

Republic of the Philippines
 PROVINCE OF BOHOL
MUNICIPALITY OF BALILIHAN

COMPREHENSIVE PROJECT PROFILE

- A. Project Title : **Construction of Hanopol Norte - Boyog Norte Hanopol Weste–Boyog Proper-Boyog Sur-San Roque-Sagasa Farm to Market Road**
- B. Project Location : **Start at - Barangay Hanopol Norte
 End at - Barangay Sagasa**
- C. Project Type : **Rural Access Road**
- D. Project Scale/Dimension : **12.38371 kms. Road**
- E. Project Proponent : **Balilihan ARC**
- F. Implementing Unit : **Local Government Unit of Balilihan**
- G. Income Classification : **5th Income Class Municipality**
- H. Total No. of Barangays : **31**
- I. ARC CARP Status, 2005 : LTI = 58% LEASEHOLD = 98%

Program Type	Target	Accomplishment
I. LTI		
Area (hectares)	196.0193	113.0948
No. of FBs	212	143
Male	176	120
Female	36	23
II. Leasehold		
Area	199.9147	196.3859
No. of FBs	279	426
Male	245	385
Female	34	41

J. Direct Road Influence Area: **12.38371 kms.**

Barangay	No. of Hectares	Crops
Hanopol Norte	543.35	Rice, Coconut
Boyog Norte	384.35	Corn, Coconut, Root crops
Boyog Proper	280.35	Rice, Corn, Coconut, Vegetables
Hanopol Weste	384.35	Rice, Coconut
Boyog Sur	418.35	Rice, Corn, Coconut, Vegetables
San Roque	680.35	Rice, Corn, Coconut
Sagasa	446.71	Rice, Corn, Coconut, Camote

- K. Project Beneficiaries : Population - 2,392
No. of HH - 490
- L. Total Project Cost : Php 39,664,804.47
Sharing Loan Proceeds - Php 19, 832,402.23
LGU Equity - Php 19, 832,402.23
50% - ARCDP 2
50% - LGU – Balilihan ARC
- M. Project Status : Of the 12.3837 kilometers total road length, about 5.695 kilometers is on-going implementation, which is funded by the second Agrarian Reform Communities Development Project (ARCDP2).

N. Overview

There are 31 barangays of the municipality that covers ARC Balilihan. During its launching held last September 29, 2005, there were only 21 barangays which were then declared under ARC, however, due to insistent demand of the 10 Barangay Captains of Hