- The projects for irrigation and road sectors should be commenced in early stage because these are related to the preparation of infrastructures for production.
- The agricultural production distribution projects should be started in early stage taking it into account that the farming/extension, livestock and inland fishery sectors aim at livelihood improvement by putting the point of view on market.
- The reforestation/environmental conservation except soil conservation related to vulnerability measures should be executed from the medium to long terms.

Study on Commencement Time in Sector

The projects proposed in each sector are indispensable for attaining at the objectives of Master Plan. However, it is difficult to concurrently start all these projects due to the limited budget and number of staff. To this end, these projects were prioritized in commencement from their characteristics as shown in the following table.

Table 12.2.5 Commencement Order of Each Project

Sector	Implementation Period	Commencement Order	Reasons
(I) Livelihood Improvement			
(a) Farming/Extension			
I-(a)-1: High Quality Seeds and Nursery Production Project	4	2	Existing crops like potato being cultivated in the whole region are targeted. The project is given high priority because of improvement of fundamental matter like seed.
I-(a)-2: Market Competitiveness Strengthening and Crop Diversification Promotion Project	6	3	The project aims at introduction of new varieties and crops. The target area is restricted. As compared wit the project strengthening the fundamental matters, it has a lower priority in commencement time.
I-(a)-3: New Crop Production Development Project	2	3	The project aims at development of new agricultural production. The target area is restricted. The project will make further improvement of livelihood, so that its priority is lower than that of the projects supporting the fundamental matters.
I-(a)-4: Agriculture Extension Service Strengthening Project	10	1	To make effective execution of the projects composing farming/ extension program, it is important to firstly improve the extension workers and extension service system. Thus, this project is given high priority. In the project, demonstration plot and exemplary good farmers group are established. These could be used for other projects, too.
(b) Livestock			
I-(b)-1: Milk Production Support Project	4	2	Dairy cows are many in number and widely bred in the region. Milk in the region is shortage, nevertheless the priority in commencement is medium because construction cost of cowshed is high and expansion of consumers requires long time due to access condition.
I-(b)-2: Beef Cattle Production Project	4	1	There are lots of beef cows in the region. Beef cows are the important income sources for farmers raising them. Thus, priority in commencement is high.
I-(b)-3: Alpaca Production Support Project	3	1	Many alpacas are bred in the region. Alpacas are the important income sources for farmers raising them, so that priority in commencement is high.

Sector	Implementation Period	Commencement Order	Reasons
I-(b)-4: Vicuña Management and Preservation Support Project	2	2	As the results of recent protection of Vicuña, its number has increased. The project, is, thus given lower priority in commencement than other projects.
I-(b)-5: Cuy Production Efficiency Improvement Project	3	2	The project target area is limited, thus the priority in commencement is lower than projects having wider target areas
I-(b)-6: Mutton and Wool Production Support Project	3	1	There are lots of sheep in the region. Sheep is the important income sources for farmers raising them. Thus, priority in commencement is high. In addition, sheep is apt to bring about the deterioration of pasture so that careful attention should be given to environmental conversation.
(c) Inland Fishery			
I-(c)-1: Inland Fishery Support Institution Capability Strengthening Project	5	1	The purpose of the project is to prepare the promotion plan of inland fishery and to strengthen the supporting system. Thus, in this sector, this project should be set out firstly.
I-(c)-2: Extension System Establishment Project for Small-scaled Aquaculture Production Organization	5	2	This project aims at formation and strengthening of aquaculture production system based on the promotion plan of inland fishery and establishment of extension system of aquaculture technology, therefore, its priority in commencement follows the Inland Fishery Support Institution Capability Strengthening Project
I-(c)-3: Small-scaled Aquaculture Pond Construction Project	5.5	3	This project should be started after foundation conditions are prepared by the said projects. Thus, priority in commencement of the project is the lowest among them.
(d) Reforestation/Environmental Conservation			
I-(d)-1: Reforestation Plan Preparation Project	5.5	1	This project aims at preparation of reforestation plan, capacity building of reforestation staff and dissemination of awareness and technology on reforestation to community. The reforestation plan is important for effectively and purposefully realizing the each reforestation project. In addition, this project will make the capability and awareness of reforestation staff and community improved and enable them to effectively execute each reforestation project. From these viewpoints, the project is given the highest priority in commencement.
I-(d)-2: Production Forestry Creation Project	4.5	2	This project aims to supply the firewood and supplement the income by agriculture and livestock which are major industries in the region. Its priority in commencement is not higher than the soil conservation project.
I-(d)-3: Agro-forestry Support Project	6	2	This project aims to protect agricultural land and pasture land from climate disaster, supply soils with nutrition and provide the farmers with additional income by introduction of commercial trees. The project is given higher priority in commencement to contribute to vulnerability mitigation for poor peasants as climate disaster measures, however this is a part of project effects. To this end, the priority is the almost same with the Production Forestry Creation Project.
(e) Irrigation			
I-(e)-1: Cuchoquesera Dam Emergency Discharge System Construction Project	2.5	1	Main purpose of the project is supply of water and electricity to the Ayacucho Region. The project is on-going now. As the parts of project still remain, these should be urgently executed.
I-(e)-2: Ingalla Dam and Irrigation Canals Construction Project	4.5	3	This project is located at the extremely poor area where the agriculture and livestock are prevailing. The project aims at double cropping of upland crops and pasture. The perfil has been already approved, but it is necessary to execute Pre-F/S and F/S.
I-(e)-3: Expansion and Improvement Project of Secondary Canal in Tambillo No. 7 Irrigation Unit, Stage II in the Ex PERC Irrigation System	4	2	This is the project with purpose of extension and rehabilitation of existing irrigation area. The project aims to increase the production and income by realizing efficient irrigation through introduction of technical irrigation system. Since the project is of extension and rehabilitation of existing irrigation area, the priority in commencement is judged to be medium.

Sector	Implementation Period	Commencement Order	Reasons
I-(e)-4: New Construction and Expansion Irrigation Project	10	1	The project consists of SNIP sub-projects. Most of them have been approved IN SNIP process, so that the project should be urgently started.
I-(e)-5: Existing Irrigation Improvement and Rehabilitation Project	10	1	The project consists of SNIP sub-projects. Most of them have been approved IN SNIP process, so that the project should be urgently started.
I-(e)-6: Technical Irrigation Project	10	1	The project consists of SNIP sub-projects. Most of them have been approved IN SNIP process, so that the project should be urgently started.
I-(e)-7: Irrigation Basic Information and Database System Building Project	2	1	The project aims to grasp the present conditions of irrigation projects by preparing database on basic information on them. The project is urgently necessary for planning the irrigation project. The project is thus given high priority in commencement.
(f) Road			
I-(f)-1: Road Infrastructure Development Project	10	1	The project is composed of SNIP sub-projects. More than 70% of SNIP sub-projects have been already approved, so that it is required to commence its implementation urgently.
I-(f)-2: Acos Vinchos District Main Road Improvement	2	1	The project is located near the Ayacucho, capital of region, and is so important for linking the production areas with market. Accordingly, priority in commencement is high.
I-(f)-3: Vilcanchos-Ccaruaccocco District Main Road Construction Project	3	2	The project is located near the Huamanga Province where the capital of region exists. Its priority in commencement follows that of Acos Vinchos District Main Road Improvement
I-(f)-4: Ayahuanco-Sntillana-Llochegua District Main Road Construction Project	4	3	The project is located in Huanta Province, and plays an important role of carrying the agricultural products at northern parts of Ayacucho Region. However, judging from the linkage with major markets, its priority in commencement is lower than that of Acos Vinchos District Main Road Improvement and Vilcanchos-Ccaruaccocco District Main Road Construction Project.
I-(f)-5: Community Roads Participatory O&M Promotion Project	2.5	1	Since this project is closely related to productivity activities of poor peasants, its priority in commencement is high.
I-(f)-6: Road Improvement and O&M Strengthening Project	3	1	The project aims to heighten the capability of operation and maintenance of relevant agencies. It is therefore considered that the project is required to start urgently from the viewpoint of sustainability of road projects.
(g) Agricultural Production Distribution/Agro-processing			
I-(g)-1: Market Distribution System Establishment Project for Agriculture Production	4	1	The project aims at establishment of agricultural production distribution system and will become a base for this sector. Its priority in commencement is thus high.
I-(g)-2: Distribution Infrastructure Construction Promotion Project	6	2	The project is required as the production at respective areas increases, however it should be implemented after the Market Distribution System Establishment Project for Agriculture Production becomes in full swing. Thus, its priority in commencement is medium.
I-(g)-3: Agro-processing Industry Promotion Project	6	3	This project is developed for medium and long terms, At present, the production of agriculture and livestock as materials is not much, so that its priority in commencement is low.
(h) Institutional Building			
I-(h)-1: Support Capability Strengthening Project for Production Organization by Local Government	4.5	1	This project aims at capacity building of producers organization, so that its priority in commencement is higher than other projects.
I-(h)-2: Promotion Capability Strengthening Project for Public Investment Works by Local Government	3	1	The purpose of this project is to make capacity building of local government, to promote the SNIP sub-projects. In Ayacucho Region, there are many SNIP sub-projects, so that it is necessary to promote the implementation of them. In this meaning, this project should be urgently executed.

Sector	Implementation Period	Commencement Order	Reasons
(II) Vulnerability Mitigation			
(a) Vulnerability Measures			
II-(a)-1: Basic Information Arrangement Project for Vulnerability Mitigation Capability Building	2	1	Ensuring of reliable information is precondition for effectively planning and implementing the vulnerability measurements. Thus, this project is given the highest priority in commencement.
II-(a)-2: Climate Monitoring Strengthening and Observation Network System Establishment Project for Vulnerability Mitigation Capability Building	2	2	This project aims to ensure the reliable information similarly to the Basic Information Arrangement Project for Vulnerability Mitigation Capability Building. However, it is necessary to execute the long term monitoring for effective climate analysis after provision of observation technology and facilities. Accordingly, its priority in commencement is not so high.
II-(a)-3: Community Vulnerability Mitigation Capability Building Project	2	2	This project should be implemented based on the results obtained from the Basic Information Arrangement Project for Vulnerability Mitigation Capability Building
II-(a)-4: Urgent Rehabilitation Project for Frequent Disaster Occurrence Roads	2	1	This project aims at urgent repairs for the existing roads where vulnerability disasters have already occurred. Hence, its priority in commencement is high.
(b) Soil Conservation			
II-(b)-1: Soil Conservation Measure Project	5	1	The purpose of the project is to conserve the production condition by preventing the soil erosion and improving the soil permeability. This project directly contributes to mitigation of vulnerability of poor peasants, so that its priority in commencement is high.

Source: JICA Study Team

Based on the study results mentioned above, the implementation schedule was elaborated as shown in Figure 12.2.3.

(3) Comparison of Total Project Cost by Year with Assumed Development Investment Budget

Based on the implementation schedule, the total project cost by year and the assumed development budget are compared for two cases of annual growth rate of GDP (3%) and annual growth rate of GDP (6%). The results are shown in the following table:

Table 12.2.6 Comparison of Total Project Cost by Year with Assumed Development Investment Budget

Year	Annual Growth Rate of GDP (3%) in S/. Million			Annual Growth Rate of GDP (6%) in S/. Million		
	Assumed Development Investment Budget	Total Project Cost by Year	Balance	Assumed Development Investment Budget	Total Project Cost by Year	Balance
2011	59	39	20	61	39	22
2012	61	61	0	64	61	3
2013	63	68	-5	68	68	0
2014	64	72	-8	72	72	0
2015	66	72	-6	77	72	5
2016	68	79	-11	81	79	2
2017	70	80	-10	86	80	6
2018	73	80	-7	91	80	11
2019	75	71	4	97	71	26
2020	77	43	34	102	43	59
Total	676	665	11	799	665	134

Source: JICA Study Team

Long Term (2011-2020)		Contribution to Mitigation of Vulnerability and Improvement of Livelihood																																		Preliminary Project Cost (S/.)
Medium Term (2011-2017)		Promotion to Mitigation of Vulnerability and Improvement of Livelihood and Establishment of Support System																																		
Short Term (2011-2014)		Execution of Preventive, Urgent, Rehabilitative measues and Strengthening of Support System																																		
Objective/Sector	Project Code	2011				2012				2013				2014				2015				2016				2017				2018				2019				2020				
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
(I) Livelihood Improvement																																										
(a) Farming/Extension	I-(a)-1																																									10,500,000
	I-(a)-2																																									33,200,000
	I-(a)-3																																									7,700,000
	I-(a)-4																																									4,000,000
(b) Livestock	I-(b)-1																																										7,400,000
	I-(b)-2																																										21,300,000
	I-(b)-3																																										4,200,000
	I-(b)-4																																										6,200,000
	I-(b)-5																																										2,900,000
	I-(b)-6																																										2,800,000
(c) Inland Fishery	I-(c)-1																																										2,500,000
	I-(c)-2																																										8,000,000
	I-(c)-3																																										19,500,000
(d) Reforestaion/ Environmental Conservation	I-(d)-1																																									15,800,000
	I-(d)-2																																									6,900,000
	I-(d)-3																																									19,600,000
(e) Irrigation	I-(e)-1																																									8,300,000
	I-(e)-2																																									15,700,000
	I-(e)-3																																									12,800,000
	I-(e)-4																																									45,300,000
	I-(e)-5																																									20,800,000
	I-(e)-6																																									31,900,000
	I-(e)-7																																									500,000
(f) Road	I-(f)-1																																										111,600,000
	I-(f)-2																																										6,400,000
	I-(f)-3																																										7,400,000
	I-(f)-4																																										20,300,000
	I-(f)-5																																										300,000
	I-(f)-6																																										6,800,000
(g) Agriculture Production Distribution/Agro-processing	I-(g)-1																																										21,800,000
	I-(g)-2																																										16,400,000
	I-(g)-3																																										12,800,000
(h) Institutional Building	I-(h)-1																																											13,100,000
	I-(h)-2																																											10,600,000
(II) Vulnerability Mitigation																																											
(a) Vulnerability Measures	II-(a)-1																																										3,000,000
	II-(a)-2																																										4,000,000
	II-(a)-3																																										5,600,000
	II-(a)-4																																										4,000,000
(b) Reforestaion/ Environment Conservation	II-(b)-1																																										26,500,000
Sub-total																																											578,400,000
Contingency (Approximately 15%)																																												86,600,000
Total																																												665,000,000

Source: JICA Study Team

Remakrs

I-(a)-1 *High Quality Seeds and Nursery Production Project*
I-(a)-2 *Market Competitiveness Strengthening and Crop Diversification Promotion Proje*
I-(a)-3 *New Crop Production Development Project*
I-(a)-4 *Agriculture Extension Service Strengthening Project*
I-(b)-1 *Milk Production Support Project*
I-(b)-2 *Beef Cattle Production Project*
I-(b)-3 *Alpaca Production Support Project*
I-(b)-4 *Vicuña Management and Protection Support Project*
I-(b)-5 *Cuy Production Efficiency Improvement Project*
I-(b)-6 *Mutton and Wool Production Support Project*
I-(c)-1 *Inland Fishery Support Institution Capability Strengthening Project*
I-(c)-2 *Extension System Establishment Project for Small-scaled Aquaculture Production Organization*
I-(c)-3 *Small-scaled Aquaculture Pond Construction Project*
I-(d)-1 *Reforestation Plan Preparation Project*
I-(d)-2 *Production Forestry Creation Project*
I-(d)-3 *Agroforestry Support Project*
I-(e)-1 *Cuchoquesera Dam Emergency Discharge System Construction Project*
I-(e)-2 *Ingalla Dam and Irrigation Canals Construction Project*
I-(e)-3 Expansion and Improvement Project of Secondary Canal in Tambillo No. 7 Irrigation Unit, Stage II in the Ex PERC Irrigation System
I-(e)-4 *New Construction and Expansion Irrigation Project*
I-(e)-5 *Existing Irrigation Improvement and Rehabilitation Project*
I-(e)-6 *Technical Irrigation Project*
I-(e)-7 *Irrigation Basic Information and Database System Building Project*
I-(f)-1 *Road Infrastructure Development Project*
I-(f)-2 *AcosvinchosDistrict Main Road Improvement*
I-(f)-3 *Vilcanchos-Ccaruaccocco District Main Road Construction Project*
I-(f)-4 *Ayahuanco-Sntillana-Llochegua District Main Road Construction Project*
I-(f)-5 *Community Roads Participatory O&M Promotion Project*
I-(f)-6 *Road Improvement and O&M Strengthening Project*
I-(g)-1 *Market Distribution System Establishment Project for Agriculture*
I-(g)-2 *Distribution Infrastructure Construction Promotion Project*
I-(g)-3 *Agro-processing Industry Promotion Project*
I-(h)-1 *Support Capability Strengthening Project for Production Organization by Local Government*
I-(h)-2 *Promotion Capability Strengthening Project for Public Investment Works by Local Government*
II-(a)-1 *Basic Information Arrangement Project for Vulnerability Mitigation Capability Building*
II-(a)-2 *Climate Monitoring Strengthening and Observation Network System Establishment Project for Vulnerability Mitigation Capability Building*
II-(a)-3 *Community Vulnerability Mitigation Capability Building Project*
II-(a)-4 *Urgent Rehabilitation Project for Frequent Disaster Occurrence Roads*
II-(b)-1 *Soil Conservation Measure Project*

Figure 12.2.3 Implementation Schedule

12.3 Preparation of Project Sheet

In Chapter 11, many development projects were proposed from respective relevant sectors, in order to attain the "contribution to mitigation of vulnerability and improvement of livelihood of poor peasants considering the regional characteristics", which was the target in the Study. The project sheet for these projects was prepared so as to understand the contents of them (Attachment-7). The project sheet contains the project name, implementation period, beneficiaries/object area, executing agency, background/contents, structure for execution, superordinate goal, objective, results/benefits, activities, outputs, inputs, remarks and so on.

12.4 TOR for Pre-investment Study for Public Investment (Infrastructure)

12.4.1 Irrigation

Out of 7 projects proposed in the irrigation sector, the following 3 projects require the Pre-F/S according to the SNIP regulations in case that the investment cost exceeds S/. 6 million. The TORs for their pre-investment study are described hereunder.

(1) Cuchoquesera Dam Emergency Discharge System Construction Project

Table 12.4.1 TOR for Pre-investment Study for Cuchoquesera Dam Emergency Discharge System Construction Project

Item	Contents
Present Condition	- Data collection and verification on meteoro-hydrology and hydrological basins - Analyses on probable inflow to Cuchoquesera dam - Social conditions of the project area (social system, administrative institutions, population, family numbers, age distribution, education, infrastructure, household economy, poverty, marketing of agricultural and livestock products, prices, etc.) - Irrigation condition (Area, production, cropping patters, etc.) - Present condition of power generation and water supply
Justification with the Framework of Cachi River Special Project	- Confirmation on the present status of Cachi River Special Project and future program
Risk Analyses	- Risk analyses other than flood on earthquake, infiltration inside the dam body, dam body settlement, slope erosion, human error, terrorism, etc. - Calculation of probable flood inflow to the dam based on the past flood records - Estimate of direct and indirect damages in case of no construction of emergency discharge system - Estimate of damages to agriculture sector, and other social damages to power generation, water supply, and other infrastructures
Examination on Structural Dimensions of Emergency Discharge Works	- Simulation on storage volume and water level based on water requirement and inflow volume, verification of the discharge capacity designed at 32 m^3/sec in the previous study considering the designed flood - Determination of the dimensions of related structures such as chute and tunnel
Operation and Maintenance of Emergency Discharge Structure	- Confirmation on warning and information transfer system in case of flood - Proposal for operation manual of the emergency discharge system and alerting system for the lower basins - Proposal for organization and institution for the operation and maintenance of the emergency discharge system
Project Cost	- Estimate of construction costs of the emergency discharge works for each probable design flood - Estimate of operation and maintenance cost of the system - Estimate of project implementation cost - Study on finance source
Environmental and Social Considerations	- Study on environmental and social considerations for the construction of emergency discharge works - Study on impact of emergency discharge works on ecological system in the downstream
Project Effect Analyses	- Project effect analyses on with and without project - Investment-effect analyses (*IRR*), sensitivity analyses - Formulation of project implementation program - Preparation of logical framework (*PDM = Project Design Matrix*) - Preparation of baseline survey, monitoring and evaluation program

Source: JICA Study Team

(2) Ingalla Dam and Irrigation Canals Construction Project

Table 12.4.2 TOR for Pre-investment Study for Ingalla Dam and Irrigation Canals Construction Project

Item	Contents
Present Condition	- Natural conditions (meteorology, hydrology, topography, geology, soil mechanics, pedology, etc.) - Social conditions of the project area (social system, administrative institutions, population, family numbers, age distribution, education, infrastructure, household economy, poverty, marketing of agricultural and livestock products, prices, etc.) - Agriculture and livestock activities (cropping area, cropping pattern, number of livestock, land use potential, production, self consumption, marketing, etc.)
Irrigation Development	- Confirmation on demands of the farmers on irrigation (workshop, questionnaire, etc.) - Investigation on available water sources and their quantity - Proposal of cropping patterns under efficient irrigation, and estimate of water requirement including that for livestock - Estimate of possible irrigation development area based on the rainfall, available water, cropping and livestock schedule - Study on necessary facilities for water intake, distribution and drainage - Study on marketing system for agricultural production
Drainage	- Present drainage condition - Study on unit drainage requirement - Study on necessary facilities for drainage
Institutional Reinforcement/ Capacity Development	- Proposal on farmers' organization and O&M system for efficient and sustainable irrigation
Environmental and Social Consideration	- Study on possible impacts for ecological system and social environment by construction of Ingalla dam - Study on social and environmental impacts by construction of irrigation facilities and irrigation practice, and proposal for their mitigation
Project Effect Analyses	- Project cost estimate for irrigation and drainage structures, and benefit and economic analyses (IRR, sensibility analyses) - Analyses on social impact by the introduction of irrigation system - Study on finance source - Formulation of project implementation program - Preparation of logical framework (*PDM = Project Design Matrix*) - Preparation of baseline survey, monitoring and evaluation program

Source: JICA Study Team

(3) Expansion and Improvement Project of Secondary Canal in Tambillo No. 7 Irrigation Unit, Stage II in the Ex PERC Irrigation System (SNIP No. 87235)

Table 12.4.3 TOR for Pre-investment Study for Expansion and Improvement Project of Secondary Canal in Tambillo No. 7 Irrigation Unit, Stage II in the Ex PERC Irrigation System

Item	Contents
Present Condition	- Natural conditions (meteorology, hydrology, topography, geology, soil mechanics, pedology, etc.) - Social conditions of the project area (social system, administrative institutions, population, family numbers, age distribution, education, infrastructure, household economy, poverty, marketing of agricultural and livestock products, prices, etc.) - Agriculture and livestock activities (cropping area, cropping pattern, number of livestock, land use potential, production, self consumption, marketing, etc.)
Irrigation Development	- Confirmation on demands of the farmers on irrigation (workshop, questionnaire, etc.) - Investigation on available water sources and their quantity - Proposal of cropping patterns under efficient irrigation, and estimate of water requirement including that for livestock - Estimate of possible irrigation development area based on the rainfall, available water, cropping and livestock schedule - Study on necessary facilities for water intake, distribution and drainage - Study on marketing system for agricultural production - Verification of the project in the whole Cachi river special project

Item	Contents
Drainage	- Present drainage condition - Study on unit drainage requirement - Study on necessary facilities for drainage
Institutional Reinforcement/Capacity Development	- Proposal on farmers' organization and O&M system for efficient and sustainable irrigation
Environmental and Social Consideration	- Study on possible impacts for ecological system and social environment by the construction of Ingalla dam - Study on social and environmental impacts by construction of irrigation facilities and irrigation practice, and proposal for their mitigation
Project Effect Analyses	- Project cost estimate for irrigation and drainage structures, and benefit and economic analyses (IRR, sensibility analyses) - Analyses on social impact by the introduction of irrigation system - Study on finance source - Formulation of project implementation program - Preparation of logical framework (*PDM = Project Design Matrix*) - Preparation of baseline survey, monitoring and evaluation program

Source: JICA Study Team

12.4.2 Road

Six development projects were proposed as road development program in road sector. Most of them were selected from SNIP subprojects, and then the priority subprojects were mostly approved. However, some subprojects are required to execute the Pre-F/S and/or F/S. Out of these 6 projects, "Road Infrastructure Development Project", "Acos Vinchos District Main Road Improvement", "Community Roads Participatory O&M Promotion Project" and "Road Improvement and O&M Strengthening Project" have been already approved and/or do not require Pre-F/S or F/S due to non-infrastructure project. Thus, TOR for pre-investment study is prepared for the following 2 projects:

(1) Vilcanchos-Ccaruaccocco District Main Road Construction Project

The Pre-F/S for this project has been once submitted, but has been returned with some comments. TOR for modification is prepared as follows:

Table 12.4.4 TOR for Pre-investment Study for Vilcanchos-Ccaruaccocco District Main Road Construction Project

Item	Contents
Background	There are problems on road infrastructures among communities of Ccarhuaccocco、Urancancha、Antacocha and Miraflores, which bring about inconvenience in movement of community people and cargoes
Objective	- Modification of Pre-investment Study at Pre-F/S level as for construction of community road among Ccarhuaccocco-Urancancha-Antacocha-Miraflores, - Execution of EIA required due to SNIP regulations
Relevant Plans	- Consideration of consistency with development plans of road sector at region and local governments and Public Investment multi-year program - Introduction of information required for planning.
Analysis on Present Conditions	- Analysis of before and present condition of road related to the following: - Present standard indexes qualitative and quantitative, and past changes and their causes - Analysis on beneficiaries - Condition of beneficial area - Analysis on danger and vulnerability caused by natural phenomenon
Confirmation of Problems	- Grasping of details of key problems - Analysis on causes of problems from qualitative and quantitative viewpoints
Analysis of Demand	- Clarification of present demand by indicating the decisive primary factors - Survey on traffic condition on passengers and cargoes - Clarification of impact extent of project and beneficiaries - Forecast of use condition and demand on main road during planed period

Item	Contents
Analysis of Road Service	- Clarification of limitation of road services by grasping present road infrastructure condition - Clarification of constraints interfering the appropriate services by studying major limitation factors on road services - Execution of comparative analysis on present condition in line with the country regulations - Supposition of good conditions under "without-project" considering the major factors controlling profitability - Planning of the most suitable service by assuming the utilization condition in project life
Comparison of Road Service with Demand	- Forecast of people who could not enjoy the appropriate service and demand (non-beneficial) at present and in future
Study on Alternative Plan from Technical Viewpoint	- Preparation of alternative plan to the present original plan to attain the project objective - Clarification of major items such as construction section, construction method, scale, construction period, project life, and so on. - Recommendation of mitigation measure of damage/harm anticipated by disasters which may occur in project life - Establishment of target - Indication of quantity of facilities and consultants to be assigned for project implementation
Cost Estimate	- Execution of cost estimate for every alternative plans - Estimate of unit prices and quantity - Estimate of O&M cost under "without project" based on present condition - Calculation of incremental cost for "without project" conditions for respective alternative plans
Benefit Estimate	- Execution of benefit estimate for respective alternative plans based on the results of analysis on demand and supply - Estimate of benefit accrued from the most optimum investment thinkable at present - Calculation of difference between implementation and non-implementation of project
Economic Evaluation	- Clarification of results of economic analysis for respective alternative plans using the following methods: a) Benefit to cost: Net Present Value (*NPV*) and Internal Rate of Return (*IRR*) b) Cost performance
Sensitivity Analysis	- Clarification of influence by change of benefit and cost - Analysis of direction of profitability by studying variation extent of factors being concerned in change of benefit and cost - Clarification of variation extent which the social profitability of project is not detracted
Analysis on possibility of self-future growth	- Clarification of conditions to ensure benefit assumed in project life
Environmental Impact	- Confirmation, analysis and evaluation of positive and negative environmental impacts by project implementation - Recommendation of avoidance measure against negative impact - Involvement of environmental measure cost in cost of respective project alternative plans - Discussion with DIDASA of MTC about scope of measures
Study on Alternative Plans	- Selection of final plan from alternative ones based on the results of social evaluation・sensitivity analysis and possibility of self-future growth - Presentation of selected plan and of realization of planed structures and services in the determined optimum site, construction method and scale
Logical Framework	- Presentation of final logical framework for the selected alternative plan (relative indexes to be considered for monitoring and post-evaluation, and present and future values)
Human Inputs	Team Leader, Specialist of Road Infrastructure (more than 15 years experience in road plan/design), Soil mechanics and Pavement Specialist, Structure Engineer, Environmental Expert, Project Evaluation Expert

Source : Minimum Contents necessary for Pre-F/S(MEF, February 2009)

(2) Ayahuanco-Sntillana-Llochegua District Main Road Construction Project

The perfil of the project was already approved. The project requires the F/S from its investment amount, so that the Pre-F/S and F/S are needed. The following table mentions TOR for F/S:

Table 12.4.5 TOR for Pre-investment Study for Ayahuanco-Sntillana-Llochegua District Main Road Construction Project

Item	Contents
Background	The objective area has difficulty in transportation of products of agriculture, livestock and forestry to local markets. As communities straggle, transportation infrastructures are not well prepared.
Objective	- Execution of Pre-investment study at Pre-F/S and F/S levels for construction of main road among Callqui - Caraymayo - Choromina - Llamanniyocc - Viscatán - Pampa Aurora - Execution of EIA required from project scale
Relevant Plans	- Consideration of consistency with development plans of road sector at region and local governments and Public Investment multi-year program - Introduction of information required for planning.

Item	Contents
Analysis on Present Conditions	- Analysis of before and present condition of road related to the following: - Present standard indexes qualitative and quantitative, and past changes and their causes - Analysis on beneficiaries - Condition of beneficial area - Analysis on danger and vulnerability caused by natural phenomenon
Confirmation of Problems	- Grasping of details of key problems - Analysis on causes of problems from qualitative and quantitative viewpoints (Execution at Pre-F/S stage)
Analysis of Demand	- Clarification of present demand by indicating the decisive primary factors - Survey on traffic condition on passengers and cargoes - Clarification of impact extent of project and beneficiaries - Forecast of use condition and demand on main road during planed period
Analysis of Road Service	- Clarification of limitation of road services by grasping present road infrastructure condition - Clarification of constraints interfering the appropriate services by studying major limitation factors on road services - Execution of comparative analysis on present condition in line with the country regulations - Supposition of good conditions under "without-project" considering the major factors controlling profitability - Planning of the most suitable service by assuming the utilization condition in project life
Comparison of Road Service with Demand	- Forecast of people who could not enjoy the appropriate service and demand (non-beneficial) at present and in future
Study on Alternative Plan from Technical Viewpoint	- Preparation of alternative plan to the present original plan to attain the project objective - Clarification of major items such as construction section, construction method, scale, construction period, project life, and so on. - Recommendation of mitigation measure of damage/harm anticipated by disasters which may occur in project life - Establishment of target - Indication of quantity of consultant, structures, facilities and experts to be assigned for project implementation (Study of alternative plans selected for F/S)
Cost Estimate	- Execution of cost estimate for every alternative plans - Estimate of unit prices and quantity - Estimate of O&M cost under "without project" based on present condition - Calculation of incremental cost for "without project" conditions for respective alternative plans
Benefit Estimate	- Execution of benefit estimate for respective alternative plans based on the results of analysis on demand and supply - Estimate of benefit accrued from the most optimum investment thinkable at present - Calculation of difference between implementation and non-implementation of project
Economic Evaluation	- Clarification of results of economic analysis for respective alternative plans using the following methods: a) Benefit to cost: Net Present Value (*NPV*) and Internal Rate of Return (*IRR*) b) Cost performance
Study on Participation of Private Company	- Execution of cost・benefit analysis from viewpoint of private company. - Study on possibility of participation of private sector on construction and O&M of facilities (no need for Pre-F/S)
Risk Analysis	- Analysis on benefits accrued: social present value and private present value (no need for Pre-F/S)
Sensitivity Analysis	- Clarification of influence by change of benefit and cost - Analysis of direction of profitability by studying variation extent of factors being concerned in change of benefit and cost - Clarification of variation extent which the social profitability of project is not detracted
Analysis on possibility of self-future growth	- Clarification of conditions to ensure benefit assumed in project life
Environmental Impact	- Confirmation, analysis and evaluation of positive and negative environmental impacts by project implementation - Recommendation of avoidance measure against negative impact - Involvement of environmental measure cost in cost of respective project alternative plans - Discussion with DIDASA of MTC about scope of measures
Study on Alternative Plans	- Selection of final plan from alternative ones based on the results of social evaluation・sensitivity analysis and possibility of self-future growth - Presentation of selected plan and of realization of planed structures and services in the determined optimum site, construction method and scale (no need for Pre/F/S)
Organization and Management	- Recommendation of the most suitable implementation organization for each component
Implementation Plan	- Preparation of implementation plan for project
Financial Source	- Preparation of financial plan at investment and management stages

Item	Contents
Logical Framework	- Presentation of final logical framework for the selected alternative plan (relative indexes to be considered for monitoring and post-evaluation, and present and future values)
Baseline	- Preparation of implementation plan, cost estimate, indexes and method for baseline survey
Human Inputs	Team Leader, Specialist of Road Infrastructure (more than 15 years experience in road plan/design), Soil mechanics and Pavement Specialist, Structure Engineer, Environmental Expert, Project Evaluation Expert

Source: Minimum Contents necessary for Pre-F/S (MEF, February 2009)

12.4.3 Infrastructure for Distribution

The Distribution Infrastructure Construction Promotion Project was proposed as base of preparation of distribution infrastructure in Ayacucho Region. The project aims at improvement of opportunity of social participation by poor peasants through execution of model project toward establishment of market distribution system in Ayacucho Region. To this end, it is necessary to provide the public funds for execution of some pilot projects. In Peru, it is essential to take a process regulated in SNIP in case of use of public fund. In this project, the required documents should be prepared for the approval taking into consideration the SNIP regulation. TOR for Pre-investment study for the project is as follows:

Table 12.4.6 TOR for Pre-investment Study for Distribution Infrastructure Construction Promotion Project

Item	Contents
Forecast of Production and Distribution Quantity	- Study on Potential Crops - Forecast of production and distribution quantity of potential crops by producing areas - Preparation of development scenario - Forecast of demand to model projects based on development scenario
Classification of objective areas and Problem Analysis	- Classification of producing areas of respective potential crops - Grasping of problems of classified areas - Presentation of alternative plans for improvement of distribution of respective potential crops - Analysis on superiority of respective potential crops - Execution of workshop for respective potential crops
Setting of Approach by Item	- Presentation of concrete alternative plan on improvement of distribution of respective potential crops - Preliminary cost estimate toward implementation of alterative plan - Analysis on economic appropriateness for execution of Alternative plan (demand analysis)
Establishment of Model Projects by Item	- Selection of pilot project areas - Determination of contents of pilot projects - Study on executing organization of pilot projects
Preparation of Implementation Plan of Model Projects	- Preparation of contents of pilot projects - Determination of cost of pilot projects - Study on executing organization - Determination of method of farmers participation
Project Evaluation	- Determination of benefits accrued from pilot projects - Analysis on possibility of private company participation - Risk analysis - Sustainability Analysis
Environmental Assessment	- Environmental Survey on respective pilot projects
Project Plan	- Preparation of financial plan - Preparation of project logical framework - Setting of baseline for impact assessment

Source: JICA Study Team

12.5 Study on Appropriateness of Master Plan

(1) Soundness of Investment Amount fir Master Plan

In order to assess the appropriateness of investment amount in the Master Plan, a comparison was made for the investment amount for the Master Plan and the development investment budget estimated in Chapter 11. The total investment amount for the Master Plan is summarized in Table 12.5.1.

Table 12.5.1 Total Investment Amount for Master Plan

Development Program under Sector	Investment Amount (S/.1,000)	%
Farming/Extension	55,400	10
Livestock	44,800	8
Inland Fishery	30,000	5
Reforestation/Environmental Conservation	42,300	7
Irrigation	135,300	23
Road	152,800	26
Agriculture Production Distribution/ Agro-processing	51,000	9
Vulnerability Measurements	43,100	8
Institutional Building	23,700	4
Sub-total	578,400	100
Contingency (Approx. 15% of sub-total)	86,600	
Total	665,000	

Source: JICA Study Team

The total investment amount of S/. 665 million for the Master Plan is equivalent to 80% - 83% of development investment budget of S/.799 - 830 million which is applicable for 10 years from 2011 - 2020 as discussed in Chapter 11. The digestibility of investment budget (76% - 92%) in the past 4 years in Ayacucho Region is at higher level as compared with other regions. If this situation is considered, the total investment amount of S/. 665 million for the Master Plan can be judged to be appropriate. In order to effectively implement these development programs, it is sure to further make capacity building of required staff. It is therefore important to set out this capacity building in 2011.

Out of total investment amount S/. 578 million excluding contingency, its 23% is occupied by irrigation development program and 26% by road development program, so that 49% is occupied by these 2 development programs. The population in Ayacucho Region is concentrated in urban area, while the agriculture production, which is major product, is made in rural area. For the agriculture production in Ayacucho Region it is indispensable to ensure water due to less and unstable rainfall. From these, the preparation of road and irrigation infrastructures is a prior condition for "improving the livelihood by linking the agriculture products with market". In addition, the preparation of road and irrigation infrastructures is closely related to the measures of vulnerability mitigation. With these viewpoints, it is judged that the high occupation rate of irrigation and roads development programs in investment amount is appropriate.

(2) Appropriateness of Investment Amount of Projects Composing of Each Program

In order to analyze the appropriateness of respective projects composing of program, a comparison was made for the investment amount per capita of the proposed projects and SNIP on-going and completed subprojects. The results are shown in Table 12.5.2. These investment amounts are converted at the constant price at end of 2009.

Table 12.5.2 Investment Amount per Capita and Beneficial Number of Project

Project	Investment Amount (S/.1,000)	Beneficial Number	Investment Amount Per Capita (S/.)	Minimum-Maximum Investment Amount of SNIP On-going & Completed Subprojects (S/.)
Farming/Extension				
I-(a)-1: High Quality Seeds and Nursery Production Project	10,500	13,600	772	63-9,258
I-(a)-2: Market Competitiveness Strengthening and Crop Diversification Promotion Project	33,200	77,800	427	63-9,258

Project	Investment Amount (S/.1,000)	Beneficial Number	Investment Amount Per Capita (S/.)	Minimum-Maximum Investment Amount of SNIP On-going & Completed Subprojects (S/.)
I-(a)-3: New Crop Production Development Project	7,700	13,200	583	63-9,258
I-(a)-4: Agriculture Extension Service Strengthening Project	4,000	44,000	91	63-9,258
Sub-total	55,400	148,600	372	63-9,258
Livestock				
I-(b)-1: Milk Production Support Project	7,400	45,300	163	19-1,111
I-(b)-2: Beef Cattle Production Project	21,300	49,000	435	19-1,111
I-(b)-3: Alpaca Production Support Project	4,200	6,500	646	19-1,111
I-(b)-4: Vicuña Management and Protection Support Project	6,200	4,900	1,265	19-1,111
I-(b)-5: Cuy Production Efficiency Improvement Project	2,900	21,400	136	19-1,111
I-(b)-6: Mutton and Wool Production Support Project	2,800	4,100	683	19-1,111
Sub-total	44,800	131,200	341	19-1,111
Inland Fishery				
I-(c)-1: Inland Fishery Support Institution Capability Strengthening Project	2,500	106,400	23	113-479
I-(c)-2: Extension System Establishment Project for Small-scaled Aquaculture Production Organization	8,000	106,400	75	113-479
I-(c)-3: Small-scaled Aquaculture Pond Construction Project	19,500	180,700	108	113-479
Sub-total	30,000	393,700	76	113-479
Sub-total (except planning・capacity development projects)	19,500	180,700	108	113-479
Reforestation/Environmental Conservation				
I-(d)-1: Reforestation Plan Preparation Project	15,800	361,200	44	2-11,059
I-(d)-2: Production Forestry Creation Project	6,900	7,500	920	2-11,059
I-(d)-3: Agroforestry Support Project	19,600	64,500	304	2-11,059
Sub-total	42,300	433,200	98	2-11,059
Irrigation				
I-(e)-1: Cuchoquesera Dam Emergency Discharge System Construction Project	8,300	51,100	162	39-12,206
I-(e)-2: Ingalla Dam and Irrigation Canals Construction Project	15,700	1,100	14,274	39-12,206
I-(e)-3: Expansion and Improvement Project of Secondary Canal in Tambillo No. 7 Irrigation Unit, Stage II in the Ex PERC Irrigation System	12,800	2,700	4,740	39-12,206
I-(e)-4: New Construction and Expansion Irrigation Project	45,300	46,800	967	39-12,206
I-(e)-5: Existing Irrigation Improvement and Rehabilitation Project	20,800	31,100	668	39-12,206
I-(e)-6: Technical Irrigation Project	31,900	21,700	1,470	39-12,206
I-(e)-7: Irrigation Basic Information and Database System Building Project	500	329,500	2	39-12,206
Sub-total	135,300	484,000	280	39-12,206
Sub-total (except planning project)	134,800	154,500	872	39-12,206
Road				
I-(f)-1: Road Infrastructure Development Project				
New construction and renewal	79,700	557,900	143	3-14,191
Rehabilitation	25,000	125,900	199	3-14,191
Bridge and Related Structures	6,900	34,600	199	3-14,191
I-(f)-2: Acos Vinchos District Main Road Improvement	6,400	7,300	877	3-14,191

Project	Investment Amount (S/.1,000)	Beneficial Number	Investment Amount Per Capita (S/.)	Minimum-Maximum Investment Amount of SNIP On-going & Completed Subprojects (S/.)
I-(f)-3: Vilcanchos-Ccaruaccocco District Main Road Construction Project	7,400	2,200	3,364	3-14,191
I-(f)-4: Ayahuanco-Sntillana-Llochegua District Main Road Construction Project	20,300	9,900	2,051	3-14,191
I-(f)-5: Community Roads Participatory O&M Promotion Project	300	21,600	14	3-14,191
I-(f)-6: Road Improvement and O&M Strengthening Project	6,800	5,400	1,259	3-14,191
Sub-total	152,800	764,800	200	3-14,191
Sub-total (except planning・capacity development projects)	145,700	737,800	197	4-14,191
Agriculture Production Distribution /Agro-processing				
I-(g)-1: Market Distribution System Establishment Project for Agriculture Production	21,800	99,600	219	63-9,258
I-(g)-2: Distribution Infrastructure Construction Promotion Project	16,400	32,600	505	63-9,258
I-(g)-3: Agro-processing Industry Promotion Project	12,800	24,500	522	63-9,258
Sub-total	51,000	156,600	326	63-9,258

Source: JICA Study Team

As shown in the above table, the investment amounts per capita for respective development programs are low as a whole, and be within the minimum-maximum investment amounts per capita of SNIP on-going and completed subprojects, so that these are judged to be appropriate.

The investment amount per capita of "Vicuña Management and Protection Support Project" of livestock development program and "Ingalla Dam and Irrigation Canals Construction Project" of irrigation development program are beyond that of SNIP on-going and completed subprojects. However, the exceeded rate of the investment amount per capita is less than 17%, so that it is judged to be financially reasonable.

(3) Effectiveness of Projects Composing of Respective Development Programs to Priority Development Subjects

In order to effectively attain at the mitigation of vulnerability and the improvement of livelihood in Ayacucho Region, 3 priority development fields of "Mitigation of Vulnerability of Poor Peasants", "Improvement of Livelihood of Poor Peasants" and "Capacity Development of Local Organizations" and the plural priority development subjects belonging to each of them were determined. Lots of projects proposed in the Master Plan were evaluated by 3 levels to contribution to these development subjects. As shown in Table 12.5.3, each project contributes to 2 to 3 priority development subjects and the Master Plan totally contributes to whole priority development subjects. As mentioned previously, it is essential to apply the comprehensive approach on information arrangement, preparation of infrastructures, institutional strengthening and technical strengthening, to attain at the poverty reduction of rural area in Ayacucho Region. The effective support could be realized by heightening the reciprocal action through well-balanced execution of these activities.

Table 12.5.3 Effectiveness of Each Project to Priority Development Subjects

Sector/Project	Priority Development Fields and Priority Development Subjects												
	Mitigation of Vulnerability of Poor Peasants				Improvement of Livelihood of Poor Peasants				Capacity Development of Local Organizations				
	Countermeasures to cold-weather damage	Countermeasures to drought-weather damage	Tackling of weather change	Reinforcement and O&M of roads	Strengthening of production technology	Strengthening of distribution of agricultural products	Conservation of Production Resources	Strengthening of Fund Procurement	Capacity development of regional government	Capacity development of local government	Strengthening of coordination among local governments	Capacity development of community organization	Strengthening of Agricultural extension service system
(a) Vulnerability Measures													
II-(a)-1:Basic Information Arrangement Project for Vulnerability Mitigation Capability Building	◎	◎	◎		△				○	△	△		
II-(a)-2:Climate Monitoring Strengthening and Observation Network System Establishment Project for Vulnerability Mitigation Capability Building	◎	◎	◎		△				○	△			
II-(a)-3:Community Vulnerability Mitigation Capability Building Project	◎	◎	◎		△							○	△
II-(a)-4:Urgent Rehabilitation Project for Frequent Disaster Occurrence Roads				◎		○			○	○	△		
(b) Farming/Extension													
I-(a)-1:High Quality Seeds and Nursery Production Project	○	○	○		◎		○		◎	◎			△
I-(a)-2:Market Competitiveness Strengthening and Crop Diversification Promotion Project	○	○	○		◎	○		○	○	○		△	△
I-(a)-3:New Crop Production Development Project	○	○	○		◎			○	○	○		△	△
I-(a)-4:Agriculture Extension Service Strengthening Project	○	○	○		◎		○	○	○	○		△	△
(c) Livestock													
I-(b)-1:Milk Production Support Project					◎			○	○	○		○	△
I-(b)-2:Beef Cattle Production Project					◎			○	○	○		○	△
I-(b)-3:Alpaca Production Support Project					◎		○	○	○	○		○	△
I-(b)-4:Vicuña Management and Protection Support Project							◎		○	○		○	△
I-(b)-5:Cuy Production Efficiency Improvement Project					◎			○	○	○		○	△
I-(b)-6:Mutton and Wool Production Support Project					◎			○	○	○		○	△
(d) Inland Fishery													
I-(c)-1:Inland Fishery Support Institution Capability Strengthening Project					○				◎	◎	△	○	△
I-(c)-2:Extension System Establishment Project for Small-scaled Aquaculture Production Organization					○			○	○	○		◎	◎
I-(c)-3:Small-scaled Aquaculture Pond Construction Project					◎			△	△	△		○	△
(e) Reforestation/Environmental Conservation													
I-(d)-1:Reforestation Plan Preparation Project	△	○	○				◎		○	○	△	△	
I-(d)-2：Production Forestry Creation Project		○	○				◎		○	○	△	△	
I-(d)-3:Agroforestry Support Project		○	○		○		◎		○	○	△	△	
II-(b)-1:Soil Conservation Measure Project				◎	○		◎	○	○	○	△	○	△
(f) Irrigation													
I-(e)-1:Cuchoquesera Dam Emergency Discharge System Construction Project	○								○	○	△		
I-(e)-2:Ingalla Dam and Irrigation Canals Construction Project	○	◎	○		◎		○		○	○	△	○	
I-(e)-3:Expansion and Improvement Project of Secondary Canal in Tambillo No. 7 Irrigation Unit, Stage	○	◎	○		◎		○		○	○	△	○	
I-(e)-4:New Construction and Expansion Irrigation Project	○	◎	○		◎		○		○	○	△	○	
I-(e)-5:Existing Irrigation Improvement and Rehabilitation Project	○	◎	○		◎		○		○	○	△	○	
I-(e)-6:Technical Irrigation Project	○	◎	○		◎		○		○	○	△	○	
I-(e)-7:Irrigation Basic Information and Database System Building Project									◎	○	△		
(g) Road													
I-(f)-1:Road Infrastructure Development Project				◎		◎			○	○	△		
I-(f)-2:AcosvinchosDistrict Main Road Improvement				◎		◎			○	○	△		
I-(f)-3:Vilcanchos-Ccaruaccocco District Main Road Construction Project				◎		◎			○	○	△		
I-(f)-4:Ayahuanco-Sntillana-Llochegua District Main Road Construction Project				◎		◎			○	○	△		
I-(f)-5:Community Roads Participatory O&M Promotion Project				◎		◎		△				◎	
I-(f)-6:Road Improvement and O&M Strengthening Project				◎		◎			○	○	△		
(h) Agriculture Production Distribution/Agro-processing													
I-(g)-1:Market Distribution System Establishment Project for Agriculture Production						◎			○	○	△	○	△
I-(g)-2:Distribution Infrastructure Construction Promotion Project						◎			○	○	△	○	△
I-(g)-3:Agro-processing Industry Promotion Project					○	◎		◎	○	○	△	○	△
(i) Institutional Building													
I-(h)-1:Support Capability Strengthening Project for Production Organization by Local Government	○	○	○		○	○	△	△	◎	◎	◎	◎	◎
I-(h)-2:Promotion Capability Strengthening Project for Public Investment Works by Local Government	○	○	○	○	◎	◎	○	△	◎	◎	◎		

Remarks ◎(Contribution：Large)、○（Contribution：Medium）、△（Contributin：Small）

Source: JICA Study Team

(4) Cost Effectiveness of Master Plan

The projects related to production, out of 39 proposed projects are shown in Table 12.5.4. The number of beneficiaries is also mentioned in the same table.

Table 12.5.4 Projects Related to Production and Beneficiary Number

Project	Investment Amount (S/.000)	Nos. of Beneficiaries
Farming/ Extension		
I-(a)-1: High Quality Seeds and Nursery Production Project	10,500	13,600
I-(a)-2: Market Competitiveness Strengthening and Crop Diversification Promotion Project	33,200	77,800
Sub-total	43,700	91,400
Livestock		
I-(b)-1: Milk Production Support Project	7,400	45300
I-(b)-2: Beef Cattle Production Project	21,300	49000
I-(b)-3: Alpaca Production Support Project	4,200	6500
I-(b)-4: Vicuña Management and Protection Support Project	6,200	4900
I-(b)-5: Cuy Production Efficiency Improvement Project	2,900	21400
I-(b)-6: Mutton and Wool Production Support Project	2,800	4100
Sub-total	44,800	131,200
Irrigation		
I-(e)-1: Cuchoquesera Dam Emergency Discharge System Construction Project	8,300	51,100
I-(e)-2: Ingalla Dam and Irrigation Canals Construction Project	15,700	1,100
I-(e)-3: Expansion and Improvement Project of Secondary Canal in Tambillo No. 7 Irrigation Unit, Stage II in the Ex PERC Irrigation System	12,800	2,700
I-(e)-4: New Construction and Expansion Irrigation Project	45,300	46,800

Project	Investment Amount (S/.000)	Nos. of Beneficiaries
I-(e)-5: Existing Irrigation Improvement and Rehabilitation Project	20,800	31,100
I-(e)-6: Technical Irrigation Project	31,900	21,700
Sub-total	134,800	154,500
Inland Fishery		
I-(c)-3: Small-scaled Aquaculture Pond Construction Project	19,500	49,800
Sub-total	19,500	49,800
Reforestation/Environmental Conservation		
I-(d)-2: Production Forestry Creation Project	6,900	7,500
Sub-total	6,900	7,500
Total		433,400

The number of direct and indirect beneficiaries for the projects related production, is preliminarily estimated at 433,000. The farmers in Ayacucho Region are conducting the integrated farming in consideration of the prevention of risk on livelihood. From this, it is deemed that these beneficiaries apply the livelihood measures from the plural sectors. There are no definite data on this situation in Ayacucho Region. In this study, therefore, the actual beneficiaries are assumed to be 50% of the said direct and indirect ones, say 216,700 in number. On the other hand, the poverty population in Ayacucho Region is 78% of total population which is 642,972 in 2009. It would become approximately 500,000 numbers. As a result, the direct and indirect beneficiaries blessed from the projects proposed in Master Plan are assumed to be about 40% of poverty population since Master Plan targets the poor area clarified by zoning.

In addition, the preliminary study was made for economic viability on the projects related to production. The results are shown in below table.

Table 12.5.5 IRR and B/C of Projects Related to Production

Project	Investment Amount* (S/. 000)	Annual Benefit (S/.000)	IRR (%)	B/C**	Remarks
Farming/Extension					
I-(a)-1: High Quality Seeds and Nursery Production Project	10,500	1,843	14	1.3	Potato is assumed to be main crop, and maize and pea secondary crops for new development area and existing farming area. Production increase by applying high quality seeds is assumed to be 10% and price increase by unity of variety and improvement of quality is assumed to be 30%..Based on these assumptions, the incremental benefit is estimated.
I-(a)-2: Market Competitiveness Strengthening and Crop Diversification Promotion Project	33,200	5,765	14	1.3	Potato is assumed to be main crop, and maize and pea secondary crops for new development area and existing farming area. Production increase by applying high quality seeds is assumed to be 5% and price increase by unity of variety and improvement of quality is assumed to be 100%. Based on these assumptions, the incremental benefit is estimated.
Livestock					
I-(b)-1: Milk Production Support Project	7,400	2,005	23	2.0	The incremental benefit is estimated by assuming the increase in production and price of milk with reference to those in the highest productivity area in the region.
I-(b)-2: Beef Cattle Production Project	21,300	4,925	19	1.6	The incremental benefit is estimated by assuming the increase in production and price of beef cattle with reference to those in the highest productivity area in the region.

Project	Investment Amount* (S/. 000)	Annual Benefit (S/.000)	IRR (%)	B/C**	Remarks
I-(b)-3: Alpaca Production Support Project	4,200	672	13	1.2	The incremental benefit is estimated by assuming the increase in production and price of alpaca meat with reference to those in the highest productivity area in the region. Concerning fur, its incremental benefit is estimated by one rank-up from the fourth lowest to the third lowest based on quality assessment criteria (4 levels).
I-(b)-4: Vicuña Management and Protection Support Project	6,200	1,427	19	1.6	The production increase is assumed by referring to the high amount of clipped fur of Vicuña. The price increase by value added by cleaning technology is assumed to be 15%. Based on these assumptions, the incremental benefit is estimated.
I-(b)-5: Cuy Production Efficiency Improvement Project	2,900	488	14	1.2	The incremental benefit is estimated by assuming the increase in production and prices by referring to high ones in the region
I-(b)-6: Mutton and Wool Production Support Project	2,800	401	11	1.1	The incremental benefit is estimated by assuming the increase in production and prices by referring to those in high production area in the region
Irrigation					
I-(e)-1: Cuchoquesera Dam Emergency Discharge System Construction Project	8,300	3,103	32	2.9	The irrigated crops are assumed maize and pea cantering on potato. The increase in production is referred to that in "The Program of Small and Medium Irrigation Infrastructure in the Sierra" by JICA. In addition, production is assumed null at emergency time occurred with once ten years provability and is 100 at normal time. The incremental benefit is estimated using these assumptions.
I-(e)-2: Ingalla Dam and Irrigation Canals Construction Project	12,800	2,381	12	1.2	The irrigated crops are assumed maize and pea cantering on potato. The increase in production is referred to that in "The Program of Small and Medium Irrigation Infrastructure in the Sierra" by JICA.
I-(e)-3: Expansion and Improvement Project of Secondary Canal in Tambillo No. 7 Irrigation Unit, Stage II in the Ex PERC Irrigation System	15,700	1,921	12	1.2	The irrigated crops are assumed maize and pea cantering on potato. The increase in production is referred to that by introduction of technical irrigation in "The Program of Small and Medium Irrigation Infrastructure in the Sierra" by JICA.
I-(e)-4: New Construction and Expansion Irrigation Project	45,300	20,078	38	3.6	The irrigated crops are assumed maize and pea cantering on potato. The increase in production is referred to that in "The Program of Small and Medium Irrigation Infrastructure in the Sierra" by JICA.
I-(e)-5: Existing Irrigation Improvement and Rehabilitation Project	20,800	8,980	25	2.9	The irrigated crops are assumed maize and pea cantering on potato. The increase in production is referred to that in "The Program of Small and Medium Irrigation Infrastructure in the Sierra" by JICA.
I-(e)-6: Technical Irrigation Project	31,900	25,343	69	6.4	The irrigated crops are assumed maize and pea cantering on potato. The increase in production is referred to that by introduction of technical irrigation in "The Program of Small and Medium Irrigation Infrastructure in the Sierra" by JICA.
Inland Fishery					
I-(c)-3: Small-scaled Aquaculture Pond Construction Project	19,500	2,784	11	1.0	Rainbow trout is assumed as variety of fish farming at 29 fishponds.

Project	Investment Amount* (S/. 000)	Annual Benefit (S/.000)	IRR (%)	B/C**	Remarks
Reforestation/Environmental Conservation					
I-(d)-2: Production Forestry Creation Project	6,900	58,168	9	0.9	Eucalyptus is assumed as targeted tree. The period by tree-cutting is assumed to be 15 years and benefit accrues from it for 4 years only.

Source: JICA Study Team

**: Physical contingency of 15% is added to the investment amount for calculation of IRR and B/C.*

***: Discount rate=10%*

As shown in the above table, it was confirmed that almost all of projects mentioned above would be economically feasible although this study was so preliminary. In addition, available IRR of each SNIP sub-project is shown in Attachment-8. From this, it is possible to check the cost effectiveness. On the other hand, as for the projects which are difficult to make a quantitative analysis, the expected results are mentioned in the below table.

Table 12.5.6 Expected Results of Projects Difficult for Quantitative Analysis

Project	Investment Amount (S/.000)	Nos. of Beneficiaries	Major Expected Results
Vulnerability Measures			
II-(a)-1: Basic Information Arrangement Project for Vulnerability Mitigation Capability Building	3,000	257,100	Regional government's capacity on analysis of vulnerability through development of basic information will be enhanced and technology for mitigation of vulnerability will be disseminated to farmers
II-(a)-2: Climate Monitoring Strengthening and Observation Network System Establishment Project for Vulnerability Mitigation Capability Building	4,000	257,100	Capacity of regional government on analysis of meteorological monitoring through development of monitoring system will be enhanced and capacity of farmers on mitigation of agricultural vulnerability through provision of agricultural meteorology information will be enhanced.
II-(a)-3: Community Vulnerability Mitigation Capability Building Project	5,600	108,900	Community's capacity on vulnerability measure through activation of organizational activity and provision of multi-purpose community hall will be enhanced and also community's physical capacity against natural disaster will be raised.
II-(a)-4 : Urgent Rehabilitation Project for Frequent Disaster Occurrence Roads	4,000	69,500	Isolation of community through improvement of road frequently damaged will be prevented
Farming/Extension			
I-(a)-3: New Crop Production Development Project	7,700	13,200	Farming technology of crops, which have potential of creating high demand in the future and have potential to be grown in Ayacucho Region is developed.
I-(a)-4: Agriculture Extension Service Strengthening Project	4,000	44,000	Farming technology of farmers through improvement of access to extension service at provincial and community levels will be strengthened
Road			
I-(f)-1: Road Infrastructure Development Project	111,600	718,400	The access and communication of the localities with the local, regional and domestic markets and the basic social services are improved, and the time of travel and reduce the road accident rate could be optimized.
I-(f)-2: Acos Vinchos District Main Road Improvement	6,400	7,300	Income increase due to shortening of transportation time, increase of passengers, increase of quantity of cargos and collection of transportation fee is attained.
I-(f)-3: Vilcanchos-Ccaruaccocco District Main Road Construction Project	7,400	2,000	Accessibility to the communities of Ccarhuaccocco, Urancancha, Antacocha, to facilitate the transportation of load and passengers is improved, and then community people are supported for access to the local, regional, and domestic markets and for enjoyment of the basic social services.

Project	Investment Amount (S/.000)	Nos. of Beneficiaries	Major Expected Results
I-(f)-4: Ayahuanco-Sntillana-Llochegua District Main Road Construction Project	20,300	9,900	Access of the agricultural, livestock and forest products to the local markets is improved and also access to public services such as local health services could be realized.
I-(f)-5: Community Roads Participatory O&M Promotion Project	300	21,600	Self-sustenance of road maintenance by rural communities, establishment of small firms executing the O&M of roads and insurance of road network in operation with transit conditions appropriate for the distribution and exchange of products are attained.
I-(f)-6: Road Improvement and O&M Strengthening Project	6,800	5.400	Capacities of departments related to road infrastructure and road security in Ayacucho Region are enhanced to realize the effective use of fund, formalization of transportation sector and traffic safety. And also, adequate operational capacity to the areas of infrastructure and local economic development of local government is improved.
Inland Fishery			
I-(c)-1: Inland Fishery Support Institution Capability Strengthening Project	2,500	106,400	Inland fishery for the poor peasants through strengthening of institutional building under a development plan of inland fishery in Ayacucho Region is promoted.
I-(c)-2: Extension System Establishment Project for Small-scaled Aquaculture Production Organization	8,000	106,400	Inland fishery for the poor peasants through establishment of extension system in Ayacucho Region is promoted.
Reforestation/Environmental Conservation			
I-(d)-1: Reforestation Plan Preparation Project	15,800	361,200	The reforestation master plan is formulated based on basic data such as present forest condition, reforestation achievements, and needs of firewood, and dissemination and enlightenment activities are conducted to improve the relevant staff for preparation of development plan.
I-(d)-3: Agro-forestry Support Project	19,600	64,500	Traditional agro-forestry is further promoted and agro-forestry technology using the indigenous tree species is developed.
II-(b)-1: Soil Conservation Measure Project	26,500	35,000	Function of soil erosion prevention is improved and production bases of the main industries (agriculture/livestock in Ayacucho Region) are conserved. In addition, important watershed as the water resources for irrigation is conserved.
Agricultural Production Distribution／Agro-processing			
I-(g)-1: Market Distribution System Establishment Project for Agriculture Production	21,800	99,600	In order to provide value added and develop markets, distribution infrastructures centering on establishment of markets information center on agricultural products are constructed, and also pilot project on promotion of processing of agricultural products is implemented.
I-(g)-2: Distribution Infrastructure Construction Promotion Project	16,400	32,500	Storing centers, the fairs and local markets, camels and the market wholesaler were implemented to reduce loss of post-harvesting, enlarge market and provide value added to products.
I-(g)-3: Agro-processing Industry Promotion Project	12,800	24,500	Works to be executed are institutional strengthening to motivate the works to be executed are further promoted and preparation of development plan of the sector and traffic safety, and facilities of agro-processing, support to facilities of agriculture private agro-processing, support to community facilities of agro-processing, support to new type of agro-processing, support to facilities of shears, and support to sanitary control
Institutional Building			
I-(h)-1: Support Capability Strengthening Project for Production Organization by Local Government	13,100	4,000	To execute important policies such as support for producers' organizations, employment acceleration, and farmers' income increase, ODEL is established.
I-(h)-2: Promotion Capability Strengthening Project for Public Investment Works by Local Government	10,600	700	Capabilities of local government are strengthened so as to smoothly implement the public investment works.

Source: JICA Study Team

It is expected that the Master Plan should be implemented in line with PDRC 2007-2024 with reference to the cost effectiveness of projects mentioned above.

Chapter 13 Environmental and Social Considerations

13.1 Introduction

The Master Plan mentioned in Chapter 11 consists of 39 proposed projects from 9 sectors to attain the improvement of livelihood and mitigation of vulnerability. The proposed projects cover the multi-sector, such as measures against the vulnerabilities, agriculture/extension, livestock, irrigation, inland fishery, reforestation/environmental conservation and roads in order that GRA can enhance the improvement of living conditions of households in poverty at the localities.

The JICA Study Team conducted a simple Initial Environmental Examination (*IEE*) applying the methods such as screening and scoping in the identification and selection of the projects of the Master Plan so as to verify if the proposed projects can cause any adverse impact on the natural and social conditions at the respective project sites. Simultaneously, the review of the current legal frame of the evaluation of environmental impacts was conducted in addition to the collection of the complementary data/information on the natural and social conditions of Ayacucho region, which was required for the IEE. The following sections show the results of the simple IEE.

13.2 Additional Information/Data on Natural and Social Conditions of Ayacucho Region

In addition to the general conditions of Ayacucho Region described in Chapter 3, the complementary information/data on the natural/social conditions of the region was revised as below.

13.2.1 Natural Conditions

(1) Hydrology

The main features of the major rivers in the region are tabulated below.

Table 13.2.1 General Features of Principal Rivers in Ayacucho Region

River	Location	Location of the station of river flow			Annual average of discharge (m^3/s)
		Latitude (S)	Longitude (W)	Province	
Huarpa	Allocomachay	12°51'	74°21'	Huanta	36.50
Sondondo	Huasapampa	14°17'	74°03'	Lucanas	15.06
Lucanas	Palcacharca	14°33'	74°17'	Lucanas	8.05
Pampas	Raysca	13°53'	74°26'	Huanca Sancos	4.59

Source: Indicadores Ambientales Ayacucho, CONAM, 2005

(2) Protected Area

According to the Law of Natural Protected Areas (*Ley de Áreas Naturales Protegidas, Ley No26834*), the protected areas in Peru are classified into nine categories such as (i) National Parks, (ii) National Sanctuaries, (iii) Historical Sanctuaries, (iv) Landscape Reserves, (v) Wildlife Refugees, (vi) National Reserves, (vii) Communal Reserves, (viii) Protection Forest, and (ix) Hunting Area. The above-mentioned law also prescribes the establishment of the buffer zone around the natural protected areas.

So far, 2 natural protected areas have been established in Ayacucho Region as listed below and shown in Figure 13.2.1.

Table 13.2.2 Natural Protected Areas in Ayacucho

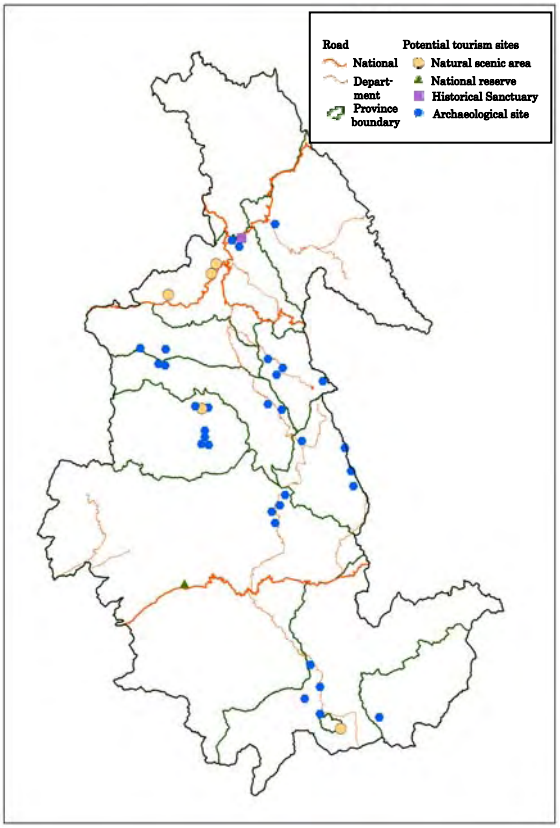
Type of the natural protected area	Name	Area (ha)	Remarks
National Reserves	Pampas Galeras	6,500	A buffer zone was established around the protected area.
Historical Sanctuaries	Pampa de Ayacucho	300	-ditto-

Source: INRENA website (www.areasprotegidasperu.com/sinanpe.htm)

Also, there are some possible areas to be designated as the Natural Protected Areas, such as, (i) Titankas natural forest (ii) Parinacochas lagoon, (iii) Queñuales forest in Pucaorcco, (iv) Queñuales forest in Ccenhuacuchu, (v) Alisos and Chachacomos forest in Sayripata-Parobamba, (vi) Mayunmarca- Panti-Huayllan, and (vii) Lompata, according to the proposal prepared by the consultants and submitted to GRA. In addition, Pampa Galeras National Reserves was registered as Important Bird Area (*IBA*) by International NGO, Birdlife International. There is no site registered by Ramsar Convention and UNESCO World Heritage Convention.

(3) Vulnerable Species

Supreme Decree 043-2006 and 034-2004 prescribe the classification of the vulnerable species in the country into the following 4 groups based on the IUCN (*International Union for Conservation of Nature and Natural Resources*) categories: (i) CR (*Critically Endangered*), (ii) EN (*Endangered*), (iii) VU (*Vulnerable*), and (iv) NT (*Near Threatened*). The number of the vulnerable species distributed in Ayacucho Region is shown in the right based on the above-mentioned classification.



Source: JICA Study Team based on the data obtained from GRA

Figure 13.2.1 Location of Natural Areas in Ayacucho Region

Table 13.2.3 Vulnerable Species by Category in Ayacucho Region

Category	Species	
	Fauna	Flora
CR	3	4
EN	6	2
VU	11	8
NT	8	6
Total	28	20

Source: JICA Study Team based on Categolizacion de Especies Amenazadas de Fauna Silvestre(DS No.34-2004-AG), y Flora Silvestre (DS No.43-2006-AG) and draft Regional Ordinance of Ayacucho for conservation of fauna and flora

13.2.2 Social Conditions

(1) Indigenous People

(a) Legal Systems on Indigenous People's Rights in Peru

Indigenous people's rights in Peru are stated in Article 89 of Constitution of Peru. Besides, Peru has ratified ILO Convention No. 169 on Indigenous and Tribal Peoples.

National Institute of Development of the community of Andes, Amazon and Afroperu (*Instituto Nacional de Desarrollo de Pueblos Andinos, Amazonicos y Afroperuano*), Ministry of Women and Social Development is in charge of the development of the community and livelihood of the indigenous peoples as well as conservation of their culture.

Table 13.2.4 Number of Indigenous Communities and Indigenous People in Ayacucho Region

Province	District	No. of indigenous community*1	No. of indigenous people (unit: people)*2
Huanta	Llochegua	1	52
	Sivia	1	102
La Mar	Ayna	1	43
	Santa Rosa	1	34
Total in Ayacucho		4	231

Source 1: II Censo de Communidade Indigenas de la Amazonia Peruana 2007, Resultados Definitivos, INEI, 2008 2:Censos Nacionales 2007: XI de Poblacion y VI de Vivienda,Resultados Definitivos de Communidade Indigenas, INEI, 2008

(b) General features of the Indigenous Community in Ayacucho Region

The indigenous communities of Asháninka are located in the tropical forest area of the province of Huanta and La Mar, located in the northern part of the region. Table 13.2.4 shows the distribution of indigenous community and number of indigenous peoples by district.

(2) Infectious diseases

The main infectious diseases found in Ayacucho Region are malaria, tuberculosis, pulmonary tuberculosis and HIV. The following table shows the number of the infected person by disease in the region from 1999 until 2007.

Table 13.2.5 Number of Infected Person by Major Diseases between 1999 and 2007 in Ayacucho Region

Diseases	Nos. of Infected Person (unit: person)								
	1999	2000	2001	2002	2003	2004	2005	2006	2007
Malaria	6,842	2,304	2,259	2,259	2,534	4,589	5,212	2,740	880
Tuberculosis	621	534	462	397	402	425	328	292	N.A.*
Pulmonary Tuberculosis	494	427	372	318	333	339	291	239	N.A.*
HIV	11	11	12	2	0	2	3	3	0

Note N.A.: Data not obtained*

Source: Ayacucho: Compendio Estadistico 2007-2008, INEI

(3) Solid Waste and Waste Water Management

In Ayacucho Region, the local governments are responsible for solid waste management. In 2007, 2,067 m^3 of solid waste were transferred monthly to the disposal site in Huamanga Province as tabulated below.

Table 13.2.6 Monthly Volume of Solid Waste Transferred to Disposal Site in Huamanga, Ayacucho in 2007

	2007												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Monthly Average
Vol.of the solid waste (m^3)	3,257	2,204	1,920	1,953	2,740	2,588	3,251	2,700	2,595	2,792	2,669	3,517	2,067

Source: Ayacucho:Compendio Estadistico 2007-2008, INEI

Also, the water supply and sewerage in the region are managed by the private companies. EPSASA is in charge of the treatment of waste water in Ayacucho and Huanta Cities. Accordingly, 729,120 m^3 and 57,886 m^3 of waste water has been processed monthly in Ayacucho and Huanta Cities, respectively[1]。

13.3 Legal System of Environmental and Social Considerations in Peru

13.3.1 Legal systems and guidelines of Environmental and Social Considerations

(1) Law of National System of Evaluation of Environmental Impacts and Amendment Law

In 2001, the Law of National System of Evaluation of Environmental Impacts (*SEIA*) was proclaimed as a principal law to regulate environmental impact assessment in Peru. The Law of SEIA was amended by Legislative Order 1078 (*Decleto Legislativo 1078, Decreto Legislativo que modifica la ley No.27446*) in accordance with the establishment of the Ministry of Environment (*MINAM*) in 2008.

The Law of SEIA prescribes the executing agency of SEIA, the procedures of the acquisition of the environmental certification, public participation and strategic environmental evaluation (*Evaluación Ambiental Estratégica:EAE*), which are also detailed in the Regulation of the Law of SEIA. The contents of the regulation are mentioned in the following sections.

[1] *Based on the information obtained through the interview with EPSASA*

(2) Regulation of the Law of SEIA (*Reglamento de la Ley del SEIA*)

With an aim to enhance effective implementation of SEIA, the Regulation of the Law of SEIA was issued in September 2009. The regulation consists of the following 6 titles, and the contents are summarized in the following sections.

Title 1: General Provisions
Title 2: Process of Evaluation of Environmental Impacts for Projects of Investment
Title 3: Strategic Environmental Assessment of Public Policies, Plans and Programs
Title 4: Access to the Information and Public Participation
Title 5: Registration of Authorized Entities for the Implementation of the Environmental Studies
Title 6: Continuation and Control

(a) Projects Covered by SEIA

Based on the Regulation of the Law of SEIA, the following projects are covered by SEIA. It should be noted that the following projects are subject to be revised by the responsible agencies.

Table 13.3.1 Projects Covered by SEIA

No.	Project	No.	Project
Agricultural Sector			
1	Hydraulic infrastructure for agricultural production	2	Agricultural projects at appropriate area for forest land, permanent and protection forests.
3	Rural constructions, infrastructure for communication and engineering works related to the use of agricultural lands.	4	Riverbank protection works, embankment and drainage
5	Groundwater development	6	Farms and stables for animal raising with the animals more than 100 head, breeding ground of more than 5,000
7	Irrigation projects	8	Change of land use with the purpose of the expansion of the agricultural frontier
9	Exploitation of the agricultural land more than 100 ha for its new development	10	Forestation and forest plantation
11	Primary transformation of wood	12	Forestry projects with the introduced species
13	Forestation more than 100 ha	14	Development of forestry activities in the fragile soil or the lands covered by native forests
15	Agroforestry activities and primary transformation of the products of agriculture and live stocks	16	Concessions of timber forest and non-timber forest, forest for ecotourism and conservation
17	Concessions of other forest products, such as collection of leaves, flowers, fruits, seeds, roots, stems, reed, latex, rubber, wax, resin, palm and others for commercial purposes	18	Projects for use of forest in indigenous and peasant communities
19	Animal breeding farms	20	Management and use of wild flora and fauna in accordance with the law of forest and wild animals (*Ley No 27308, Ley Forestal y de Fauna Silvestre*)
21	Introduction of exotic species for commercial purposes	22	Drainage and reclamation of the wetlands
23	Drying and salting of hides	24	Classification, washing and carding of wool, fiber, fur and feather
25	Production of cheese, yogurt, butter, milk caramel (*manjare*) and analogous of milk origin, as primary transformation based on fresh milk	26	Cotton ginning and pressing
27	Shelling, washing, peeling, selection, classification, precooking and packing of rice	28	Drying, dehydration, cutting, grinding, adding molasses of pastures, cereal and other agricultural products
29	Processing of residuals of fruit and vegetable for fodder	30	Preparation of balanced food as primary transformation
31	Production of flour, starch of yucca, potato, other tuber and roots, which are the products of primary transformation	32	Processing of bird guano for fodder use
33	Peeling, fermentation, classification, toasted and grinding as the primary transformation of coffee, cocoa beans and other seeds	34	Peeling and classification of chestnut
35	Cleaning, selection, preservation and packing of fruits and vegetables	36	Drying, freezing and dehydration of fruits and vegetables

No.	Project	No.	Project
37	Purification and packing of beeswax and honey	38	Production of brown sugar cake and alcohol derived from virgin juice as primary transformation
39	Projects of cultivation for bio-fuel production	40	Extraction of grease and lard of terrestrial animal origin
41	Grinding, chopping, peeling, crushing and other process applied to leaves, fruits, flowers, pods, roots, resin and other forest products	42	Extraction and sawing of wood and simple square timber
43	Extraction and concentration of rubber or natural rubber for industrial use	44	Curing process and classification of tobacco leaves
45	Treatment and packing of medicinal plants	46	Production, treatment and packing of forestry and ornament plants
47	Extraction and packing of fruits and vegetable juice as primary transformation	48	Production of grain flour as primary transformation
49	Fractionation or change of land use for urban development	50	Facilities for meat processing
Tourism Sector			
1	Exploitation of source of medicinal mining water (hot springs) for tourism purpose, including relevant infrastructures		
Defense Sector			
1	Installation of underwater piping for transport of liquid or chemical materials	2	Installation of underwater transmitter for treated domestic and industrial effluents
3	Installation of embankment, breakwater, dikes and other constructions that can modify the marine ecosystem	4	Dredging activities
5	Installation of naval facilities	6	Shipyard, dry dock, scrapping of ships
7	Installation of marinas, breakwater, dikes, pier, jetty, industrial fishing boats, offshore platform that can modify the aquatic environment	8	River jetty, tourist and other types of pier, for recreational and sports use
Energy and Mining Sector : Energy Sub-sector			
1	Rural electrification projects (rural electric systems)	2	Hydraulic and geothermal power generation more than 20 MW
3	Electrical and thermoelectric transmission	4	Electrical distribution equal or higher than 30 MW.
5	Electrical distribution lower than 30 MW.	6	Secondary recovery (hydrocarbons exploitation)
7	Fuel selling point (commencement, expansion, marketing)	8	Gas center (Liquefied petroleum gas –LPG) for motor use. (commencement, expansion, marketing)
9	Natural gas selling point for vehicles (*VNG*) (commencement, expansion, modification, marketing)	10	Expansion of seismic lines in different areas, same seismic lot (exploration)
11	Expansion of exploratory program in the same area, same drilling lot (exploration)	12	Expansion of drilling program in the same area, same lot in the development drilling (exploitation)
13	Expansion of the production facilities equal or higher than 40% of the facilities for production of batteries installation (capacity), piping (km), separators (unit) (exploitation)	14	Expansion lower than 40% of the installed capacity for refining (refining and transformation)
15	Expansion lower than 40% of the installed capacity in the processing units (refining and transformation)	16	Expansion lower than 40% of the installed capacity for storage (refining and transformation)
17	Expansion lower than 40% of the length of ducts (transport)	18	Expansion lower than 40% of the installed capacity for of the packaging plants of liquefied petroleum gas –LPG- (marketing)
19	Expansion lower than 40% of the length of ducts (distribution)	20	Commencement of seismic activity (exploration)
21	Commencement of activity or expansion of the drilling area (exploration)	22	Commencement of activity or expansion of new areas in the same lot or extension of new areas in the same lot, development drilling (exploitation)
23	Production facilities' activity commencement, batteries installation (capacity), pipes (km), separators (units) (exploitation)	24	Refining activity commencement (refining and transformation)
25	Expansion equal or higher than 40% of the installed capacity for refining (refining g and transformation)	26	New processing unit (refining and transformation)
27	Expansion equal or higher than 40% of the installed capacity for processing units (refining g and transformation)	28	New storage (refining and transformation)
29	Expansion equal or higher than 40% of the installed capacity for storage (refining g and transformation)	30	Ducts activity commencement (transport)
31	Expansion equal or higher than 40% of the ducts length (transport)	32	Packaging plants of liquefied petroleum gas –LPG- activity commencement (marketing)
33	Expansion equal or higher than 40% of the installed capacity in the packaging plants of liquefied petroleum gas –LPG- (marketing)	34	Basic Petrochemical Industry

No.	Project	No.	Project
Mining Sub-sector			
1	Exploitation and/or mining benefit – major and medium scale mining	2	Exploitation and/or mining benefit – small mining and local self-employed mining
3	Mining exploitation - major and medium scale mining	4	Mining exploitation - small mining and local self-employed mining
5	Storage of concentrated minerals		
Production Sector: Fisheries Sub-sector			
1	Low scale aquaculture, subsistence, seed production, settlement and repopulation, for those cases that have not been transfer to the regional governments.	2	Major scale aquaculture.
3	Introduction and transfer of hydro-biological species	4	Fishing plants of artisanal processing
5	Installing, operation, transfer and increase of Industrial Fishing Establishment (*IFE*) capacity.	6	Research in cases where aquatic spaces or processing plants are used.
7	Installation of supporting infrastructure for artisanal fishing	8	Introduction of exotic species of aquatic flora and fauna
9	Cultivation, extraction and storage of aquatic flora	10	Extraction and storage or ornamental species and installation of the aquarium infrastructure
11	Treatment of bivalves mollusks		
Industry sub-sector			
1	Activities considered as manufacturing industry in the category 3 of the International Standard Industrial Classification (*ISIC*), (*currently section D of ISIC*) with the exception of the category 23 that belongs to coal, petroleum refined products and nuclear combustible development.	2	Storage plants for industrial goods and products, except hydrocarbons and mining products.
3	Installing and operation of Bio-fuel plants (*Bio-diesel B100, alcohol fuel*)	4	Intermediate and final petrochemical
Transport and Communication Sector: Transport Sub-sector			
1	New projects of road infrastructure: highways, ports, airports, railways and heliports.	2	Periodical rehabilitation/maintenance of highways, ports, airports, railways and heliports.
3	Highways, ports, airports, railways and heliports improvement.	4	Rehabilitation and Improvement of highways, ports, airports, railways and heliports.
5	Construction of new bridges	6	Rehabilitation and/or improvement of bridges
7	Maintenance of road projects in operation	8	Minor scale works within the right of way
Communication Sub-sector			
1	Installation and operation of telecommunication infrastructure (including networks or telecommunication infrastructure, whether wireless or radio-electric and wired or by cable)		
Health Sector			
1	Marketing facilities for solid wastes	2	Transfer facilities for solid wastes in municipal field
3	Treatment facilities for solid wastes in municipal and non-municipal field	4	Final regulation facilities in municipal and non-municipal field
5	Hospitals and health assistance centers	6	Cemeteries and crematoriums.
Housing, Construction and Sanitation Field: Housing and Construction Sub-sector.			
1	Commercial complexes with a surface higher than two thousand (2500) square meters and a average net density of one thousand five hundred (1500) inhabitants per hectare.	2	Coliseums and stadiums.
3	Demolition activities of buildings and other types of urban infrastructure	4	Urban Planning
5	Urban Re-planning	6	Urban Expansion
7	Urban renewal to be used as housing	8	Multi-family residences (high density)
9	Alterations in public park or green areas	10	Civic Centers (Community Centers)
11	Sports centers and fields with an average net density of two thousand (2500) in habitants per hectare	12	Parking buildings
13	Urban transport infrastructure, such as Express or Semi-Express Highway, Urban and sub-urban railways, tunnels and crossroads.	14	Urban development of associated infrastructure
15	Construction of housing complexes in suitable agricultural areas		
Sanitation Sub-sector			
1	Wastewaters pumping stations	2	Potable water pumping stations
3	Wastewaters treatment plants	4	Potable water treatment plants
5	Wastewater sewer and emitter	6	Potable water conduction networks
7	Rural sanitation works projects	8	Water damming for purification

No.	Project	No.	Project
Regional Governments : The Regional Governments will undertake its attributions related with SEIA established in the (*Ley Organica de Gobiernos Regionales*), under the process of functions and attributions transfer and with the present regulation.			
Local Governments			
1	Storages, warehouses, packing stations and similar facilities that aren't considered in the sector competences	2	Social, productive and construction projects in local level
The commercial activities at the municipality level are recommended to be applied by SEIA, based on the approval by the relevant municipal ordinances			

Source: JICA Study Team based on the Regulation of the Law of SEIA

In addition to the projects listed above, the projects which provoke involuntary resettlements shall be covered by SEIA.

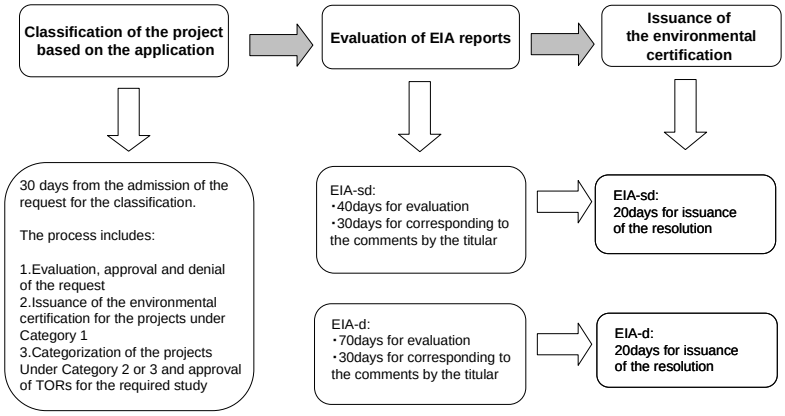
(b) Rector Agency of SEIA and its function

The rector agency of SEIA is MINAM, which is responsible for the establishment of the coordinating mechanism among sectors and local governments. The principal function of MINAM as the rector agency are as follows: (i) to regulate, lead and administrate the implementation of SEIA both at central and local level, (ii) to conduct and supervise the application of the National Environmental Policy (*Política Nacional de Ambiente*), (iii) to advise and coordinate with the executing authorities to develop regulation relevant to the processes of evaluation of environmental impacts, (iv) to coordinate with the executing authorities to adequate the current process of evaluation of environmental impacts, (v) to approve strategic environmental evaluations of policies, plans and programs, (vi) to prepare the registry of the authorized entities for elaboration of EAE and environmental studies, (vii) to prepare and update the list of environmental certificates and secure the public accessibility through the National Environmental Information System (*Sistema Nacional de Inforamción Ambiental: SINIA*) and (viii) to enhance the capacity development of the relevant organization and public awareness raising.

Also, it is stated that the executing authorities of SEIA, which are responsible for evaluation of environmental impacts, are the local governments and the ministerial agencies corresponding to each sector of the projects. The main roles of the executing authorities are (i) categorization, revision and approval of the environmental studies for the projects covered by SEIA, (ii) preparation of regulations and guidelines which regulate the processes of the evaluation of environmental impacts, (iii) approval of classification and TOR for the elaboration of the semi-detailed EIA and detailed EIA, (iv) conferment of the environmental certifications and (v) conduction of ex-post auditing to confirm the veracity of the information obtained through the process of the evaluation of the other environmental impacts.

(c) Process of environmental certifications

In order to obtain the environmental certifications, the processes such as (i) classification of the project based on the application forms, and (ii) evaluation of the study on environmental impacts and



Source: JICA Study Team based on Regulation of Law of SEIA

Figure 13.3.1 Process of Environmental Certification

endorsement of the resolution are required.

1) Classification of the project based on the application forms

Request for the classification of the project

The titular should submit to the executing agencies (i) application documents for classification of the project, (ii) preliminary evaluation report, and (iii) receipts of the payment for the transaction in accordance with the Unique Text of Management Procedures of the executing agencies.

The preliminary evaluation report shall include the following components.

- General information of the titular and authorized entity for the preparation of the preliminary evaluation
- Description of the project
- Natural, biological, social, cultural and economic condition of the project site
- Plan of public participation
- Description of the possible environmental impacts
- Prevention, mitigation and correction measures for environmental impacts
- Plan of continuation and control
- Plan of closure and abandonment
- Implementation plan
- Budget for implementation

Also, the titular should submit the draft TOR of the required EIA if the proposed project can be classified as category 2 or 3 in accordance with the classification procedures described in the following section.

Classification of the projects

In the classification of the proposed projects, it is required to consider the possible impacts to be caused by the projects on the components such as (i) health, (ii) environmental quality (pollutants, noise, etc), (iii) natural resources (soil, water resources, fauna and flora, etc), (iv) protected area, (v) ecosystem and landscape, (vi) lifestyles of the localities, (vii) urban environment, (viii) archaeological or historic remains, specified as the environmental protection criteria (*Criterios de protección ambiental*).

Consequently, the projects are classified into the 3 categories depending on the level of the environmental impacts as listed below.

Table 13.3.2 Categorization of Projects as Prescribed in Law of SEIA

Category	Level of Possible Adverse Environmental Impacts by Project	Documents to be Submitted for Acquirement of Environmental certification
Category 1	Slight	Environmental Impact Declaration (*DIA*)
Category 2	Moderate	Semi detailed EIA
Category 3	Significant	Detailed EIA

Source: JICA Study Team based on the Regulation of the Law of SEIA

The projects which require the involuntary resettlements are classified as category 3[2].

In order to classify the proposed project, the executing agency shall revise the contents of the application within 20 days after its submission. Depending on the necessity, the titular shall submit the additional information to the executing agency within 10 days after receiving the observation from the agency on the application documents for classification of the project. Also, it is accepted to extend the period for classification of the proposed project

[2] *According to the information obtained through the interview with MINAM, the threshold of the number of the affected people by the resettlement has yet to be determined to classify the project in category 3.*

for 10 days more based on the proposal from the titular.

As a result, the environmental certification will be conferred on the projects classified as category 1. The executing agencies will revise and approve the draft TOR for the projects of the categories 2 and 3[3,4]. The contents to be included in the reports of EIA-sd and EIA-d are summarized below.

Contents to be Included in Report of EIA-sd (category 2)

- The executive summary
- Description of the project: (i) background of the project, (ii) the legal and administrative frame relevant to the conservation of environment, natural, cultural and historical resources, (iii) compliance of the norms of environmental quality and acquisition of the permissions for the use of natural resources, (iv) location of the project sites, (v) implementation schedule, (vi) the scale of the possible environmental impacts by the project and the its possible affected area, (vii) the period and budget of the project, (viii) the works to be done during the phase of information collection, such as the general condition of the project site, basic information for the detailed design, (ix) the works to be done in the construction phase including the information of necessary materials, equipments, accommodations, human resources,(x) the works to be done in the operation and maintenance phases with the detailed information of the process of the production and transformation, including the information of necessary inputs, such as human resources and equipments, in the processes and expected outputs, potential risks, possible emission gas, the character of the possible waste water and solid wastes generated in the processes, and (xi) the works to be done in the closure and abandonment phase.
- Baseline data of the project site: (i) location and area of the project site, area to be affected directly or indirectly by the project implementation, (ii) natural environment, such as climate, topography, geology, hydrology, soil, land use, air quality, contamination of soil, water quality, and other activities implemented in the area, if necessary, (iii) Biology, such as biodiversity, fauna and flora, ecosystem, protected area, buffer zone, landscape, habitats for the wild life and major issues on the ecosystem, (iv) social condition, such as demography, socioeconomic indicators, labor indicators, social services, basic infrastructures, major livelihood activities, and major land use, (v) cultural heritages, (vi) risk of natural and man-made disasters in the area to be affected by the project implementation, (vii) maps, such as location maps and thematic maps, and relevant tables and figures.
- Plan of community participation: the plan shall include the strategy of community participation, relevant activities and the mechanism. In case if the executing agencies mandate the organization of the public hearing, the plan shall contain the observation from the local people at the public hearing.
- Features of principal environmental impacts: The environmental impacts at the each phase for planning, implementation, management and closure shall be examined based on the following steps: (i) analysis on possible environmental changes caused by the project implementation in comparison to the baseline, (ii) prevention of direct, indirect and cumulative environmental impacts, and evaluation of risks to the actual condition of environment, society, culture, health, (iii) identification of the environmental impacts, (iv) consideration of the standard of environmental qualities (*Estándaderes de Calidad Ambietal: ECA*) and maxim permissible limits (*Limites Máximos Permisibles: LMP*)
- Also, the following components shall be considered in examination of the environmental impacts: (i) natural condition, such as climate, topography, hydrology, soil condition, noise level, vibration level, radiation level, air quality, water quality, and soil quality, (ii) Biological condition, such as terrestrial and aquatic ecosystems, habitats and conservation of wildlife, (iii) Socioeconomic and cultural conditions, such as level of life in the locality, affected people by the projects, lifestyle, custom, communities protected by laws, (iv) existence of plan of land law (*plan de ordenamiento territorial*) , (v) existing infrastructures, (vi) potential and current land use, and (vii) landscapes and tourist spots
- Strategy of environmental management (*Estrategia de Manejo Ambiental*): The strategy shall include the components such as (i) environmental management plan, including the prevention and mitigation plan of the expected environmental impacts, (ii) environmental surveillance plan including possible implementation mechanism of the environmental surveillance plan to secure the conduction of the environmental management plan and the environmental monitoring plan to abide the LMP or other relevant regulations, (iii) contingency plan, including the measures to be taken for the risk management and health management in each phase of construction, operation, maintenance, closure or abandon, (iv) the plan of closure, including the activities to be done in the closure phase of the project so that the condition of the project site can be left similar to that prior to the implementation of the project, (v) budget plan for the implementation of the environmental management strategy, (vi) list of responsible persons for the implementation of each plan of the environmental management strategy and the summary of the relevant budget allocation
- The name of the company and their technical staffs who are in charge of EIA-sd implementation and their signature
- Others requested by the executing agencies
- Relevant annexes

[3] *In case of implementation of 1) the projects in the protected area or buffer zone and 2) projects on water resource management, the comments on the draft TORs from SERNANP(Servicio de Areas Naturales Protegidas por el Estado) and ANA(Autoridad National de Agua) are required respectively.*

[4] *In terms of conservation of archaeological remains and cultural heritages, the issuance of CIRA (Certification of Inexistence of Archaeological Remains)by INC(National Institute of Culture) is required in principal for all type of the projects. In the request and acquisition of CIRA, the ground survey by INC is required for the projects, which covers less than 5 ha or 5 km in line, while the project covers more than 5 ha or 5 km in line needs the implementation of the project of archaeological evaluation as well as development of the plan of archaeological monitoring which shall be implemented by the titular. The surveys shall be conducted in course of the process of the acquisition of the environmental certifications.*

Contents to be Included in Report of EIA-d (category 3)

- The executive summary
- Description of the project: (i) background of the project, (ii) the legal and administrative frame relevant to the conservation of environment, natural, cultural and historical resources and acquisition of the relevant permissions required, (iii) the objectives and justification of the project, iv) location of the project sites, (v) implementation schedule, (vi) the area required for the implementation of the project in accordance with the design and distribution of the facilities, vii) the scale and character of the possible direct and indirect impacts by the project and the their potential environmental impacts, (viii) the period and budget of the project, (ix) The works to be done during the phase of information collection, such as the general condition of the project site, basic information for the detailed design, (x) The works to be done in the construction phase including the information of necessary materials, equipments, accommodations, human resources, (xi) The works to be done in the operation and maintenance phases with the detailed information of the process of the production and transformation, including the information of necessary inputs, such as human resources and equipments, in the processes and expected outputs, potential risks, possible emission gas, the character of the possible waste water and solid wastes generated in the processes, and (xii) The works to be done in the closure and abandonment phase.
- Baseline data of the project site: (i) location and area of the project site, area to be affected directly or indirectly by the project implementation, (ii) natural environment, such as climate, topography, geology, hydrology, soil, land use, air quality, contamination of soil, water quality, and other activities implemented in the area, if necessary, (iii) Biology, such as biodiversity, fauna and flora, ecosystem, protected area, buffer zone, landscape, habitats for the wild life and major issues on the ecosystem, (iv) social condition, such as demography, socioeconomic indicators, labor indicators, social services, basic infrastructures, major livelihood activities, and major land use, (v) cultural heritages, (vi) risk of natural and man-made disasters in the area to be affected by the project implementation, (vii) maps, such as location maps and thematic maps, and relevant tables and figures.
- Plan of community participation: the plan shall include the strategy of community participation, relevant activities and the observation from the local people at the public hearing. Also, it shall be mentioned that the plan of community participation needs to be implemented as a part of the environmental surveillance plan.
- Features of principal environmental impacts: The environmental impacts at the each phase for planning, implementation, management and closure shall be examined quantitatively based on the following steps: (i) analysis on possible environmental changes caused by the project implementation in comparison to the baseline, (ii) prevention of direct, indirect, cumulative and/or synergetic environmental impacts, and evaluation of risks to the actual condition of environment, society, culture and health, (iii) consideration on type of activities to be implemented in the project, the variety of environmental components to be affected, and the environmental features of the possible impacted area by the project, (iv) identification of possible environmental impacts, affected area and the scale of impacts by the usage of the appropriate mathematic models with the representative environmental indicators, and (v) consideration of the standard of environmental qualities (*Estándaderes de Calidad Ambietal: ECA*) and maxim permissible limits (*Limites Máximos Permisibles: LMP*)
- Also, the following components shall be considered in examination of the environmental impacts: (i) natural condition, such as climate, topography, hydrology, soil condition, noise level, vibration level, radiation level and air quality, (ii) Biological condition, such as terrestrial and aquatic ecosystems, habitats, conservation of wildlife and the extinction species, (iii) Socioeconomic and cultural conditions, such as level of life in the locality, affected people by the projects, lifestyle, custom, communities protected by laws, (iv) existence of plan of land law (*plan de ordenamiento territorial*), (v) existing infrastructures, (vi) potential and current land use, and (vii) landscapes and tourist spots
- In addition, the following components shall be taken into consideration in the evaluation of the environmental impacts: (i) characteristics of the impacts (positive, negative or neutral), (ii) the level of the environmental disturbance, (iii) the level of environmental significance (high, moderate and low), (iv) the possibility of occurrence of the risk (high, moderate and low) in the affected area, (v) the regional, local and punctual extension of the affected area, (vi) the duration of the occurrence of the impacts (long, medium and short), (vii) the possibility of the restoration of the initial condition of the site (possible without the human intervention, possible with the human intervention and need for creation of the new environmental condition, and (viii) the possibility of the enrichment of the biodiversity through the restoration, re-creation and restoration of the natural condition of the site.
- Strategy of environmental management (*Estrategia de Manejo Ambiental*): The strategy shall include the components such as (i) environmental management plan, including the prevention and mitigation plan of the expected environmental impacts, (ii) environmental surveillance plan including possible implementation mechanism of the environmental surveillance plan to secure the conduction of the environmental management plan and the environmental monitoring plan to abide the LMP or other relevant regulations, (iii) plan of the compensation, (iv) plan of community relation, including the plan of activities to keep the good relationship with the neighboring communities during the project cycle, (v) contingency plan, including the measures to be taken for the risk management and health management in each phase of construction, operation, maintenance, closure or abandon, (vi) the plan of closure, including the activities to be done in the closure phase of the project so that the condition of the project site can be left similar to that prior to the implementation of the project, (vii) budget plan for the implementation of the environmental management strategy, and (viii) list of responsible persons for the implementation of each plan of the environmental management strategy and the summary of the relevant budget allocation
- Economic evaluation of the environmental impacts
- The name of the company and their technical staffs who are in charge of EIA-d implementation and their signature
- Others requested by the executing agencies
- Relevant annexes

2) Evaluation of the EIA reports and emission of the resolution

As shown in Figure 13.3.1, the executing agency shall evaluate the relevant EIA reports[5] in case that the projects are classified as category 2 (*EIA-sd*) or category 3(*EIA-d*).

The evaluation process for EIA-sd shall be finalized in 90 days after the submission of the application documents for classification of the project. First, the executing agency shall revise and evaluate the EIA-sd report in the following 40 days. Then, the titular shall correspond to the comments from the executing agency within 30 days. In the remaining 20 days, the executing agency shall issue the resolution on the environmental certification.

For EIA-d, the evaluation process shall be terminated within 120 days. Among them, the 70 days shall be used for the revision and evaluation of the EIA-d report by the executing agency. In the following 30 days, the titular shall correspond to the comments from the executing agency. Then, the executing agency shall issue the resolution on the environmental evaluation in the remaining 20 days.

In case both for EIA-sd and EIA-d, the titular can extend the period for 20 days to correspond the comments from the executing agency.

Besides, if the technical comments from the other relevant agencies are required[6], the related processes shall be terminated in 40 days for EIA-sd report, which consist of 30 days for the evaluation of the report, and the remaining 10 days for the correspondence to the comments by the titular, and 50 days for EIA-d report, which consist of 40 days for the evaluation of the report, and the remaining 10 days for the correspondence to the comments by the titular[7].

(d) Duration and extension of the validity of the environmental studies and the environmental certification

Once the resolutions on the environmental reports are issued, the relevant environmental studies shall be revised based on the request from the titular to the executing agency after 5 years passed since the project has been started.

Also, if the titular has not initiated the implementation of the project after acquisition of the environmental certification, the environmental certification will be valid for 3 years. The extension of the duration of the validity can be accepted for 2 years based on the request by the titular.

(e) Strategic Environmental Assessment (*EAE*)

It is prescribed that EAE shall be applied in the planning of policies, plans and programs proposed by the ministries, regional and local governments[8]. The titular shall submit to MINAM the EAE reports including the following contents.

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[5] *The implementation of EIA and EAE shall be outsourced to the entities recorded in the registry of the authorized entities for the implementation of EAE and environmental studies (el registro de entidades autorizadas para elaborar Evaluación Ambiental Estratégica y Evaluación Ambiental).*

[6] *In case of implementation of 1) the projects in the protected area or buffer zone and 2) projects on water resource management, the comments from SERNANP(Servicio de Areas Naturales Protegidas por el Estado) and ANA(Autoridad National de Agua) are required respectively.*

[7] *Eventhough the comments from the other relevant agencies are required, it is prescribed that the total period of the evaluation of EIA-sd and EIA-d, 90 days and 120 days respectivey, is not subject to be changed.*

[8] *Based on the information obtained through the interview with MINAM. Accordingly, the policies, plans and programs covered by EAE shall be further examined by MINAM.*

Contents to be Included in Report of EAE

- Analysis of the objectives and contents of the proposed policies, plans and programs and relevancy to the other policies
- Evaluation of the objectives of EAE
- Current condition of the potential affected areas by the implementation of the policies, plans and programs, and the estimation of the future condition without the project
- Possible environmental impacts on the relevant components such as the environmental quality, conservation of natural and cultural heritages, use of natural resources, health and sanitation, communities and adaptation to the climate change, etc.
- Cumulative and synergetic environmental impacts which can be arisen in the short, medium and long term and their duration, if permanent or temporary
- Evaluation criteria of the environmental impacts to be caused by the implementation of the policies, plans and programs
- Selection of the alternative plans which are technically feasible
- Prevention and mitigation measures
- Method for the development of EAE
- Mechanism of the community participation
- Methods and strategies for the measures to be taken for the potential negative impacts EAE
- Resolution for the implementation of the measures for the environmental conservation considered in EAE by the titular
- Summary of the report for the examination by the citizens
- Other information required by the international regulations and donors

MINAM shall issue the environmental documents as the result of the revision of the EAE reports. Also, MINAM and the Organization of Environmental Evaluation and Auditing (*Organismo de Evaluación y Fiscalización Ambienta:OEFA*) are responsible for the supervision and management of the implementation of the proposed components in the EAE report

Since MINAM is currently preparing the regulation relevant to the EAE implementation and revising the detailed implementation process, the implementation of EAE does not seem to be determined yet as the duties of the relevant government agencies[9].

(f) Community participation

It is prescribed that the community participation shall be promoted in the projects of category 1,2 and 3, and EAE.

The possible methods to enhance the community participation by the titular and the executing agencies are public announcement, distribution of the summary of the reports of EIA or EAE, public access to the complete reports of the environmental studies, posting of the observations and proposals, offices of information and public participation, guided visit, consultation with the promoters, mechanism of conveyance of the observations and recommendations to the authorities, workshops and meetings for the information sharing, and public hearing with participation of interpreter who can manage the local languages[10].

Also, the public participation among the peasant and indigenous communities located at the affected areas shall be promoted in terms of their socio-cultural identities, customs and traditions based on the constitution and ILO Convention No. 169 so as to enhance the mutual understanding and mitigate the potential negative impacts

(g) Supervision and auditing

The executing agency shall supervise and audit the implementation of the projects covered by SEIA and sanction in case of no fulfillment of the activities described at the reports of the environmental studies. Also, the

[9] *Based on the information obtained through the interview with MINAM.*
[10] *Based on the information obtained through the interview with MINAM*

titular shall prepare the environmental monitoring report about the implementation of the described activities at the reports of the environmental studies and submit to the executing agencies.

MINAM and the executing agencies are responsible for the evaluation, monitoring and supervision of the environmental impacts at the public area caused by the implementation of the projects.

(3) Regulation on Transparency and Access to Environmental Information, and Public Consultations for Environmental Issues

The regulation promulgated in 2009 prescribes the enhancement of public participation in the EIA process, especially for the public hearing.

As mentioned in the former section, the public hearing shall be organized for the projects of category 3. In case that the executing agencies require the public hearing or the titular proposes it in the plan of the community participation, the public hearing shall be organized for the projects of category 2. The executing agencies shall hold the public hearing within 30 days after receiving the EIA reports.

The organization of the public hearing shall be announced 7 days prior to the organization through the display of the posters at the offices of the municipality of local governments and at least once of publication of the notice at the newspapers. Besides, the executing agency will announce the notice of the public hearing at the homepages.

In the announcement, the information such as (i) location, date and time of the public hearing, (ii) the offices for the disclosure of the relevant EIA reports and their summaries, (iii) the reception desk for the opinions from the communities within 30 days after the public hearing, shall be mentioned. The relevant reports shall be disclosure from the date of the announcement of the public hearing until the organization date.

At the public hearing, the titular shall explain the proposed project and the detailed contents of the EIA, including the conditions of the project site and the facilities to be constructed, the project period, number of the beneficiaries, direct or indirect impacts by the project, prevention and mitigation measures against the negative impacts and the compensation plan. The leader of the consulting team for EIA shall participate in the public hearing.

Within 30 days after the public hearing, the participants can submit the documents on approval or disapproval for EIA to the executing agencies. With respect to the change of the date of the public hearing, the prior request by the titular is required.

(4) Relevant Sectorial Regulations to SEIA

As mentioned in the former section, the executing agencies of SEIA are determined by sector with the regulation developed respectively for the evaluation of the environmental impacts. The regulations and guidelines developed by the relevant sector to the Master Plan are tabulated below.

Table 13.3.3 Regulations and Guidelines on Environmental Impact Assessment Developed by Relevant Sector to Master Plan

Regulations/guidelines	Year of promulgation	Contents
Agricultural sector		
Guide for the formulation of the TOR for the environmental impact study in the agricultural sector/ *Guía para la formulación de terminos de referencia para los estudios de impacto ambiental en el Sector Agrario*	1995	TOR of EIA for the agricultural sector, contents of the EIA reports, the implementation measures of EIA

Regulations/guidelines	Year of promulgation	Contents
Fishery sector		
General regulation of the environmental protection in the fishery and aquaculture acitivities/ *Reglamento General para la Protección Ambiental en las Actividades Pesqueras y Acuícolas (Decreto Supremo No.004-99-PE)*	1999	The executing agencies for EIA in the fishery sector, the implementing measures of EIA and plan of environmental adjustment and management (*Plan de Adecuacion y Manejo Ambiental:PAMA*)*1 、 supervision of the implementation of the described activities in EIA
Guide for the preparation of the EIA in the major scale of aquiculture activities/ *Guía para la Elaboración de Estudios de Impacto Ambiental en la Actividad Acuícola de Mayor Escala*	2008	Baseline survey of the project site, identification and evaluation of the possible impacts by the fishery and aquiculture activities, preparation of the environmental management plan
Guide of the community participation for the fisheries and aquiculture activities/ *Guía de Participación Ciudadana para las Actividades Pesqueras y Acuícolas en el Proceso de Evaluación de los Estudios de Impacto Ambiental*	2008	Preparation of the plan of public participation, steps for enhancement of public participation
Transport sector		
Regulation of consultation and public participation in the process of the environmental evaluation in the transport subsector / *Reglamento de Consulta y Participación Ciudadana en el proceso de Evaluación Ambiental y Social en el Subsector Transportes (RD No 006-2004-MTC)*	2004	Measures of the public consultation and disclosure of the EIA reports
Directories for the preparation and application of the plans of compensation and involuntary resettlement for the projects of transport infrastructures/ *Directries para la Elaboración y Aplicación de Planes de Compensación y Reasentamiento Involuntario para Proyectos de Infraestructura de Transporte*	2004	Contents of the plan of compensation and involuntary resettlements
Guide for the management of the projects of the departmental roads in the frame of the proposals of development of the indigenous communities/ *Guía para la Gestión de ¨Proyectos Viales Departamentales en el Marco de las Propuestas de Desarrollo de Pueblos Indígenas*	2005	Necessary consideration for the indigenous peoples in the each SNIP phase of projects of the departmental roads, the development plans of the indigenous communities, and the mechanism of the participatory evaluation and monitoring.
Methodological guide of the process of the consultation and public participation in the environmental and social evaluations in the transport subsector / *Guía Metodlógica de los Procesos de Consulta y Participación Ciudadana en la Evaluación Ambiental y Social en el Subsector Transportes*	2006	Public participation in the EIA process, the steps to be taken in the public consultation
Manual of the communal relation for the projects of road infrastructures/ *Manual de relaciones comunitarias para proyectos de infraestructura vial*	2006	Consideration to each stakeholder such as government, private companies and communities at each phase of the project
Guidelines for the preparation of the TORs for EIA for the projects of the road infrastructure / *Lineamientos para la elaboración de los Terminos de Referencia de los Estudios de Impacto Ambiental para proyectos de infraestructura vial.*	2007	Requirements for the entities for implementation of EIA, contents to be included in the EIA reports
Industry sector (Production)		
Regulation on the environmental protection in the manufacture activities (*Decreto Supremo No.019-97-ITINCI*)	1997	Implementation process of EIA, DIA and PAMA
Guide for the preparation of EIA, PAMA and preliminary environmental diagnostics with the format of environmental information/ *Guía para Elaboración de Estudios de Impacto Ambiental, Programas de Adecuación y Manejo Ambiental, Diagnóstico Ambiental Preliminar y formato de Informe Ambiental*	1999	Implementation process of EIA、DIA、PAMA and DAP, contents of the reports
Regime of sanctions and incentives for the development of the activities in the manufacture industry/ *Régimen de Sanciones e Incentivos de Reglamento de Protección Ambiental para el Desarrollo de Actividades en la Industria Manufactura (Decreto Supremo No.025-2001-ITINCI)*	2001	System and regulation of incentives and sanctions for the compliance of activities described in EIA, DIA and PAMA
Guide of matrix of the environmental risk/ *Guía de Matriz de Riesgo Ambientalsarrollo de Actividades en la Industria Manufacturaana en Asuntos Ambientals*	2001	Method of the verification of the environmental risk by the project to classify the project category

Regulations/guidelines	Year of promulgation	Contents
Guidance of public participation for the environmental protection in the manufacture industry / *Guía de Participación Ciudadana para la Protección Ambiental en la Industria Manufacturera (Resolucion Ministral Nº 027-2001-MITINCI-DM)*	2001	Process and mechanism of EIA and public participation in the implementation stage of the projects

Note 1: Plan of environmental adjustment and management (PAMA) include the prevention, mitigation, restoration measures with the compensation plans for environmental impacts caused by the existing projects so that the existing projects can abide the environmental regulations promulgated after the closure of the projects.

(5) Other relevant laws and regulations

(a) National System of Public Investment (*SNIP*)

SNIP is a system of evaluation and approval of the proposed programs with the aim to distribute effectively the governmental budget. The responsible agency of SNIP is General Directorate of Multiannual Programming of Public Sector (*DPGM*), MEF. Under DPGM, the National Investment Programming Office (*OPI-GN*), the Regional Investment Programming Office (*OPI-GR*), the Local Investment Programming Office (*OPI-GL*), Formulating Unit (*UF*) and Executing Unit (*UE*) are located.

The general procedures of SNIP are composed of (i) prior investment, (ii) investment and (iii) ex-post investment. Furthermore, the prior investment is classified in 4 steps which requires respective survey as shown below.

Table 13.3.4 Study Required Depending on Investment Amount in SNIP

Classification of Projects	Investment Amount	Required Study
Simple investment	Less than 1,200,000 soles	Simple PERFIL prepared based on the format
Small scale	Less than 6,000,000 soles	PERFIL
Medium scale	Between 6,000,001and 10,000,000 soles	PRE-F/S
Large scale	More than 10,000,000 soles	F/S

Source: JICA Study Team

The studies on Pre-F/S and F/S require the examination of the possible environmental impacts to be caused by the project implementation. The report on Pre-F/S shall include (i) possible positive and negative environmental impacts generated by the project implementation, and (ii) mitigation measures and the cost estimation. Meanwhile, the report on F/S shall contain (i) results of the EIA approved by the executing agency by sector and (ii) the project cost including the cost of the mitigation plan.

The responsible agency for the studies in the prior investment is UE, while that for the evaluation and approval of the projects based on the results of the studies is the relevant OPI[11].

(b) Environmental standards

The principal environmental standards in Peru are Environmental Quality Standards (*Estándares de Calidad Ambietal: ECA*) and Maximum Permissible Limits (*Limites Máximos Permisibles: LMP*). ECA are the indicators of the environmental quality which show the level of concentration of materials in air, water and soil, and constituents of physical, chemical and biological components. And LMP implies the level of concentration of materials and relevant constituents in the emissions and effluents derived from the industry activities.

The following table summarized the regulations relevant to ECA and LMP.

Table 13.3.5 Standards and Regulations of ECA

Laws/Standards	Year
Regulation of the national standards of environmental quality for air/ *Reglamento de Estándares Nacionales de Calidad Ambiental de Aire (Decreto Supremo No.074-2001-PCM)*	2001

Laws/Standards	Year
Establishment of the annual value of concentration of zinc/ *Establecen Valor Annual de Concentración de Plomo (Decreto Supremo No.069-2003-PCM)*	2003
Approval for the Regulation of the national standards of environmental quality for noise / *Aprueban el Reglamento de Estándares Nacionales de Calidad Ambiental (Decreto Supremo No.085-2003-PCM)*	2003
Approval for the national standards of environmental quality for water / *Aprueban Estándares Nacionales de Calidad Ambiental para Agua (Decreto Supremo No.002-2008 MINAM)*	2008
Approval for the national standard of environmental quality for air / *Aprueban Estándares Nacionales de Calidad Ambiental de Aire (Decreto Supremo No.003-2008 MINAM)*	2008

Source: JICA Study Team based on the information collected at the web of MINAM

Table 13.3.6 Standards and Laws of LMP

Sector	Law/Standard	Year
Production	Approval of the maximum permissible limits and reference values for the industrial activities of cement, beer, tannery and paper manufacture/ *Aprueban Limites Máximos Permisibles y valores referenciales para las actividades industriales de cemento, cerveza, curtiembre, papel (Decreto Supremo Nº 003-2002-PRODUCE)*	2002
	Approval of the maximum permissible limits of the effluents of the industry of flour milling and fish oil/ *Aprueban Límites Máximos Permisibles de Efluentes de la Industria de Harina y Aceite de Pescado (Decreto Supremo Nº 010-2008-PRODUCE)*	2008
	Approval of the maximum permissible limits for the emissions of the industry of flour milling, fish oil, and flour milling made from the hydro-biological residues/ *Aprueban Límites Máximos Permisibles para las emisiones de la Industria de Harina y Aceite de Pescado y Harina de Residuos Hidrobiológicos (Decreto Supremo Nº 011-2009-MINAM)*	2009
Transport and communication	Establishment of the maximum permissible limits of the contaminant emissions for the vehicles, auto motors/ *Establecen Límites Máximos Permisibles de emisiones contaminantes para vehículos automotores que circulan en la red vial (Decreto Supremo Nº 047-2001-MTC)*	2001

Source: JICA Study Team based on the information obtained from the website of MINAM

(c) Other relevant laws and regulations

The following table shows the other laws and regulations relevant to EIA.

Table 13.3.7 Other Laws and Regulations Relevant to EIA

Laws/Regulations	Year	Contents
Legal framework of the increment of the private investment/ *Ley Marco para el crecimiento de la inversion privada (Decreto Legislativo N° 757)*	1991	The necessity of EIA in implementation of the projects by the private companies
Law of evaluation of environmental impact for the constructions and activities/ *Ley de Evaluacion de Impacto Ambiental para Obras y Actividades(Ley No.26786)*	1997	The amendment of the above-mentioned legal framework, with the prescription of the role of CONAM, which were merged into MINAM, in the implementation of EIA
Regulation of the law of natural protected areas/ *Reglamento de la Ley de Áreas Naturales Protegidas (Decreto Supuremo No.038-2001-AG)*	2001	The necessity of the acquisition of the approval from INRENA for EIA and PAMA of the projects prior to the issuance of the environmental certifications by the executing agencies, in case of the projects planned in the buffer zones of the protected areas
Forestry and wildlife law/ *Ley Forestal y de Fauna Silvestre (Ley No 27308)*	2000	Implementation of EIA as a part of the forest management plan
Legal framework of the environmental management/ *Ley Marco del Sistema Nacional de Gestión Ambiental (Ley N°28245)*	2004	Definition of SEIA as one of the tools for the environmental management and assignment of CONAM to responsible agency for SEIA
Law of protection for the access to the Peruvian biodiversity and the collective knowledge of the indigenous communities/ *Ley de Protección al Acceso a la Diversidad Biológica Peruana y los Conocimientos Colectivos de los Pueblos Indigenas(Ley N°28216)*	2004	Creation and the role of the National Commission for the access to the Peruvian biodiversity and the collective knowledge of the indigenous people (*Comisión Nacional para la Protección al Acceso a la Diversidad Biológica Peruana y a los Conocimientos Colectivos de los pueblos indígenas*)
General environmental law/ *Ley General del Ambiente (Ley N°28611)*	2005	Application of SEIA to any projects, programs and policies and the definition of EIA and PAMA
Water resouces law/ *Ley de Recursos Hídricos (Ley Nº 29338)* º	2009	Use and management of the water resources such as surface and ground water, definition and mechanism of the national system of water resources management, National Authority of Water (*ANA*),

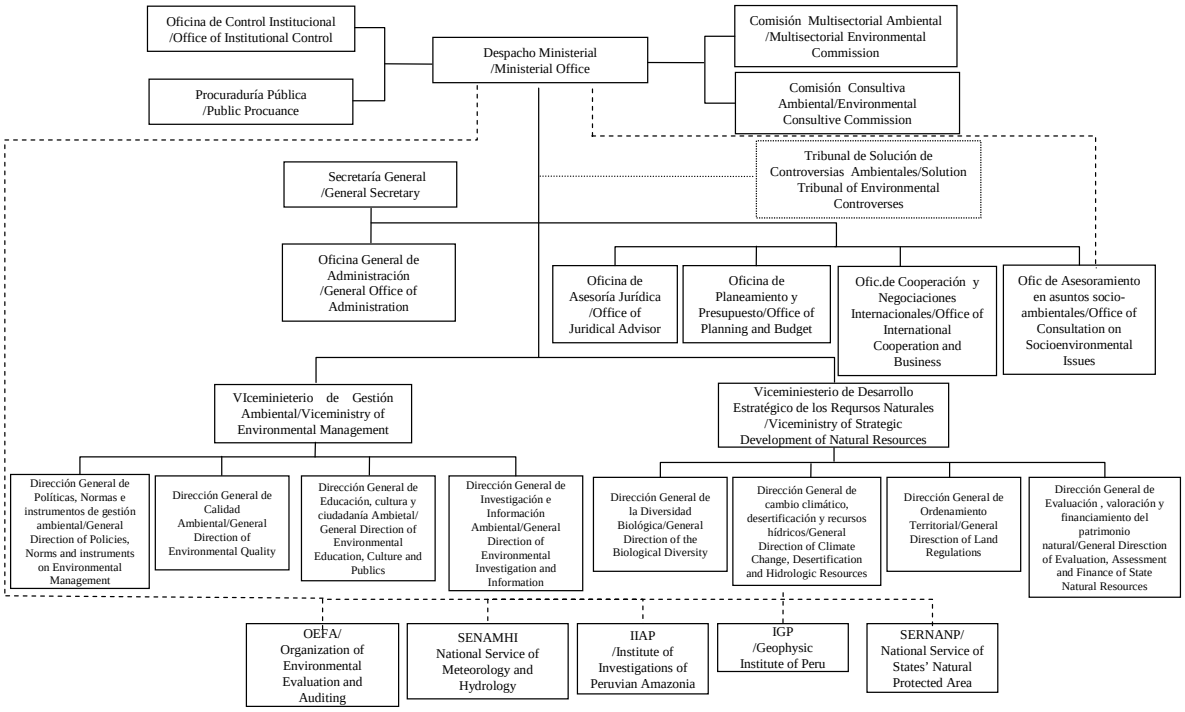
Laws/Regulations	Year	Contents
		and watershed council, user organizations, water use rights and the process of request of the water use rights
Regulation of the water resources law/ *Reglamento de la Ley de Recursos Hídricos (D.S.001-2010-AG)*	2010	Water use rights, the process of request of the water use rights, servitude, water use right among the peasants and indigenous communities, conservation of the water sources, environmental flow, surcharge on the water use, preparation of the plan of water use
Regulation of the archeological investigations / *Reglamento de Investigaciones Arqueológicas (Resolución Suprema No 004-2000-ED)*	2000	The necessity of the acquisition of the certification of inexistence of archeological remains (*Certificación de Inexistencia de Restos Arqueológicos:CIRA*) for the project implementation in terms of conservation of cultural and archaeological heritages, and the process of the project of archaeological evaluation to request and acquire CIRA
General law of expropriation/ *Ley general de Expropiaciones (Ley Nº 27117)*	1999	The process of the expropriation for the public works, including the request for the public use of the land, confirmation of the necessity of the expropriation, evaluation of the amount of compensation, payment of the compensation and expropriation

Source: JICA Study Team based on the website of MINAM

13.3.2 Responsible Governmental Agencies for Environmental and Social Considerations

(1) Ministry of Environment (MINAM)

The General Direction of Policies, Norms and Instruments of Environmental Management (*Dirección General de Políticas, Normas e Instrumentos de Gestión Ambiental*) , MINAM is responsible for the development of the legal systems of evaluation of the environmental impacts and supervision of SEIA. The following figure shows the organization chart of MINAM.



Source: JICA Study Team based on the information obtained from MINAM

Figure 13.3.2 Organization Chart of MINAM

(2) Executing Agencies of Sectors and GRA

Although the administrative functions have been transferred from the central government to the regional

governments as the result of the enhancement of decentralization, the jurisdiction of GRA is not still conferred enough to be capable as the executing agencies of SEIA. The following table shows the executing agencies for the evaluation of the environmental impacts depending on the types and scale of the projects relevant to the Master Plan.

Table 13.3.8 Executing Agencies for Evaluation of Environmental Impacts depending on Types and Scale of Projects Relevant to Master Plan

Items	Types of Projects Covered by SEIA Responsible Executing Agencies	
Sector	**Central Government**	**GRA**
Agriculture	Projects of agriculture, livestock, forestry, and agricultural products processing	No projects transferred yet
	General Direction of Environmental Matters, Ministry of Agriculture (*Direccion General de Asuntos Ambientales, Ministerio de Agricultura*)	-
Fishery (Inland fisheries)	Production more than 50 tons*1	Production less than 50 tons*2
	General Direction of Environmental Matters of Fisheries, Vice ministry of Fisheries, Ministry of Production (*Direccion General de Asuntos Ambientales de Pesqueria, Viceministerio de Pesqueria, Ministerio de Produccion*)	Relevant direction in the regional government
Roads	National roads	Regional and local roads
	General Direction of Socio-environmental Matters, Ministry of Transport and Communications (*Dirección General de Asuntos Socio Ambientales, Ministerio de Transporte y Comunicaciones*)	Regional Direction of Transport and Communications, Regional Management Department of Infrastructure (*Dirección Regional de Transporte y Comunicaciones, Gerencia Regional de Infraestructura*)
Industry (Manufacture)	Projects of manufacture	No projects transferred yet
	Direction of Environmental Matters of Industry, Vice ministry of Industry, PRODUCE (*Dirección de Asuntos Ambientales de Industria, Viceministerio de Industria, PRODUCE*)	-

Note 1: The report of EIA-sd is required. 2: The DIA is required.

Source: JICA Study Team based on the interview with the staffs of the central and regional governmental organizations

13.4 Evaluation of Potential Environmental and Social Impacts to be caused by Proposed Projects and Mitigation Plans

13.4.1 Possibility of Application of SEIA to Proposed Projects

As shown in Chapter 11 and the following table, the Master Plan consists of 39 proposed projects from 9 sectors to attain the improvement of livelihood and the mitigation of vulnerability.

Among them, 22 projects can be subject to the application of SEIA mentioned in Clause 13.3.1. The necessary measures, such as request to the relevant executing agencies of SEIA and implementation of EIA, shall be conducted as the scale and components of the projects are determined through the detailed study such as F/S to be implemented after this Study.

Table 13.4.1 Possibility of Application of SEIA to Proposed Projects of Master Plan

Sector	Project	Possibility of Application of SEIA (Responsible sectors)*	Project types prescribed in Regulation of Law of SEIA
I Program for Improvement of Livelihood			
(a) Farming/ Extension	I-(a)-1: High Quality Seeds and Nursery Production Project	-	-
	I-(a)-2: Market Competitiveness Strengthening and Crop Diversification Promotion Project	-	-
	I-(a)-3: New Crop Production Development Project	Possible (Agricultural Sector)	39. Projects of cultivation for bio-fuel production
	I-(a)-4: Agriculture Extension Service Strengthening Project	-	
(b) Livestock	I-(b)-1: Milk Production Support Project	Possible (Agricultural Sector)	19. Animal breeding farms
	I-(b)-2: Beef Cattle Production Project	ditto	ditto
	I-(b)-3: Alpaca Production Support Project	Possible (Agricultural Sector)	19. Animal breeding farms
	I-(b)-4: Vicuña Management and Conservation Project	ditto	20. Management and use of wild flora and fauna in accordance with the law of forest and wild animals (*Ley No 27308, Ley Forestal y de Fauna Silvestre*)
	I-(b)-5: Cuy Production Efficiency Improvement Project	ditto	19. Animal breeding farms
	I-(b)-6: Mutton and Wool Production Support Project	ditto	ditto
(c) Inland Fishery	I-(c)-1: Inland Fishery Support Institution Capability Strengthening Project	-	-
	I-(c)-2: Extension System Establishment Project for Small-scaled Aquaculture Production Organization	-	-
	I-(c)-3: Small-scaled Aquaculture Pond Construction Project	Possible (Fishery Sector)	1. Low scale aquaculture, subsistence, seed production, settlement and repopulation, for those cases that have not been transferred to the regional governments.
(d) Reforestation / Environmental Conservation	I-(d)-1: Reforestation Plan Preparation Project	-	-
	I-(d)-2: Production Forestry Creation Project	-	-
	I-(d)-3: Agroforestry Support Project	Possible (Agricultural Sector)	15. Agroforestry activities and primary transformation of the products of agriculture and live stocks
(e) Irrigation	I-(e)-1: Cuchosquesera Dam Emergency Construction Project	Possible (Agricultural Sector)	7. Irrigation projects
	I-(e)-2: Ingalla Dam and Irrigation Canals Construction Project	ditto	ditto
	I-(e)-3: Expansion and Improvement Project of Secondary Canal in Tambillo No.7 Irrigation Unit, Stage II in the Ex PERC Irrigation System	ditto	ditto
	I-(e)-4: New Construction and Expansion Irrigation Project	ditto	ditto
	I-(e)-5: Existing Irrigation Improvement and Rehabilitation Project	ditto	ditto

Sector	Project	Possibility of Application of SEIA (Responsible sectors)*	Project types prescribed in Regulation of Law of SEIA
	I-(e)-6: Technical Irrigation Project	ditto	ditto
	I-(e)-7: Irrigation Basic Information and Database System Building Project	-	-
(f) Road	I-(f)-1: Road Infrastructure Development Project	Possible (Transport Sector)	1. New projects of road infrastructure: highways, ports, airports, railways and heliports.
	I-(f)-2: Acos Vinchos District Main Road Improvement	ditto	3. Highways, ports, airports, railways and heliports improvement
	I-(f)-3: Vicanchos-Ccaruaccocco District Main Road Construction Project	ditto	1. New projects of road infrastructure: highways, ports, airports, railways and heliports.
	I-(f)-4: Ayahuanco-Sntillana-Llochegua District Main Road Improvement	-	-
	I-(f)-5: Community Road Participatory O&M Promotion Project	-	-
	I-(f)-6: Road Improvement and O&M Strengthening Project	-	-
(g) Agricultural Production Distribution/ Agro-processing	I-(g)-1: Market Distribution System Establishment Project for Agriculture Production	Possible (Agricultural Sector)	24. Classification, washing and carding of wool, fiber, fur and feather, 25. Production of cheese, yogurt, butter, milk caramel (manjare) and analogous of milk origin, as primary transformation based on fresh milk, 33. Peeling, fermentation, classification, toasted and grinding as the primary transformation of coffee, cocoa beans and other seeds 50. Facilities for meat processing
	I-(g)-2: Distribution Infrastructure Construction Promotion Project	-	-
	I-(g)-3: Agro-processing Industry Promotion Project	Possible (Agricultural Sector)	15. Agroforestry activities and primary transformation of the products of agriculture and live stocks, 24. Classification, washing and carding of wool, fiber, fur and feather, 31. Production of flour, starch of yucca, potato, other tuber and roots, which are the products of primary transformation, 50. Facilities for meat processing,
		Possible (Industrial Sector)	3. Installing and operation of Bio-fuel plants (Bio-diesel B100, alcohol fuel)
(h) Institutional Building	I-(h)-1: Support Capability Strengthening Project for Production Organization by Local Government	-	-
	I-(h)-2: Promotion Capability Strengthening Project for Public Investment Works by Local Government	-	-

Sector	Project	Possibility of Application of SEIA (Responsible sectors)*	Project types prescribed in Regulation of Law of SEIA
II. Program for Mitigation of Vulnerability			
(a) Vulnerability Measures	II-(a)-1: Basic Information Arrangement Project for Vulnerability Mitigation Capability Building	-	-
	II-(a)-2: Climate Monitoring Strengthening and Observation Network System Establishment Project for Vulnerability Mitigation Capability Building	-	-
	II-(a)-3: Community Vulnerability Mitigation Capability Building Project	-	-
	II-(a)-4: Urgent Rehabilitation Project for Frequent Disaster Occurrence Roads	Possible (Transport Sector)	4. Rehabilitation and Improvement of highways, ports, airports, railways and heliports
(b) Reforestation/ Environmental Conservation	II-(b)-1: Soil Conservation Measure Project	-	-

Note - : No responsible sector applied*

Source : JICA Study Team

13.4.2 Result of Screening and Scoping in accordance with JICA Guidelines for Environmental and Social Considerations and Mitigation Measures

With an aim to mitigate the negative environmental and social impacts by the Master Plan, the proposed projects in the Master Plan were evaluated by the following steps based on the current JICA Guidelines for Environmental and Social Considerations.

Step 1: All the 39 projects were conducted screening with the checklist shown in Table 13.4.2.

Step 2: The scale and characteristics of the potential impacts by the implementation of each project was examined.

(1) Result of Screening

In order to evaluate the environmental impacts by the screening, the following criteria were used to evaluate the potential natural and social impacts by the projects.

Evaluation criteria

- A+/-: Significant positive/negative impacts are expected.
- B+/-: Some positive/negative impacts are expected.
- C+/-: The level of the positive/negative impacts cannot be identified yet at this stage. (The further studies are required to be implemented after this Study.)
- -: No negative impacts are foreseen.

The results of the screening of the projects proposed in the Master Plan are shown below.

Table 13.4.2(1) Results of Screening of the Projects Proposed in Master Plan

Program			Ⅰ. Program for Improvement of Livelihood																						
Sector			Farming/Extension				Livestock						Inland Fishery			Reforestation /Environmental Conservation			Irrigation						
		Project Code	I-(a)-1	I-(a)-2	I-(a)-3	I-(a)-4	I-(b)-1	I-(b)-2	I-(b)-3	I-(b)-4	I-(b)-5	I-(b)-6	I-(c)-1	I-(c)-2	I-(c)-3	I-(d)-1	I-(d)-2	I-(d)-3	I-(e)-1	I-(e)-2	I-(e)-3	I-(e)-4	I-(e)-5	I-(e)-6	I-(e)-7
Social Condition	1	Involuntary resettlement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	C-	C-	C-	C-	-	C-	-
	2	Local Economy such as Employment & Livelihood, etc.	B+	B+	B+	B+	B+	B+	B+	B+	B+	B+	B+	B+	B+	C+	B+	B+	B+/C-	B+/C-	B+/C-	B+/C-	B+	B+/C-	-
	3	Land use & Utilization of Local	B+	B+	B+	B+	B+	B+	B+	B+	B+	B+	B+	B+	C-	B+	B+	B+	B+/C-	B+/**B-**	B+/C-	B+/C-	B+	B+/C-	-
	4	Regional severance	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	C-	C-	C-	C-	C-	C-	-
	5	Existing social infrastructure & Services such as Traffic/Existing Public Facilities	C+	C+	C+	-	C+	C+	C+	C+	C+	C+	-	-	-	-	-	-	B+	C+	B+	B+	B+	B+	B+
	6	Social vulnerable groups such as the poverty and ethnic minority	B+	B+	B+	B+	B+	B+	B+	B+	B+	B+	B+	B+	B+	B+	B+	B+	B+/C-	B+/C-	B+/C-	B+/C-	B+	B+/C-	-
	7	Inequality between beneficiaries and project-affected peoples	**B-**	**B-**	**B-**	**B-**	**B-**	**B-**	**B-**	**B-**	**B-**	**B-**	-	**B-**	**B-**	**B-**	**B-**	**B-**	-	**B-**	**B-**	**B-**	**B-**	**B-**	-
	8	Cultural heritage	C-	C-	C-	C-	C-	C-	C-	C-	C-	C-	C-	-	C-	C-	C-	C-	C-	C-	C-	C-	C-	C-	-
	9	Conflict of interests	C-	C-	C-	C-	C-	C-	C-	C-	C-	C-	-	-	C-	C-	C-	C-	C-	C-	C-	C-	-	C-	-
	10	Water use right and common land use	**B-**	-	-	-	C-	C-	C-	C-	C-	-	**B-**	-	**B-**	C-	**B-**	**B-**	B+/C-	B+/**B-**	B+/**B-**	B+/**B-**	C-	B+/**B-**	-
	11	Sanitation	**B-**	**B-**	B+/**B-**	**B-**	B+	B+	B+	B+	B+	B+	B+	B+	B+	-	-	-	**B-**	**B-**	**B-**	**B-**	**B-**	**B-**	-
	12	Disaster (natural risk) and epidemic as	-	-	-	-	C+	C+	C+	C+	C+	C+	-	-	-	-	-	-	C-	**B-**	C-	C-	-	C-	-
Natural Condition	13	Topography and geology	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	C-	**B-**	C-	C-	-	C-	-
	14	Soil erosion	-	-	C-	-	B+	B+	B+	B+	B+	B+	C-	-	C-	B+	B+	B+	C-	**B-**	C-	C-	-	C-	-
	15	Ground water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	C-	-	-	-	-	-	-
	16	Flow regime of lake and river	-	-	-	-	-	-	-	-	-	-	C-	-	C-	-	-	-	-	**B-**	-	C-	-	C-	-
	17	Coastal and sea area	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	18	Flora and fauna	-	**B-**	-	-	-	-	-	-	-	B+	-	-	-	B+/C-	B+/C-	B+/C-	**B-**	**B-**	**B-**	**B-**	C-	**B-**	-
	19	Climate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	20	Landscape	-	-	-	-	-	-	-	-	-	-	-	-	-	B+	B+	C+	**B-**	**B-**	**B-**	**B-**	-	**B-**	-
	21	Global warming	-	-	-	-	-	-	-	-	-	-	-	-	-	B+	B+	C+	-	-	-	-	-	-	-
Pollution	22	Air pollution	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**B-**	**B-**	**B-**	**B-**	**B-**	**B-**	-
	23	Water pollution	C-	C-	B+/C-	C-	C+/C-	C+/C-	C+/C-	C+/C-	C+/C-	C+/C-	B+ /C-	-	C-	-	-	-	-	**B-**	**B-**	**B-**	**B-**	**B-**	-
	24	Soil pollution	**B-**	**B-**	B+/**B-**	**B-**	-	-	-	-	-	-	-	-	-	-	-	-	C-	C-	C-	C-	C-	C-	-
	25	Waste	C-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**B-**	**B-**	**B-**	**B-**	**B-**	**B-**	-
	26	Noise and vibration	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	C-	C-	C-	-	C-	-	-
	27	Ground subsidence	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	28	Offensive odor	-	-	-	-	C+/C-	C+/C-	C+/C-	C+/C-	C+/C-	C+/C-	-	-	-	-	-	-	C-	C-	C-	-	C-	-	-
	29	Bottom sediment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**B-**	**B-**	-	-	-	-
	30	Accident	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**B-**	**B-**	**B-**	**B-**	**B-**	**B-**	-

The Evaluation Criteria are as follows: A+/-: Significant positive/negative impacts are expected, B+/-: Some positive/negative impacts are expected, C+/-: The level of the positive/negative impacts cannot be identified yet at this stage. (The further studies are required to be implemented after this Study.),and -: No negative impacts are foreseen.

The projects corresponding to each code as follows: I-(a)-1. High Quality Seeds and Nursery Production Project, I-(a)-2. Market Competitiveness Strengthening and Crop Diversification Promotion Project, I-(a)-3. New Crop Production Development Project, I-(a)-4. Agriculture Extension Service Strengthening Project, I-(b)-1. Milk Production Support Project, I-(b)-2. Beef Cattle Production Project, I-(b)-3. Alpaca Production Support Project, I-(b)-4. Vicuña Management and Conservation Project, I-(b)-5. Cuy Production Efficiency Improvement Project, I-(b)-6. Mutton and Wool Production Support Project, I-(c)-1. Inland Fishery Support Institution Capability Strengthening Project, I-(c)-2. Extension System Establishment Project for Small-scaled Aquaculture Production Organization, I-(c)-3. Small-scaled Aquaculture Pond Construction Project, I-(d)-1. Reforestation Plan Preparation Project, I-(d)-2. Production Forestry Creation Project, I-(d)-3. Agroforestry Support Project, I-(e)-1. Cuchosquesera Dam Emergency Construction Project, I-(e)-2. Ingalla Dam and Irrigation Canals Construction Project I-(e)-3. Expansion and Improvement Project of Secondary Canal in Tambillo No.7 Irrigation Unit, Stage II in the Ex PERC Irrigation System, I-(e)-4. New Construction and Expansion Irrigation Project, I-(e)-5. Existing Irrigation Improvement and Rehabilitation Project, I-(e)-6. Technical Irrigation Project, I-(e)-7. Irrigation Basic Information and Database System Building Project

Table 13.4.2(2) Results of Screening of the Projects Proposed in MasterPlan

Program			Ⅰ.Program for Improvement of Livelihood											Ⅱ.Program for Mitigation of Vulnerability				
Sector			Road						Agricultural Production Distribution/Agro-processing			Institutional Building		Vulnerability Measures				Reforestation /Environmental
Project Code			I-(f)-1	I-(f)-2	I-(f)-3	I-(f)-4	I-(f)-5	I-(f)-6	I-(g)-1	I-(g)-2	I-(g)-3	I-(h)-1	I-(h)-2	II-(a)-1	II-(a)-2	II-(a)-3	II-(a)-4	II-(b)-1
Social Condition	1	Involuntary resettlement	C-	C-	C-	-	-	-	C-	C-	C-	-	-	-	-	-	C-	-
	2	Local Economy such as Employment & Livelihood, etc.	B+	B+	B+	B+	B+	-	B+	B+	B+	B+	C+	-	B+	B+	B+	B+
	3	Land use & Utilization of Local Resources	C+/**B-**	C+/**B-**	C+/**B-**	C+/C-	-	-	B+/**B-**	B+/**B-**	B+/**B-**	-	-	B+	B+	B+	C+/**B-**	B+
	4	Regional severance	B+/ C-	C-	B+/C-	B+	-	-	-	C-	C-	-	-	-	-	-	C-	-
	5	Existing social infrastructure & Services such as Traffic/Existing Public Facilities	B+	B+	B+	B+	B+	-	B+	B+	C+	-	-	B+	-	C+	B+	-
	6	Social vulnerable groups such as the poverty and ethnic minority	B+/C-	B+/C-	B+/C-	B+	B+	B+	B+	B+	B+	-	-	-	B+	B+	B+/C-	B+
	7	Inequality between beneficiaries and project-affected peoples	**B-**	**B-**	**B-**	**B-**	**B-**	-	**B-**	**B-**	**B-**	C-	-	-	**B-**	**B-**	**B-**	**B-**
	8	Cultural heritage	C-	C-	C-	C-	-	-	C-	C-	C-	-	-	-	-	-	C-	C-
	9	Conflict of interests	C-	C-	C-	C-	C-	-	C-	C-	C-	C-	-	-	-	C-	C-	C-
	10	Water use right and common land use right	C-	C-	C-	C-	C-	-	C-	C-	C-	-	-	-	-	C-	C-	B-
	11	Sanitation	**B-**	**B-**	**B-**	C-	-	-	**B-**	**B-**	B+/**B-**	-	-	-	-	B+	**B-**	-
	12	Disaster (natural risk) and epidemic as HIV	B+ /**B-**	B+ /C-	**B-**	C-	-	-	C-	C-	C-	-	-	B+	B+	B+	B+ /C-	-
Natural Condition	13	Topography and geology	**B-**	C-	**B-**	C-	-	-	-	-	-	-	-	-	-	-	C-	-
	14	Soil erosion	B+ /**B-**	B+/C-	B+/**B-**	B+/C-	C-	-	-	-	-	-	-	-	-	-	B+/C-	B+
	15	Ground water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	16	Flow regime of lake and river	C-	-	C-	-	-	-	-	-	-	-	-	-	-	-	-	-
	17	Coastal and sea area	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	18	Flora and fauna	**B-**	**B-**	**B-**	C-	-	-	C-	C-	C-	-	-	-	-	-	**B-**	B+/C-
	19	Climate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	20	Landscape	**B-**	C-	**B-**	C-	-	-	C-	C-	C-	-	-	-	-	-	C-	B+
	21	Global warming	-	-	-	-	-	-	-	-	B+	-	-	-	-	-	-	B+
Pollution	22	Air pollution	**B-**	**B-**	**B-**	-	-	-	C-	C-	C-	-	-	-	-	-	C-	-
	23	Water pollution	**B-**	C-	**B-**	C-			**B-**	**B-**	**B-**	-	-	-	-	-	C-	-
	24	Soil pollution	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	25	Waste	**B-**	**B-**	**B-**	**B-**	-	-	**B-**	**B-**	**B-**	-	-	-	-	-	**B-**	-
	26	Noise and vibration	C-	C-	C-	C-	-	-	C-	C-	C-	-	-	-	-	-	C-	-
	27	Ground subsidence	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	28	Offensive odor	C-	C-	C-	C-	-	-	C-	C-	C-	-	-	-	-	-	C-	-
	29	Bottom sediment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	30	Accident	**B-**	**B-**	**B-**	**B-**	-	-	C-	C-	C-	-	-	-	-	-	**B-**	-

The Evaluation Criteria are as follows: A+/-: Significant positive/negative impacts are expected, B+/-: Some positive/negative impacts are expected, C+/-: The level of the positive/negative impacts can not be identified yet at this stage. (The further studies are required to be implemented after this Study.),and -: No negative impacts are foreseen.

The projects corresponding to each code as follows: I-(f)-1. Road Infrastructure Development Project, I-(f)-2. Acos Vinchos District Main Road Improvement, I-(f)-3. Vicanchos-Ccaruaccocco District Main Road Construction Project, I-(f)-4. Ayahuanco-Sntillana-Llochegua District Main Road Improvement, I-(f)-5. Community Road Participatory O&M Promotion Project, I-(f)-6. Road Improvement and O&M Strengthening Project, I-(g)-1. Market Distribution System Establishment Project for Agriculture Production, I-(g)-2. Distribution Infrastructure Construction Promotion Project, I-(g)-3. Agro-processing Industry Promotion Project, I-(h)-1. Support Capability Strengthening Project for Production Organization by Local Government, I-(h)-2. Promotion Capability Strengthening Project for Public Investment Works by Local Government, II-(a)-1. Basic Information Arrangement Project for Vulnerability Mitigation Capability Building, II-(a)-2. Climate Monitoring Strengthening and Observation Network System Establishment Project for Vulnerability Mitigation Capability Building, II-(a)-3. Community Vulnerability Mitigation Capability Building Project, II-(a)-4. Urgent Rehabilitation Project for Frequent Disaster Occurrence Roads, II-(b)-1. Soil Conservation Measure Project

(2) Result of the Scoping and Mitigation Measures

As the result of the screening mentioned in the former section, some extent of the negative impacts would be expected (B-) for the following 21 environmental components. The following table shows the timing of the occurrence of the impacts and the possible mitigation measures.

Details of Negative Impacts	Projects	Timing of Occurrence of Impacts	Mitigation Measures
Land use & Utilization of Local Resources (No.3)			
The original land use can be affected by the construction of facilities	I-(e)-2, I-(f)-1~3, I-(g)-1~3, II-(a)-4	Planning and Construction stages	Selection of the project sites through the discussion with the community Compensation to the land owners and preparation of the alternative sites
Inequality between beneficiaries and project-affected peoples (No.7)			
The benefits raised by the projects can be distributed inequally especially to the women and indigenous people	I-(a)-1~4, I-(b)-1~6, I-(c)-2, I-(c)-3, I-(d)-1~3, I-(e)-2~6, I-(f)-1~5, I-(g)-1~3, II-(a)-2~4, II-(b)-1	Construction stage	Assistance and consideration to the enhancement of the participation of indigenous people and women since the planning stages Coordination with INDEPA and MIMDES (Ministry of women and social development)
Water use right and common land use right (No.10)			
The water allocation to the nurseries can affect the other water use especially in the shortage of water.	I-(a)-1, I-(d)-2, I-(d)-3	Construction stage	Investigation of the water sources prior to the construction of the facilities and confirmation of the water use in the surrounding area Organization of the discussion among the communities in case of the difficulty of the water allocation to the nursery in the season of the water shortage.
The new construction of the dams, reservoirs and fish ponds can affect the water use both of upper and downstream.	I-(c)-1, I-(c)-3, I-(e)-2~4, I-(e)-6	Construction stage	Confirmation of the water use at the surrounding area Examination of the alternative project sites Discussion and coordination with the relevant agencies and communities about the water use
Sanitation (No.11)			
There is a possibility to cause the health problem due to over input of the agrochemicals and fertilized	I-(a)-1~4	Operational stage	Use of agrochemicals in compliance with the government regulation Technical assistance by DRA to the communities about the application of the agrochemicals
Inflow of the workers during the construction can worsen the condition of sanitation at the site.	I-(e)-1~6, I-(f)-1~, II-(a)-4	Construction stage	Supervision of the sanitation management Installation of the toilet facilities Collection of the wastes
The inadequate management of the condition of sanitation at the markets, the gathering, and agricultural processing plants can cause the outbreak of the infective diseases.	I-(g)-1~3	Construction and operational stages	Request and acquisition of the necessary permission for the operation of the facilities and vehicles to SENASA (National Service of Agrarian Services) Installation of the sanitary facilities such as toilets and wash rooms
Disaster (natural risk) and epidemic as HIV (No.12)			
The slope failure can be occurred in the new construction of the roads and irrigation facilities if the appropriate slope protection works have not been installed.	1-(e)-2, 1-(f)-1, 1-(f)-3	Construction and operational stages	Installation of the appropriate slope protection works adjusting to the topographical and geological conditions of the site Conduction of the excavation works in the dry seasons
Topography and geology (No.13)			
The earthworks for the new construction of the facilities can change the topographical conditions of the area.	I-(e)-, I-(f)-1, I-(f)-3	Construction stage	Examination of the alternative project sites Introduction of the slope protection works in case of the cutting works

Details of Negative Impacts	Projects	Timing of Occurrence of Impacts	Mitigation Measures
Soil erosion (No.14)			
The surface water flow can cause the slope erosion and/or surface erosion on the unpaved roads without the implementation of adequate slope protection works and/or drainages for the roads. Also, the soil erosion can progress from the cutting slopes in the construction of the roads or irrigation facilities.	I-(f)-1, I-(f)-3, I-(e)-2	Construction and operational stages	Installation of the appropriate slope protection works or drainages on the roads adjusting to the topographical and geological conditions of the site. Execution of the excavation works in the dry seasons
Flow regime of lake and river (No.16)			
The construction of the irrigation dams can change the flow regime of the rivers in the down streams.	I-(e)-2	Construction and operational stages	Examination and securement of the amount of water flow required for the activities and habitats of flora and fauna in the down streams
Flora and fauna (No.18)			
Introduction of the non-native species can affect the ecosystems of the area.	I-(a)-2	Operational stage	Examination of the alternative sites and implementation measures of the projects if the native species or/and endangered species are found in the surrounding area.
The clearance of the forest area by the new construction or repair of the facilities can disturb the habitats of flora and fauna.	I-(e)-1~4, I-(e)-6, I-(f)-1~3, II-(a)-4	Construction and operational stages	Conservation of the habitats of flora and fauna by reforestation
Landscape (No.20)			
The original landscape can be changed by the slope cutting works at the installation of the facilities.	I-(e)-1~4, I-(e)-6, I-(f)-1, I-(f)-3	Construction stage	Plantation of the weeds at the slopes in addition to the slope protection works
Air pollution (No.22)			
The pollutant in the air can increase during the construction or repair works of the roads.	I-(e)-1~6, I-(f)-1~3	Construction stage	Regulation of the speed of the vehicles for the construction works and the maintenance of the engines Periodical water sprinkling
The possible increment of the number of the vehicles after the construction or repair of the roads can cause the increase of the emission gas.	I-(f)-1~3	Operational stage	Monitoring of the air quality Regulation of the speed of the vehicles
Water pollution (No.23)			
Soil inflow into the rivers can be observed during the construction or repair of the facilities.	I-(e)-2~4, I-(f)-1, I-(f)-3	Construction stage	Quarrying of the gravels at the site apart from the rivers Monitoring of the water quality in coordination with DIGESA
The construction of the processing plants of the agriculture and livestock products can cause the contamination.	I-(g)-1~3	Construction stage	Installation of the water discharge facilities Monitoring of the water quality in coordination with DIGESA
The processing of agriculture and livestock products, such as post harvest of coffee, cheese and wool can discharge the waste waters.	I-(g)-1~3	Operational stage	Installation of the water discharge facilities Monitoring of the water quality in coordination with DIGESA
Soil pollution (No.24)			
Over input of the agrochemicals and fertilizers can accelerate the soil pollution.	I-(a)-1~4	Operational stage	Use of agrochemicals in compliance with the government regulation Technical assistance by the DRA to the communities about the application of agrochemicals
Waste (No.25)			
The increment of the workers at the construction stage can increase the amount of the waste or generate waste scrap materials.	I-(e)-1~6, I-(f)-1~4, I-(g)-1~3, II-(a)-4	Construction stage	Proper treatment of the waste in coordination with the local authorities

Details of Negative Impacts	Projects	Timing of Occurrence of Impacts	Mitigation Measures
Some industry wastes can be generated in processing the agricultural products.	I-(g)-1~3	Operational stage	Proper treatment of the waste derived from the agriculture and livestock activities in coordination with the local authorities Technical assistance to the beneficiaries of the projects about effective use of the reusable resources, such as residues of the processing of the rapeseed oil or cheese
Bottom sediment (No.29)			
The sediments from the upper streams can be found by the new construction of dams.	I-(e)-2~3	Operational stage	Installation of check dams at the rivers Slope protection works or vegetative works in case of the sediment derived from slope erosion
Accident (No.30)			
The accidents during the construction works can occur.	I-(e)-1~8, I-(f)-1~4, II-(a)-4	Construction stage	Dispatch of the supervisors in charge of security management at the sites
Some traffic accidents can occur after the construction or rehabilitation of the roads.	I-(f)-1~4, II-(a)-4	Operational stage	Installation of the signboards, public awareness raising among the neighboring communities to prevent the traffic accidents

During the planning stages, some extent of negative impacts would be expected for the land use and utilization of local resources. Also, some negative impacts would be expected at the following construction stages on 13 components, such as, land use and utilization of local resources, inequality between beneficiaries and project-affected people, water use right and common land use right, sanitation, disaster (natural risk) and epidemic as HIV, topography and geology, soil erosion, flow regime of lake and river, flora and fauna, air pollution, water pollution, waste and accidents. At the operational stages, some negative impacts on 12 components, such as, sanitation, disaster (natural risk) and epidemic as HIV, soil erosion, flow regime of lake and river, flora and fauna, landscape, air pollution, water pollution, soil pollution, waste, bottom sediment and accident.

(3) Study on Alternative Plans

With respect to the study on the alternative plans for the Master Plan, the possible environmental and social impacts by the implementation were used as one of criteria for the determination of the priorities of programs in their implementation, as mentioned in Chapter 11. In addition, the possible environmental impacts with or without the Master Plan are compared in this section as shown in the following table.

Table 13.4.3 Possible Environmental Impacts with or without Master Plan

	№	Possible impacts	With Master Plan	Without Master Plan	Remarks
Social Environment	1	Involuntary resettlement	D	-	The further study on the possibility of the involuntary resettlement by Master Plan is required.
	2	Local Economy such as Employment & Livelihood, etc.	A+	B-	The improvement of the livelihood of the target area can be expected by the implementation of Master Plan.
	3	Land use & Utilization of Local Resources	B+/C-	C-	The effective use of land and natural resources of the target area can be expected by the implementation of Master Plan. Besides, the appropriate mitigation measures are expected to minimize the possible impacts to be caused by the change of the original land use through the installation of the facilities.
	4	Regional severance	D	-	The further study on the possibility of the regional severance by Master Plan is required.
	5	Existing social infrastructure & Services such as Traffic/Existing Public Facilities	B+	-	The effective utilization of the existing infrastructure can be expected by the implementation of Master Plan.

	№	Possible impacts	With Master Plan	Without Master Plan	Remarks
Social Environment	6	Social vulnerable groups such as the poverty and ethnic minority	A+	B-	The livelihood improvement of the poverty at the locality can be expected by the implementation of Master Plan.
	7	Inequality between beneficiaries and project-affected peoples	C-	B-	It is expected that the implementation of Master Plan can distribute the benefits in the area without major inequality with the proper mitigation measures taken.
	8	Cultural heritage	D	-	The further study on the possible impacts on the cultural heritage by Master Plan is required.
	9	Conflict of interests	D	-	The further study on the possibility of the conflict of interests at the localities during the implementation of the Master Plan is required.
	10	Water use right and common land use right	C-	B-	The irrigation projects proposed by Master Plan to organize water user organizations which enhance the water resources management by the communities and effective water use as the result.
	11	Sanitation	C-	-	The installation of the infrastructures proposed in Master Plan can worsen the sanitation conditions in the construction stage. However, the possible impacts are expected to be minimized by the application of the appropriate mitigation measures.
	12	Disaster (natural risk) and epidemic as HIV	C+/C-	-	It is expected that the mitigation measures taken can reduce the possibility of the slope failures or the outbreak of the infected diseases in the construction stage.
Natural Environment	13	Topography and geology	C-	-	The installation of the infrastructures can affect the topographic conditions.
	14	Soil erosion	B+/C-	B-	The earth works required for the installation of the infrastructure can provoke the soil erosion, while the management of the pasture and reforestation will improve the vegetation cover.
	15	Ground water	D	-	The further study on the potential impacts to the ground water by Master Plan is required.
	16	Flow regime of lake and river	C-	-	The mitigation measures taken can minimize the possible change of the river flow by the construction of dams by Master Plan.
	17	Coastal and sea area	-	-	-
	18	Flora and fauna	B+/C-	C-	Although the installation of the infrastructures can affect flora and fauna of the locality, the implementation of the appropriate mitigation measures, reforestation and livestock projects including the conservation and management of vicuñas can impact positively on the flora and fauna.
	19	Climate	-	-	-
	20	Landscape	B+/C-	C-	Although some negative impacts on the landscape are expected by the installation of the infrastructures, the appropriate mitigation measures, reforestation, livestock and the management of the pasture can contribute to the improvement of the landscape of the area.
	21	Global warming	C+	C-	The implementation of Master Plan does not seem to cause any major impacts on global warming. However, the level of vulnerability of the area caused by the climate change can be reduced through the implementation of Master Plan.
Pollution	22	Air pollution	C-	-	The proper mitigation measures are expected to reduce the possible impacts by the increment of the emission gas by the increase of traffic by the road improvement, or air pollution in the construction stage of the programs proposed in the Master Plan.
	23	Water pollution	C-	C-	The proper mitigation measures are expected to reduce the possible impacts by the water pollution to be caused by the installation of the infrastructures.
	24	Soil pollution	C-	C-	The proper mitigation measures are expected to reduce the possible impacts by the soil pollution to be caused by the installation of the infrastructures.
	25	Waste	C-	C-	The proper mitigation measures are expected to reduce the possible impacts by the solid waste to be caused by the installation of the infrastructures.
	26	Noise and vibration	D	-	The further study on the potential impacts of noise by the implementation of Master Plan.

	№	Possible impacts	With Master Plan	Without Master Plan	Remarks
Pollution	27	Ground subsidence	-	-	-
	28	Offensive odor	-	-	-
	29	Bottom sediment	C-	-	The proper mitigation measures are expected to reduce the possible impacts by the sediments to be caused by the dam construction.
	30	Accident	B-	-	The proper mitigation measures are expected to reduce the possibilities of the accidents during the projects implementation.

Note: The following criteria were used: A+/-: Significant positive/negative impacts are expected, B+/-: Some positive/negative impacts are expected, C+/-: Less positive/negative impacts are expected and D: The level of the positive/negative impacts cannot be identified yet at this stage. The further studies are required to be implemented after this Study, -: No negative impacts are expected

As tabulated above, the implementation of the Master Plan and the mitigation measures proposed in the previous section shall positively impact on the local economies, such as employment and livelihood, and the poverties. Also, the negative impacts are mitigated especially on the existing social infrastructures and services, and environmental components, such as fauna and flora, and biodiversity through the implementation of the Master Plan.

And also, the appropriate mitigation measures shall be taken especially for the components such as regional severance, conflict of local interests, water use rights, topography and geology, flow regime of lake and river, air pollution, bottom sediment and accident to prevent and reduce the possible impacts.

Chapter 14 Conclusion and Issues

14.1 Conclusion

The objects of the Study are the poor peasants. The livelihoods of these peasants are agriculture and/or livestock. PDRC 2007-2024, which is superordinate plan, aims at the "Agriculture and Livestock Activities Supported by Technology, Competition and Linking with Market" at the fields of economic development and productivity improvement. In the light of this aim, the study was made for seeking for appropriate measurements to settle the subjects on mitigation of vulnerability and improvement of livelihood of poor peasants from perspective of agriculture and livestock. Consequently, the relevant sectors became the vulnerability measurements, farming/extension, livestock, irrigation, reforestation/environmental conservation, inland fishery, agriculture production distribution/agro-processing, and road. Ayacucho Region regionally indicates the diversity on natural environmental aspects and social environmental aspects, say regional characteristics. As the results of the study on these regional characteristics and lots of existing plans (SNIP subprojects) at respective sectors, 5 development projects toward mitigation of vulnerability and 34 development projects for improvement of livelihood were formed.

The smooth implementation of these development projects needs the development fund. Based on the past development investment amount and the assumed growing rate of GDP, the applicable development investment budget was estimated for 10 years from 2011 to 2020. In the lots of development projects including SNIP sub-projects, out of 39 development projects, the sub-projects which could be implemented by 2020, were narrowed down using this estimated budget. As for the estimated development investment budget, some assumptions were applied for this estimate since no definite data are available. Accordingly, the Action Plan proposed in the Study is one of measures. If the development investment budget could be increased in the future, the number of sub-projects for implementation could be increased, which would higher contributes to the mitigation of vulnerability and improvement of livelihood.

The investment amount of S/.655 million required for the implementation of Master Plan is equivalent to 80% - 83% of the estimated development investment budget applicable for 10 years from 2011 to 2020. The digestibility of investment budget (76 - 92%) in the past 4 years in Ayacucho Region is at comparatively higher level as compared with other regions. If this situation is considered, the total investment amount of S/. 665 million for the Master Plan can be judged to be appropriate. On the other hand, the investment amount per capita for respective projects is generally low and is between the minimum and maximum ones of the completed and on-going sub-projects of SNIP, so that it could be judged to be reasonable.

It should be noted that the prioritization of sub-projects proposed in the Study is provided as a broad indication for implementing the Action Plan. It was decided based on the available data at present. When these are implemented, it is therefore recommended that the priority order of them should be re-examined in due consideration of the change of circumstances surrounding Ayacucho Region, by making reference with the proposed priority order in the Study.

14.2 Subjects to be Tackled toward Implementation of Action Plan

14.2.1 General

There are many areas that have the potential to act as constraints to the smooth implementation of Action Plan after it has been endorsed by GOP. In addition, there is need for many preparatory actions if the full benefits of the projects

are to be realized. What follows are some recommendations on the basic preparatory actions and prerequisites that are considered necessary prior to commencement of implementation.

14.2.2 Preparatory Work

As mentioned previously, there are many sectors relating to the Master Plan. The mitigation of vulnerability is a cross-cutting issue for various sectors. Under such situations, it is necessary to make centralization of management for smooth implementation of Action Plan. It is proposed to establish the Action Plan Implementation Unit in GRA in advance. The first duty of the Action Plan Implementation Unit is to form the implementation team functioning as a key of respective projects. This team is composing of staff being in charge of implementation and of planning, monitoring and administration. By establishing the Action Plan Implementation Unit, it is expected that the excellent and rich-experienced staff could concentrate in the implementation of projects apart from their ordinary work. It is also expected that more excellent staff be appointed as a member of Action Plan Implementation Unit which could lead to smooth implementation of projects. The Action Plan Implementation Unit has also a duty for monitoring, and should prepare the monitoring report quarterly in cooperation with the responsible staff of each implementation team. Based on the monitoring report, GRA should hold the annual meeting to discuss the project progress condition, problems encountered, obstacles by outer factors, and the plans of projects to be implemented in the coming couple years. This meeting should also aim to discuss and review the projects proposed in the Action Plan.

14.2.3 Regular Meeting among Donor Agencies and NGOs

In Ayacucho Region, many donor agencies and NGOs are presently working in their strategies. However, it is fact that there are no coordination and adjustment among them. To this end, there is no unity in direction of assistance and also the possibility of combined effect by their activities becomes low. In addition, it is not seemed that GRA properly grasps the activities and effects of donor agencies and NGOs, which is not the expected situation for fulfilling the effective activities. If the Action Plan is realized from now on, further development activities will be executed in Ayacucho Region. It is therefore proposed to have regular meeting with donor agencies and NGOs, in order to share the progress condition and problems of project, to keep the consistency with assistance and to heighten the assistance effect.

14.2.4 Coordination among Central, Regional and Local Governments

At present, it was clarified through the Study that there is no sufficient coordination among central, regional and local governments. To this end, it was reported that the official in charge was confused. For example, in the workshop, a local government staff reported that road construction had been started by the regional government without having informed the local government, so that the local government could not have applied the participatory approach which he had planned. In the Action Plan, many projects including SNIP sub-projects will be implemented, thus, it is desired that the implementation should be smoothly carried out under the coordination among central, regional and local governments. In particular, the decentralization process progresses and now authority including budget is transferred from the central government to the local governments. Taking into account such situation, it is recommended that GRA should take an initiative to strengthen the coordination among relevant agencies and promote the smooth implementation of Action Plan under the deep understanding of them.

14.2.5 Action Plan and SNIP

The Action Plan contains the relevant SNIP sub-projects which are approved and under evaluation as existing plans.

On the other hand, the new projects were also incorporated into the Plan to attain the target. As for implementation of project, it is necessary to take the SNIP process in accordance with the regulation of public investment project (*PIP*). The fund required the implementation of project should be included in the budget (*PIP*) which is prepared in November of previous year. Concurrently, the approval required at project scale should be obtained. If the project fund is supplied from donor agencies, it is essential to obtain the authentication from DGPM of MEF for implementation of project. The project implementation requires such a process. It is thus recommended that the project implementation should be smoothly executed taking into consideration such a process.

14.2.6 Further Measures to be taken by GRA in Terms of Environmental and Social Considerations

From now on, GRA is expected to be in charge of (i) the implementation of the projects and (ii) the provision of the assistance to the local governments for the implementation of the projects. The measures to be taken by GRA for each case in terms of the environment and social considerations are described as follows.

(1) GRA as an Implementing Agency of Projects under Master Plan

Firstly, the necessity of the application of SEIA to the projects shall be confirmed. If the projects are covered by SEIA, the respective steps described in Clause 13.3.1, such as the classification of the projects, implementation of the environmental study, acquisition of the environmental certifications, and implementation of the described activities by the environmental study, including the mitigation measures and monitoring. Also, the due consideration for the enhancement of the public participation shall be given in each phase of the projects. If the some relevant studies have been conducted to apply the projects for SNIP, the contents of the existing studies shall be revised in comparison to TOR of the environmental study required by SEIA and the further studies shall be implemented for the lacking components, in consultation with the executing agencies.

If the projects provoke the involuntary resettlement and relocation, the due budget allocation shall be done enough to recover the livelihoods of the affected communities.

(2) GRA as Supporting Agency to Local Governments in Implementation of Projects

In case that the local governments are the executing agencies, GRA shall be responsible for sharing information on the methods of SEIA with the local governments, and coordination with the local government in order that they can obtain the environmental certifications. Furthermore, it would be desirable that GRA continues the support to the local governments in the implementation of the mitigation measures and monitoring.

As mentioned in Clause 13.3.1, the implementation measures of SEIA will be determined by the guidelines and regulations to be developed by executing agencies. The current executing agency for the agricultural projects, which occupies major part of the Master Plan is the General Direction of Environmental Matters, MINAG. Since the direction was created in last April with the assignment of the part of tasks of National Institute of Natural Resources (*INRENA*), there is lack of regulation and guidelines on SEIA developed for the agricultural sector in comparison to the other sectors. It is essential to collect the updated information on the development of the sectorial regulations for the efficient application of SEIA to the proposed projects in the Master Plan.

14.3 Possibility of Application of Study Results

In the Study, the Master Plan and the Action Plan were formulated aiming at poverty reduction through attainment at the mitigation of vulnerability and the improvement of livelihood in consideration of the regional characteristics in

Ayacucho Region. Ayacucho Region is characterized mainly by the high poverty, high elevation with topographical undulation, and livelihood by agriculture and livestock.

Out of 25 regions in Peru, 7 regions of Huancavelica, Apurimac, Puno, Huanuco, Amazonas, Cusco and Cajamarca have similar characteristics mentioned above. In these 7 regions, it seemed that the development approach worked out in the Study were applicable for them if these regions require the similar master plan aiming at poverty reduction. The lessons learned from the Study, pointed out that the present land use map was so useful for formulation of Master Plan focusing on agriculture and livestock since it was not available for Ayacucho Region. It is thus recommended that the present land use map using GIS should be prepared as early stage as possible because it seems that 7 regions mentioned above would not have the present land use map.

Attachment-1

Minutes of Meeting and
Scope of Work (S/W)

PE/RD-002 3/10

"Decenio de las Personas con Discapacidad en el Perú"
"Año del Deber Ciudadano"

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Nº 4-07 FIRMA

Oficio Nº 1532-2007-AG-OGPA-OCTF

Señor
AGUSTIN HAYA DE LA TORRE DE LA ROSA
Director Ejecutivo
Agencia Peruana de Cooperación Internacional (APCI)
Presente.-

Asunto: "Estudio del Plan Maestro sobre el Desarrollo Rural para las Familias Campesinas Pobres y Fortalecimiento de las Capacidades Locales de la Sierra – Centro – Sur del Perú"

Tengo el agrado de dirigirme a usted, con relación al asunto del rubro, para manifestarle que el Ministerio de Agricultura viene gestionando ante la Agencia Japonesa de Cooperación Internacional (JICA), la formulación del proyecto "Estudio del Plan Maestro sobre el Desarrollo Rural para las Familias Campesinas Pobres y Fortalecimiento de las Capacidades Locales de la Sierra – Centro – Sur del Perú".

Considerando que los campesinos de la sierra viven bajo una situación de extrema pobreza rural y que se dedican fundamentalmente a la actividad agropecuaria para subsistir, es preocupación del Gobierno del Perú y en particular del Ministerio de Agricultura promover el desarrollo de la agricultura en zonas de extrema pobreza como la sierra de Ayacucho. Por lo tanto, es prioritario para el Sector poder contar con un estudio que abarque las necesidades de esta región y presente soluciones viables a la situación de exclusión que mantiene marginados a sus pobladores.

En tal sentido, habiendo realizado las coordinaciones necesarias con el JICA, se acordó pedir que se modifique con el documento adjunto la solicitud de cooperación técnica no-reembolsable, bajo la modalidad de Estudio para el Desarrollo, presentada a la APCI el 30 de noviembre de 2006 con oficio No. 4432-2006-AG-OGPA-OI.

Cabe señalar que las modificaciones al documento se han realizado luego de un trabajo conjunto entre el equipo técnico del MINAG y la Misión de JICA. De tal forma, se solicita a la APCI formalizar las modificaciones realizadas a la solicitud ante las instancias competentes de la cooperación japonesa, de tal manera que la misma sea sometida a evaluación por el Gobierno del Japón.

Agradeciendo el apoyo que su despacho se sirva brindar a este pedido, hago propicia la oportunidad para expresarle los sentimientos de mi mayor consideración y estima.

Atentamente,

MINISTERIO DE AGRICULTURA - Oficina General de Planificación Agraria - DIRECCION GENERAL

ECON. PATRICIA MILTON PAICO
Directora General
Oficina General de Planificación Agraria

Proyecto: **Estudio del Plan Maestro sobre el Desarrollo Rural para las Familias Campesinas Pobres y Fortalecimiento de las Capacidades Locales de Ayacucho**

Organización Ejecutora: Ministerio de Agricultura,
Oficina General de Planificación Agraria

1. Antecedentes del Plan

En los últimos años se han observado avances en la implementación de iniciativas públicas y privadas por institucionalizar e implementar programas y proyectos de desarrollo rural y seguridad alimentaria en el país, y en la sierra sur en particular. En este sentido, en el año 2006 fueron promulgados los Lineamientos de Política de Estado para el Desarrollo Agrario y la Vida Rural, los cuales incorporan como objetivo de estado la consecución del desarrollo rural. Asimismo, en el año 2004 fueron aprobadas la Estrategia Nacional de Desarrollo Rural y la Estrategia Nacional de Seguridad Alimentaria, las cuales fueron elaboradas por comisiones multisectoriales en el marco del Comité Interministerial de Asuntos Sociales (CIAS). Asimismo, los Gobiernos Regionales de la sierra sur han realizado avances significativos por institucionalizar el desarrollo rural y la seguridad alimentaria, como lo demuestra el caso del Gobierno Regional de Puno, que cuenta con su Estrategia Regional de Seguridad Alimentaria aprobada, y el Gobierno Regional de Huancavelica que cuenta también con su Estrategia Regional de Seguridad Alimentaria y además con su Consejo Regional de Seguridad Alimentaria y Nutricional, donde participan tanto las entidades públicas como los diferente gremios rurales y las instituciones privadas de cooperación para el desarrollo. Pero además, desde el año 2001 se viene experimentando el proceso de descentralización[1], por el cual el Estado Nacional se encuentra transfiriendo una serie de competencias y funciones a los Gobiernos Regionales y Locales, como es el caso de los programas sociales y de promoción de la producción.

Si bien en el caso de la implementación de programas y proyectos los avances aún son limitados, lo más significativo se concentra en la progresiva incorporación del enfoque de demandas y el fortalecimiento de la institución comunal y local[2] como articulador de la demanda de las familias y sus asociaciones con la oferta de servicios públicos y privados en la zona, quedando como parte de la agenda nacional lograr la articulación programática sectorial y multisectorial sobre la base del enfoque de demandas.

A nivel de impactos; si bien en los últimos cinco años se ha observado un crecimiento promedio de la agricultura de 5% anual, esto no ha sido suficiente para mejorar significativamente las condiciones de vida de la población rural, de la

[1] Proceso iniciado con la promulgación de la Ley de Bases de la Descentralización, Ley No. 27783 y la Ley Orgánica de Gobiernos Regionales, Ley No. 27867, que se consolidó con la primera elección de los Gobiernos Regionales en el año 2002.

[2] En el sector agricultura sobresale el Proyecto Manejo de Recursos Naturales en la Sierra Sur (MARENASS)

cual el 76% se dedica a la agricultura. Como consecuencia, el 73% de la población se encuentra en situación de pobreza, el 42% de los niños padece de desnutrición crónica y el 45% de las mujeres en edad fértil tienen anemia; lo cual tiene un impacto directo en la baja eficiencia escolar y que es acentuado con el bajo nivel de la educación en el área rural. Como consecuencia, se acentúa la ocupación de la mano de obra rural en actividades poco especializadas y de baja remuneración, así como el proceso de migración.

2. Situación actual y posibilidad de desarrollo en el área del Plan

2.1 Condiciones actuales sobre agricultura y área rural, problemas y tareas para resolver en el desarrollo rural.

La tasa de pobreza en la Sierra Rural alcanza el 73% según la Encuesta Nacional de Hogares (ENAHO) del 2004. Ello indica que de los 14.7 millones de pobres en todo el territorio nacional, más de un tercio pertenece a la Sierra Rural (5.18 millones de pobres). Asimismo, en el Perú habitan 6.5 millones de pobres extremos, de los cuales más de la mitad se encuentran en la Sierra Rural.

La pobreza en el país tiene raíces históricas y en las últimas décadas se ha profundizado, especialmente en las áreas rurales de la Sierra, generando un proceso de urbanización acelerado y desordenado hacia la capital y otras ciudades intermedias. Entre 1980 y 1993 la violencia política (terrorismo) causó más de 75 mil muertos y desaparecidos, de los cuales el 75% eran campesinos de la Sierra.

Los campesinos de la Sierra se dedican fundamentalmente a la actividad agropecuaria y en algunos casos complementan sus ingresos vendiendo su fuerza de trabajo. Se caracterizan, además, por la escasez de activos productivos y aislamiento geográfico. Un hogar en situación de pobreza posee en promedio, sólo media hectárea o se dedica a actividades pastoriles, a lo que se suma las carencias de servicios básicos (vías, aulas, postas de salud, agua, desagüe, energía eléctrica y telecomunicación) que constituyen limitaciones de base para el desarrollo integral de sus capacidades.

Asimismo, enfrentan un entorno de baja calidad ambiental al que contribuyen al verse obligados a explotar áreas marginales particularmente vulnerables a la degradación, como la erosión de los suelos, la deforestación y la falta de servicios de saneamiento. De otro lado, la carencia de infraestructura vial, de telecomunicaciones y de apoyo a la producción, principalmente agropecuaria, impide o restringe su acceso a los mercados, limitando las posibilidades de mejora de ingresos y elevación de la calidad de vida en el campo.

Esta situación de pobreza se ve exacerbada por la presencia de fallas del mercado, entre las que destacan la falta de servicios financieros (acceso al crédito) y no financieros (asistencia técnica, capacitación, información, comercialización, etc.), carencia de seguros para enfrentar riesgos de diferentes

orígenes, ya sean éstos naturales o producidos por el hombre, y que afectan principalmente a los individuos, familias y comunidades en situación de pobreza extrema y mayor vulnerabilidad social; y la presencia de externalidades negativas. A ello se suma, la falta o limitada infraestructura vial (especialmente de caminos rurales) y de comunicaciones por la escasez de electrificación y telefonía rural (solo 4% tiene acceso).

En conclusión, la mayoría de los pobres de la sierra enfrentan una situación de exclusión que los mantiene marginados, tanto de la acción del Estado como de los circuitos del mercado.

Para resolver el problema de la pobreza rural, tiene que verse con un enfoque de desarrollo territorial que privilegie las sinergias multisectoriales en un territorio específico determinado. El desarrollo de las zonas rurales no sólo debe limitarse a promover la modernización agrícola, sino también actividades económicas diversificadas no agropecuarias (como el turismo rural, acuicultura, agroindustria, artesanía, forestería, servicios varios, comercio, etc.). En ese sentido, deberá formularse políticas territoriales y no sólo sectoriales, dirigidas a toda la población rural y no solamente a los agricultores o campesinos. Asimismo, se deberá considerar el capital social y cultural que poseen los campesinos como parte de las políticas y estrategias de desarrollo rural.

2.2. Posibilidades de desarrollo

Si bien es cierto que la mayoría de la población rural de la Sierra se encuentra en situación de pobreza, también es cierto que ésta cuenta con altas potencialidades y posibilidades de desarrollo, ya que dispone de activos (tangibles e intangibles) en términos de capital natural (biodiversidad, áreas naturales protegidas, servicios ambientales, recursos genéticos, turismo rural, etc.) y patrimonio cultural (gastronomía, folklore, organización campesina, cultura, conocimiento medicinal, etc.), las mismas que se pueden aprovechar a través de acciones estratégicas de promoción de negocios rurales, desarrollo comunal y fortalecimiento institucional de las capacidades locales.

Asimismo, la Sierra aporta en la estructura productiva nacional con la actividad minera principalmente exportadora y como fuente hidroenergética. En un segundo lugar de importancia económica se encuentra la actividad agropecuaria, constituida mayormente por pequeños predios con crecientes eslabonamientos al mercado regional y nacional con producción de cereales andinos, menestras, tubérculos, frutas y hortalizas. A ello se suma la producción pecuaria, en especial de vacunos, cuyes y camélidos andinos (alpaca y vicuña) para el mercado interno y externo con diferentes niveles de transformación de sus productos (leche, carne y fibra).

De otro lado, en varias ciudades intermedias, se está generando procesos de mayor diversificación de la oferta de servicios, en especial las actividades de turismo interno (rural, ecológica y vivencial). La agro-exportación también

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muestra un repunte, por ejemplo la alcachofa y el holantao en Junín y Ayacucho, respectivamente. A ello se suma la instalación de frutas de durazno y paltas en los valles interandinos con la participación de empresas exportadoras.

3. Consideraciones para el Plan de Desarrollo

3.1 Consideraciones fundamentales para la elaboración del Plan de Desarrollo.

Para la elaboración del Plan de Desarrollo de la Sierra se deberá tomar en cuenta los lineamientos y política del Estado para el sector agrario y la vida rural (DS.), la estrategia de desarrollo rural, la estrategia de seguridad alimentaria, el plan estratégico multianual del MINAG 2007- 20011, el plan nacional de reforestación, el plan nacional ganadero, la estrategia nacional de camélidos andinos, la política de riego y la gestión de recursos hídricos, los planes de desarrollo regional, entre otros documentos de política y gestión del sector. Asimismo, la elaboración del Plan de Desarrollo debe ser eminentemente participativa y consensuada con la colaboración de los actores involucrados públicos y privados en el desarrollo de la Sierra.

3.2 Ejes Temáticos

Los ejes fundamentales que se tienen que considerar para la elaboración del Plan de Desarrollo de la Sierra son los siguientes:

A. Incremento de la Producción e Ingresos

- El desarrollo de los servicios financieros (crédito e inversiones), y no financieros (asistencia técnica, información, innovación tecnológica, capacitación, etc.)
- El Desarrollo de la infraestructura productiva (infraestructura de riego, caminos rurales, electrificación rural, etc.) y comercial (infraestructura de comercialización, telefonía rural, comunicación, etc.)
- El manejo sostenible de los recursos naturales renovables (agua, suelo y bosque).

B. Fortalecimiento de la Gobernabilidad Comunal y Local

- Fortalecimiento de las instituciones representativas a nivel comunal y local.
- Articulación de las prioridades comunales y locales del ámbito rural con los planes locales y regionales concertados de desarrollo y los presupuestos participativos.

C. Recuperación del Capital Humano Rural

- Incorporación de técnicas productivas y de gestión empresarial en los planes curriculares de educación secundaria.
- Articulación de los planes comunales de desarrollo con la oferta de servicios públicos y privados de educación para la salud y nutrición.

Con el desarrollo de estos ejes fundamentales se podrá hacer operativo y viable el Plan de Desarrollo de la Sierra, a través de programas y proyectos de inversión a implementarse los próximos años.

3.3 Objetivo del Plan de Desarrollo

El objetivo del Plan de Desarrollo de las Sierra es "Mejorar las condiciones de vida de las familias campesinas de la Sierra en situación de pobreza rural, con el desarrollo de oportunidades económicas sostenibles y la gestión institucional eficiente de las entidades locales".

3.4 Lineamientos del Plan de Desarrollo

Los lineamientos del Plan de Desarrollo según los ejes fundamentales son los siguientes:

I. Incremento de la Producción e Ingresos

A. El desarrollo de los servicios financieros y no financieros:
- Proyecto de introducción de cultivos para el mercado
- Proyecto de introducción de animales menores
- Proyecto de extensión de tecnología de cultivos orgánicos
- Proyecto de transferencia tecnológica y extensión agrícola y capacitación para desarrollar los recursos humanos.
- Proyecto de soporte para las actividades de las mujeres (ley de igualdad de oportunidades)
- Proyecto de introducción de micro-créditos agrícolas
- Proyecto de negocios rurales

B. El desarrollo de la infraestructura productiva y comercial:
- Proyecto de mejoramiento de infraestructura de riego para la producción agrícola
- Proyecto de mejoramiento de comercialización y mercado de los productos agrícolas
- Proyecto de caminos y electrificación rural
- Proyecto de agroindustria y de empresas familiares

C. El manejo sostenible de los recursos naturales renovables:
- Proyecto de manejo y conservación de las cuencas hidrográficas.
- Proyecto de reforestación y agroforestería
- Proyecto de gestión de recursos hídricos
- Proyectos de servicios ambientales y biodiversidad

II. El fortalecimiento institucional de las entidades locales públicas y privadas:
- Proyecto de fortalecimiento de capacidades y modernización institucional.

III. Recuperación del Capital Humano Rural:
- Proyecto de inversión multisectorial de desarrollo rural.
- Proyecto de mejoramiento de las condiciones de vida rural.

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3.5 Productos para la implementación del Plan de Desarrollo

Entre los principales productos a obtenerse con la implementación del Plan de Desarrollo de la Sierra son los siguientes:

- Se contará con un programa de inversión pública en donde se cuente con una cartera de proyectos sobre el desarrollo de los servicios financieros y no financieros, en el marco del SNIP.
- Se contará con un programa de inversión pública en donde se cuente con una cartera de proyectos sobre el desarrollo de infraestructura productiva y comercial, en el marco del SNIP.
- Se contará con un programa de inversión pública en donde se cuente con una cartera de proyectos sobre el manejo sostenible de los RRNN renovables, en el marco del SNIP.
- Se contará con un programa de inversión pública en donde se cuente con una cartera de proyectos sobre el fortalecimiento institucional de las entidades locales públicas y privadas, en el marco del SNIP.
- Se contará con una estrategia para articulación de proyectos productivos y de reforzamiento institucional con proyectos de recuperación del capital humano del ámbito rural, en el marco del SNIP.

3.6 Organismos ejecutores de los proyectos

a. MINAG (Pronamachs, DGPA, OGPA, Marenass, etc.)
b. MEF
c. Gobiernos Regionales
d. INIA
e. SENASA
f. Gobiernos Provinciales, Distritales y Comunidades relacionadas
g. Organizaciones y grupos de productores
h. ONGs relacionadas al desarrollo rural
i. Sector Privado (Cámaras de Comercio, entidades financieras, etc.)
j. Otros

4- Lineamiento del Estudio de Desarrollo

4.1 Objeto del Estudio

Diseñar un "Plan de desarrollo rural para las familias campesinas pobres y el fortalecimiento de las capacidades locales de la Sierra Centro - Sur del Perú", con el propósito de vincular a los campesinos productores pobres a los mercados locales, regionales y/o internacionales, con la finalidad de mejorar sus ingresos, activos y calidad de vida.

4.2 Área del Estudio

Ayacucho (Sierra Centro- Sur del Perú)

4.3 Alcance del Estudio

a. Estudios fundamentales (Análisis sobre condiciones actuales y problemas en el área objetivo)
b. Elaboración del concepto básico para la estrategia del desarrollo.
c. Elaboración de la idea principal de la estrategia para el desarrollo rural
d. Consideración del sistema de implementación necesario para realizar la estrategia de desarrollo
e. Preparación del plan del estudio de verificación
f. Ejecución del estudio de verificación
g. Análisis de resultados del estudio de verificación
h. Elaboración del Plan de Desarrollo

4.4 Especialistas necesarios por área

a. Líder de equipo de estudio especializado en Desarrollo Rural
b. Sociedad rural, desarrollo participativo y desarrollo institucional local
c. Financiamiento rural y mercado de los productos agrícolas.
d. Manejo agrícola, transferencia y extensión agraria
e. Manejo de la ganadería altoandina
f. Agroindustria, empresa familiar y negocios rurales
g. Gestión de recursos hídricos e infraestructura de riego
h. Servicios ambientales, turismo rural e información agraria
i. Actividades de las mujeres (género) y jóvenes
j. Forestación, conservación de los RRNN y medio ambiente.

4.5 Organizaciones peruanas relacionadas

1) Organización ejecutora : MINAG (OGPA)
2) Contraparte: MINAG, Gobiernos Regionales, provinciales, distritales y comunidades relacionadas.
3) Organizaciones relacionadas: INIA, SENASA, Organizaciones y grupos agrícolas, ONGS relacionadas y otros

4.6 Plan de ejecución del Estudio de Desarrollo

18 meses (octubre del 2007 – abril 2009)

4.7 Resultados del Estudio de Desarrollo

- Se contará con un plan de desarrollo rural de la sierra.
- Se contará con un conjunto de estudios específicos para la formulación de un programa de inversión pública para la sierra.
- Se contará con una cartera de proyectos en el marco de un programa de inversión de desarrollo rural para la sierra, de acuerdo a los procedimientos y normas del SNIP.

MINUTA DE ACUERDO
DEL
ESTUDIO DE PROGRAMA DE DESARROLLO RURAL
PARA LAS FAMILIAS CAMPESINAS POBRES Y EL FORTALECIMIENTO DE CAPACIDADES LOCALES DE LA SIERRA CENTRO
EN
LA REPUBLICA DE PERU
ACORDADO
ENTRE
EL MINISTERIO DE AGRICULTURA,
MINISTERIO DE LA MUJER Y DESARROLLO SOCIAL,
GOBIERNO REGIONAL DE AYACUCHO
Y
LA AGENCIA DE COOPERACION INTERNACIONAL DEL JAPON

Lima, 11 Abril de 2008

Erick Uriarte Lozada
Director General de Planificación Agraria
Ministerio de Agricultura
de la Repúbulica de Perú

Masanobu KIYOKA
Lider del Misión del Estudio Preparatorio
Agencia de Cooperación Internacional
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Javier Barreda Jara
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Ministerio de Mujer y Desarrollo Social
de la Repúbulica de Perú

Ernesto Molina Chávez
Presidente
Gobierno Regional de Ayacucho
de la Repúbulica de Perú

1. INTRODUCCION

En respuesta a la solicitud de fecha 4 de julio de 2007 del Gobierno de la Repúbulica de Perú (refiérase en adelante como "GOP"), la Agencia de Cooperación Internacional del Japón (refiérase en adelante como "JICA"), envió una Misión de Estudio Preparatorio dirigido por el Dr. Masanobu KIYOKA (refiérase en adelante como "Misión") a la Repúbulica de Peru desde el 23 de marzo al 18 de abril de 2008, con el propósito de acordar detalles del ESTUDIO DE PROGRAMA DE DESARROLLO RURALPARA LAS FAMILIAS CAMPESINAS POBRES Y EL FORTALECIMIENTO DE CAPACIDADES LOCALES DE LA SIERRA CENTRO EN LA REPUBLICA DE PERU (refiérase en adelante como "Estudio").

Durante su estadía en la Repúbulica de Perú, la Misión realizó estudios de campo en el area del Estudio y llevó a cabo una serie de conversaciones con los funcionarios de la Ministerio de Agricultura (refiérase en adelante como "MINAG"), Ministerio de Mujer y Desarrollo Social (refiérase en adelante como "MIMDES"), así como con el Gobierno Regional de Ayacucho (refiérase en adelante como "GR Ayacucho") y otras autoridades del GOP relacionadas con el Estudio.

Como resultado de las conversaciones, ambos partes acordaron suscribir el Alcance del Trabajo, adjunto a la presente (Ver ANEXO V), cuando el Estudio sea considerado viable.

Los puntos principales acordados entre ambos partes son los siguientes:

2. CONTENIDO DEL ESTUDIO

(1) Título del Estudio

Ambos partes definieron el título como " Estudio del Programa de Desarrollo Rural para las Familias Campesinas Pobres y el Fortalecimiento de Capacidades Locales de la Sierra Centro en la República de Peru".

(2) Objetivos

Ambos partes definieron los objetivos del Estudio como sigue:

1) Formular el programa de desarrollo rural para las campesinas pobres y el

fortalecimiento de las capacidades locales de la sierra centro, con el proposito de vincular a los campesinos productores pobres a los mercados locales, regionales y nacionales, con la finalidad de mejorar sus ingresos, activos y calidad de vida.

2) Desarrollar las capacidades de la contraparte peruana en la ejecucion del Estudio para manejar y coordinar la implementacion del programa arriba mencionado.

(3) Area del Estudio

El Estudio abarcará Región Ayacucho (Ver ANEXO I). Sin embargo, si necesario se incluirán otras demarcaciones relacionadas del territorio de la República de Peru.

(4) Area prioritario en el Estudio

Ambos partes acordaron se ejectará el Estudio enfocando al campesino pobres en las lineas como sigue (ANEXO II):

1) Vulnerabilidad de los campesinos pobres
2) Generación de ingreso de los campesinos pobres
3) Fortalecimiento de la capacidad de las organizaciones locales

(5) Alcance del Estudio

Ambos partes definieron el alcance del Estudio como sigue:

1) Estudios fundamentales
2) Formulacion del concepto basico para la estrategia del desarrollo rural
3) Formulacion de la estrategia del desarrollo rural
4) Preparacion del sistema de implementacion necesarios para realizar la estrategia de l desarrollo rural
5) Formulacion del programa de desarrollo rural

(6) Cronograma del Estudio

Ambos partes acordaron el cronograma del Estudio como Anexo III.

3. ESTRUCTURA EJECTIVA DEL ESTUDIO

Las contrapartes peruanas del Estudio serán: MINAG, MIMDES y GR Ayacucho. La estrucutura ejecutiva propuesta para el estudio estará integrada por el Comité Consultivo y el Equipo del Estudio. Asimismo, dicho equipo podrá contar con la colaboración de organismos de cooperación y ONG relacionadas.

(1) Comité Consultivo

La parte peruana se comprometió en organizar un Comité Consultivo al inicio del Estudio. Este Comité tendrá las siguientes funciones: ejercer el seguimiento y evaluación de la ejecución del Estudio, instruir al equipo del estudio acerca de los correctivos o cambios sustantivos que deban ser hechos en la gestión del proyecto a fin de garantizar el logro de sus resultados esperados, así como coordinar la difusión de los mismos.

El referido Comité será presidido por uno de sus miembros, el cual será elegido durante su primera. Las entidades que designarán miembros del Comité son:

- MINAG
- MIMDES
- GR Ayacucho
- Ministerio de Economía y Finanza (MEF)
- Agencia Peruano de la Cooperación Internacional (APCI)
- JICA Perú

Cada entidad designará a dos miembros, un titular y otro alterno, que lo complementará en las actividades correspondientes y lo reemplazará en las reuniones. Por lo menos uno de los miembros deberá ser especialista técnico de la entidad.

(2) Equipo del Estudio

El Equipo del Estudio estará compuesto por las partes peruano y japonesa, cada uno de las cuales tendrá un coordinador respectivo. La parte peruana del equipo del estudio estará integrado a su vez por 07 especialistas del Gobierno Regional y 03 especialistas del Ministerio de Agricultura.

El equipo del estudio tendrá las funciones de: definir los métodos, instrumentos, procedimientos y productos específicos del Estudio, recopilar toda la información necesaria, elaborar los análisis y presentar el progreso y los resultados al Comité Consultivo. Los coordinadores peruano y japonés harán el control de calidad de los estudios.

(3) Aliados estratégicos

El Estudio contará con la colaboración de los organismos que brinden servicios agrarios, académicos y de promoción (p.e. INIA (Instituto Nacional de Investigación y Extensión

Agraria) Ayacucho, SENASA (Servicio Nacional de Sanidad Agraria) Ayacucho, Universidad Nacional de San Cristóbal de Huamanga, etc.).

4. OTROS

(1) Oficina del Equipo del Estudio

El GR Ayacucho se compromete a proveer, al Equipo del Estudio, una oficina en sus instalaciones con el mobiliario correspondiente, línea telefonica, servicio del internet, servicio de electricidad, por el tiempo que dure la elaboración del Estudio.

(2) Infórme

Ambos partes acordaron que el Infòrme Final y los resultados del Estudio serán de libre acceso.

(3) Considerasiones Medioambientales y Sociales

Se respetará y se seguirá el Liniamentos de JICA para las Consideraciones Medioambientales y Sociales en la ejecución del Estudio.

(4) Seguridad

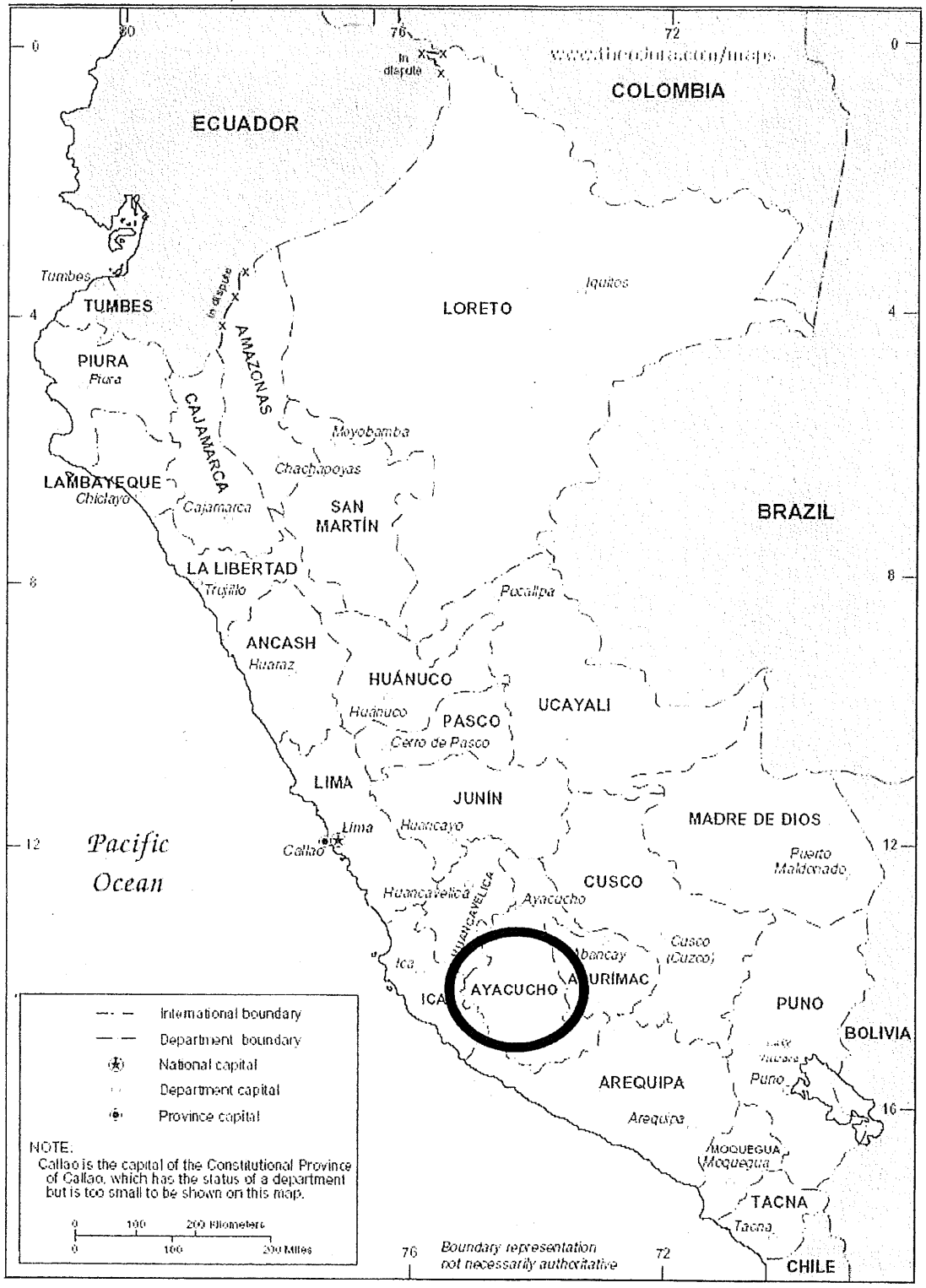
La contraparte peruana brindará las medidas necesarias para garantizar la seguridad al personal del equipo del Estudio. El caso de eventos de riesgo, ambas partes tomaràn las decisiones adecuadas oportunamente.

(5) Lista de participantes del reuniónes

Se adjunta la lista de los participantes de las reuniones de trabajo en el ANEXO IV.

ANEXO I

Mapa de Area de Estudio

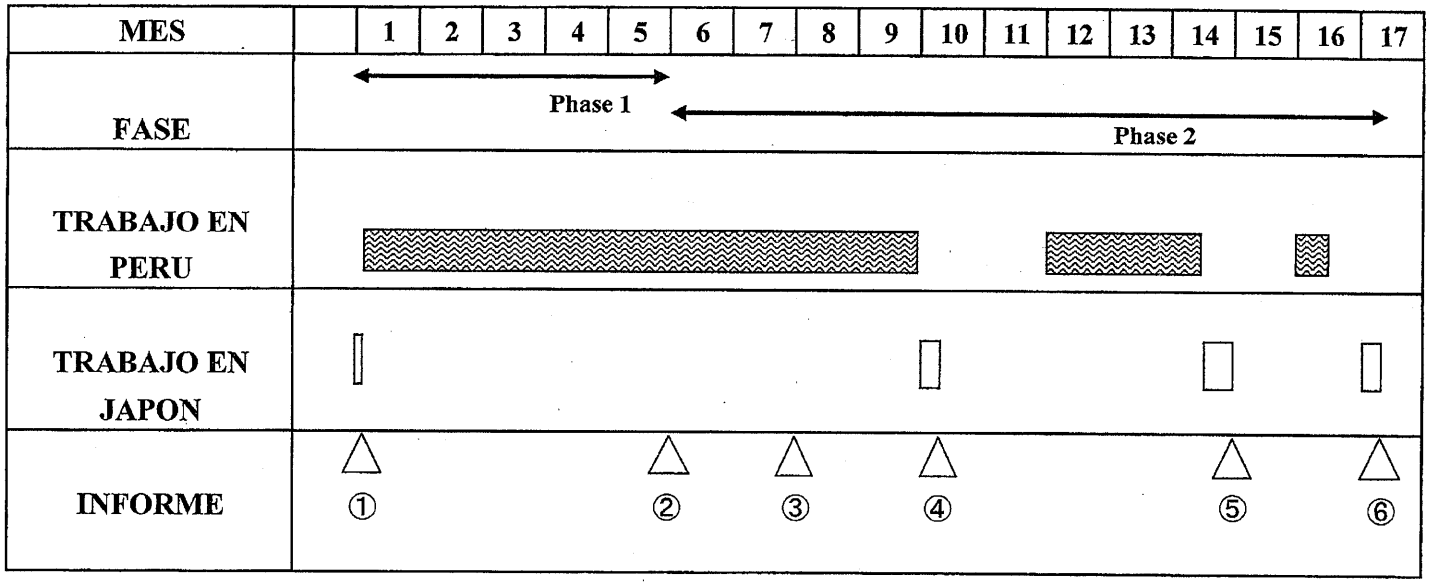


ANEXO II

Áreas prioritarias		Actividades prioritarias
I.	**Vulnerabilidad de campesinos pobres**	Heladas
		Sequía
		Rehabilitación y mantenimiento de carreteras
		Estabilidad de la economía familiar
II.	**Generación de ingresos para campesinos pobres**	Distribución y comercialización de los productos agrícolas
		Desarrollo de técnicas de producción agrícola
		Conservación del medioambiente
III.	**Fortalecimiento de capacidades locales y de organizaciones rurales**	Fortalecimiento de capacidades de gestión local
		Fortalecimiento de capacidades de organizaciones rurales
		Sistematización de experiencias exitosas

ANEXO III

CRONOGRAMA TENTATIVO



①	Informe Inicial	④	Informe de Progreso (2)
②	Informe Intermedio	⑤	Borrador de Informe Final
③	Informe de Progreso (1)	⑥	Informe Final

ANEXO IV

LISTA DE PARTICIPANTES DE LAS REUNIONES DE TRABAJO

PARTE PERUANO

MINAG

Enver Figueroa Bazán	Director de Cooperación Técnica y Financiera
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Isamu YAMAZAKI	Microfinanza/Comercialización y Distribución del Producto Agricola
Marino MORIKAWA	Traducutor

JICA PERU

Hironobu OKUMURA	Representante Residente Asistente

SCOPE OF WORK
FOR
THE STUDY
ON
THE PROGRAM OF RURAL DEVELOPMENT FOR POOR PEASANTS AND LOCAL CAPACITY STRENGTHENING IN CENTRAL HIGHLANDS
AGREED UPON
BETWEEN
THE REPUBLIC OF PERU
AND
JAPAN INTERNATIONAL COOPERATION AGENCY

Lima, December 12, 2008.

Mr. Carlos Pando Sánchez
Executive Director
Peruvian Agency of International Cooperation
The Republic of Peru

Mr. Makoto Nakao
Chief Representative
Japan International Cooperation Agency
Peru Office

Mr. Carlos Leyton Muñoz
Minister
Ministry of Agriculture
The Republic of Peru

Mr. Ernesto Molina Chávez
President
Regional Government of Ayacucho
The Republic of Peru

I INTRODUCTION

In response to the request of the Republic of Peru (hereinafter referred to as "Peru"), Japan decided to conduct the "Study on Program of Rural Development for Poor Peasants and Local Capacity Strengthening in Central Highlands in the Republic of Peru" (hereinafter referred to as "the Study"), in accordance with the Agreement on Technical Cooperation between the Government of the Republic of Peru and the Government of Japan signed on 20 August 1979 (hereinafter referred to as "the Agreement").

The Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of the technical cooperation programs, will undertake the Study in close cooperation with the concerned authorities of the Peru, in accordance to the alignments that for the said effects are set by the concern Sectors.

The present document sets forth the Scope of Work with regard to the Study described as follows:

II OBJECTIVES OF THE STUDY

The objectives of the Study are:

1. To formulate the program of the rural development for the poor peasant families and local capacity strengthening in the central highlands, with the purpose of linking the poor peasant producers with the local, regional, and national markets, in order to improve their income, assets, and life quality.
2. To carry out capacity development of Peruvian counterpart personnel for the implementation of the Study to manage and coordinate the implementation of the above program.

III STUDY AREA

The Study area shall cover the Department of Ayacucho Region in the central highland. (See ANNEX I)

IV SCOPE OF THE STUDY

In order to achieve the objectives above, the Study shall consist of the following items:

1. Basic study,
2. Formulation of the basic concept for the Rural Development strategy,
3. Formulation of the Rural Development strategy,
4. Preparation of an implementation proposal of the Rural Development strategy,
5. Formulation of the program of Rural Development,

V STUDY SCHEDULE

The Study shall be carried out in accordance with the attached tentative schedule. (See ANNEX II)

VI REPORTS

JICA shall prepare and submit the following reports to Peru:

Inception Report:	Thirty (30) copies in Spanish and five (5) copies in English at the commencement of the Study.
Interim Report:	Thirty (30) copies in Spanish at the middle of the Study.
Progress Report(s):	Thirty (30) copies in Spanish in the course of the Study.
Draft Final Report:	Forty (40) copies in Spanish at the end of the field work; Peru will provide JICA in writing, with its comments on the Draft Final Report within one (1) month of the receipt of the Draft Final Report.
Final Report:	Fifty (50) copies in Spanish and five (5) copies in English within two (2) months of the receipt of comments by the counterpart institutions on the Draft Final Report.

VII UNDERTAKING OF PERU

1. Peru shall accord privileges, exemptions and other benefits to the Japanese Study Team in accordance with the Agreement.

2. Peru shall also commit to:

(1) Secure the safety of the Japanese Study Team,

(2) Provide necessary facilities to the Japanese Study Team for the remittance as well as utilization of the funds introduced into Peru from Japan in connection with the implementation of the Study,

(3) Secure permission for the Japanese Study Team to take all data and documents, including maps and photographs related to the Study to Japan,

(4) Provide medical services as needed, to the Japanese Study Team. Such expenses will be chargeable to members of the Japanese Study Team,

(5) Have the Ministry of Agriculture and the Regional Government of Ayacucho act as counterpart agencies to the Japanese Study Team and also as the coordinating bodies in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Study, and

(6) Provide the following, at its own expense, to the Japanese Study Team, in cooperation with other organizations concerned:

(6.1) Available data (including maps and photographs) and information related to the Study,

(6.2) Counterpart personnel,

(6.3) Suitable office space and furniture, telephone facilities and internet access, etc.,

(6.4) Credentials or identification cards.

VIII UNDERTAKING OF JICA

For the implementation of the Study, JICA shall take the following measures:

1. To dispatch, at its own expense, the members of the study team to Peru, and
2. To pursue technology and skills transfer to counterpart personnel in the course of the Study.

IX CONSULTATION

JICA, the Ministry of Agriculture and Regional Government of Ayacucho shall consult with each other in respect of any matter that may arise from or in connection with the Study.

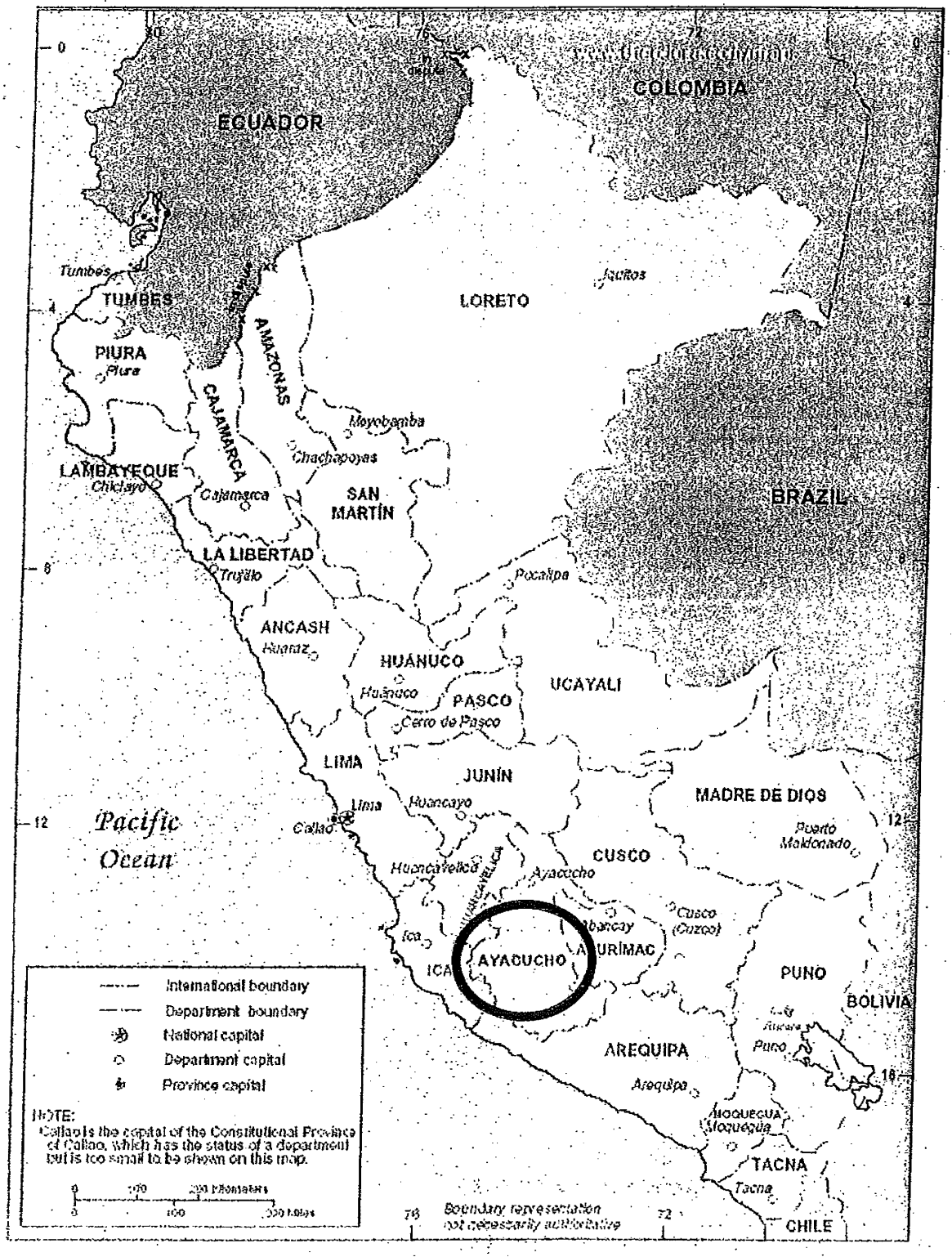
X OTHERS

1. The Scope of Work is prepared in English and Spanish. In case any doubt arises in interpretation, the English text shall prevail.

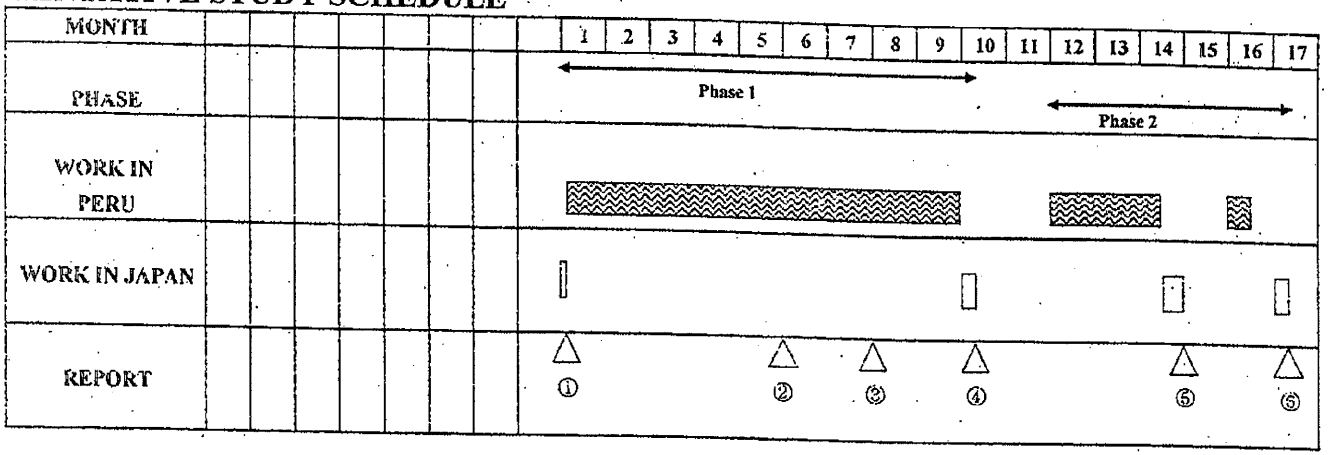
2. The present document shall be in force when Peru notifies, by the diplomatic channel, to Japan that the procedures for this effect have been finished.

ANNEX I

Map of Study Area



TENTATIVE STUDY SCHEDULE



①	Inception Report	④	Progress Report 2
②	Interim Report	⑤	Draft Final Report
③	Progress Report 1	⑥	Final Report

ALCANCES DE TRABAJO
DEL
ESTUDIO DE PROGRAMA DE DESARROLLO RURAL
PARA LAS FAMILIAS CAMPESINAS POBRES Y EL FORTALECIMIENTO DE
CAPACIDADES LOCALES DE LA SIERRA CENTRO
ACORDADO
ENTRE
LA REPÚBLICA DEL PERÚ
Y
LA AGENCIA DE COOPERACIÓN INTERNACIONAL DEL JAPÓN

Lima, 12 Diciembre, 2008

Sr. Carlos Pando Sánchez
Director Ejecutivo
Agencia Peruana de Cooperación Internacional
República del Perú

Sr. Makoto Nakao
Representante Residente
de la Oficina en el Perú
Agencia de Cooperación
Internacional del Japón

Sr. Carlos Leyton Muñoz
Ministro
Ministerio de Agricultura
República del Perú

Sr. Ernesto Molina Chávez
Presidente
Gobierno Regional de Ayacucho
República del Perú

I. INTRODUCCIÓN

En respuesta a la solicitud de la República del Perú (en adelante "Perú"), el Japón decidió realizar el "*Estudio del Programa de Desarrollo Rural para las Familias Campesinas Pobres y el Fortalecimiento de Capacidades Locales de la Sierra Centro en la República del Perú*" (en adelante "el Estudio"), de conformidad con el "*Acuerdo Básico sobre Cooperación Técnica entre el Gobierno de la República Peruana y el Gobierno del Japón*" (en adelante "el Acuerdo Básico"), el cual fuera suscrito el 20 de agosto de 1979.

La Agencia de Cooperación Internacional del Japón (en adelante "JICA"), agencia oficial responsable para la ejecución de los programas de cooperación técnica, realizará el Estudio en estrecha colaboración con las autoridades del Perú, conforme a los lineamientos que para tales efectos plantee el o los Sectores involucrados.

El presente documento establece los Alcances de Trabajo del Estudio como se describe a continuación:

II. OBJETIVOS DEL ESTUDIO

Objetivos del Estudios son:

1. Formular el programa de desarrollo rural para las familias campesinas pobres y el fortalecimiento de las capacidades locales de la sierra centro, con el propósito de vincular a los campesinos productores pobres a los mercados locales, regionales, y nacionales, con la finalidad de mejorar sus ingresos, activos y calidad de vida.

2. Desarrollar las capacidades de la contraparte peruana para la ejecución del Estudio, y para administrar y coordinar la implementación del programa arriba mencionado.

III. AREA DE ESTUDIO

El área de Estudio abarcará el departamento de Ayacucho en la sierra central (Véase el ANEXO I).

IV. ALCANCES DEL ESTUDIO

Con el fin de lograr los objetivos mencionados, el estudio abarcará las siguientes actividades:

1. Estudios básicos.
2. Formulación del Concepto Básico para la estrategia del Desarrollo Rural.
3. Formulación de la estrategia del Desarrollo Rural.
4. Preparación de una propuesta de implementación de la estrategia de Desarrollo Rural.
5. Formulación del programa de Desarrollo Rural.

V. CRONOGRAMA DEL ESTUDIO

El Estudio será realizado de acuerdo con el cronograma tentativo adjunto (Véase el ANEXO II).

VI. INFORMES

JICA elaborará y entregará los siguientes informes al Perú:

Informe Inicial:	Treinta (30) copias en español y cinco (5) copias en inglés al inicio del Estudio.
Informe Intermedio:	Treinta (30) copias en español a la mitad del Estudio.
Informe(s) de Progreso:	Treinta (30) copias en español en el transcurso del Estudio.
Borrador del Informe Final:	Cuarenta (40) copias en español al final del trabajo en el Perú. Las instituciones contrapartes presentarán a JICA comentarios por escrito sobre el Borrador del Informe Final en el plazo de un (1) mes a partir de su recepción.
Informe Final:	Cincuenta (50) copias en español y cinco (5) copias en inglés en dos (2) meses luego de recibir los comentarios del Borrador del Informe Final de las instituciones contrapartes.

VII. COMPROMISOS DEL PERÚ

1. Perú otorgará a los expertos que integren el Equipo Japonés del Estudio los privilegios, exenciones y beneficios previstos en el Acuerdo Básico.

2. Asimismo el Perú se compromete a:

(1) Garantizar la seguridad del Equipo Japonés del Estudio,
(2) Facilitar al Equipo Japonés del Estudio la remisión y uso de los fondos introducidos al Perú de Japón en relación con la ejecución del Estudio,
(3) Garantizar al Equipo Japonés del Estudio el permiso para llevar todos los datos y documentos, incluyendo mapas y fotografías relacionados con el Estudio al Japón,
(4) Proporcionar al Equipo Japonés del Estudio servicios médicos cuando sean necesarios, cuyos gastos serán cargables a los miembros del Equipo Japonés del Estudio.
(5) Que el Ministerio de Agricultura y el Gobierno Regional de Ayacucho actúen como agencias de contraparte del Equipo Japonés, y también como coordinador de las relaciones con otras organizaciones gubernamentales y no gubernamentales concernientes para la fluida ejecución del Estudio; y
(6) A proveer lo siguiente, por cuenta propia, al Equipo Japonés de Estudio, en colaboración con otros organismos relacionados:
  (6.1) Datos (incluyendo mapas y fotografías) e información disponible relacionados con el Estudio.
  (6.2) Personal de contraparte
  (6.3) Espacio apropiado para oficinas con mobiliario necesario, servicio de teléfono e Internet, etc.
  (6.4) Credenciales o carnets de identificación.

VIII. COMPROMISOS DE JICA

Para la implementación del Estudio, JICA tomará las siguientes medidas:

1. Enviar al personal del Equipo de Estudio al Perú, por cuenta propia; y,
2. Llevar a cabo la transferencia de tecnología y habilidad al personal contraparte en el transcurso de la ejecución del Estudio.

IX. CONSULTA

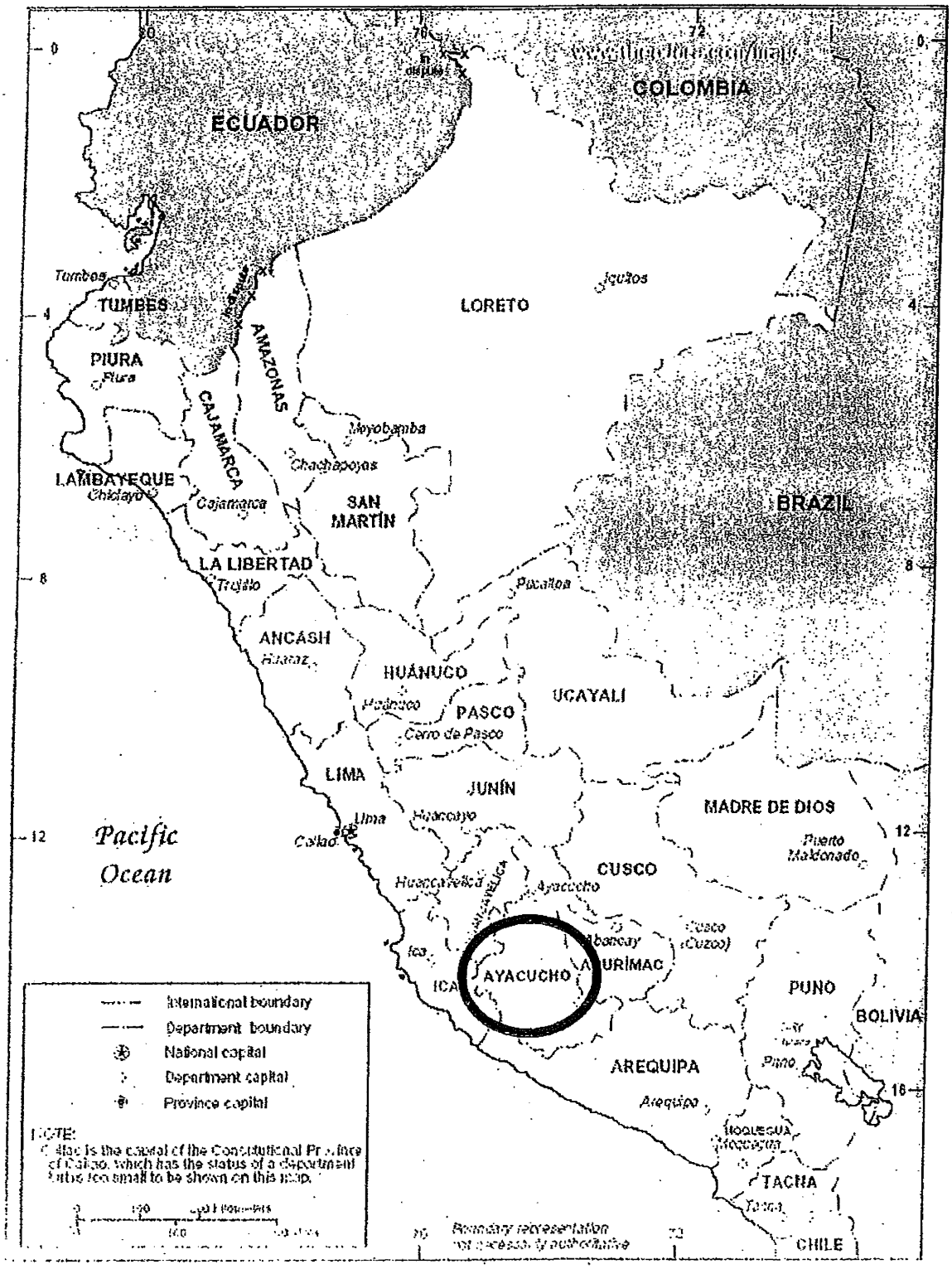
JICA, el Ministerio de Agricultura y el Gobierno Regional de Ayacucho deberán consultarse mutuamente con respecto a cualquier asunto que pueda surgir de o en conexión con el Estudio.

X. OTROS

1. Los Alcances de Trabajo serán elaborados en inglés y español. Si se presenta alguna discrepancia en su interpretación, prevalecerá la versión en inglés.
2. El presente instrumento entrará en vigor cuando el Perú notifique, por vía diplomática, al Japón el haber culminado con su procedimiento para tal efecto.

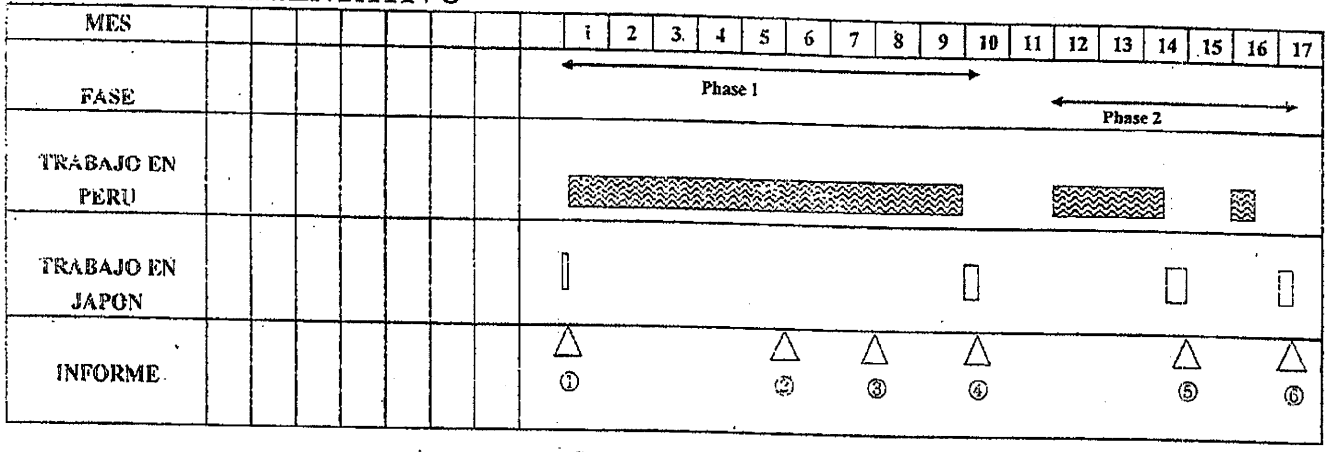
ANEXO I

Mapa del Area de Estudio



ANEXO II

CRONOGRAMA TENTATIVO



①	Informe Inicial	④	Informe de Progreso (2)
②	Informe Intermedio	⑤	Borrador de Informe Final
③	Informe de Progreso (1)	⑥	Informe Final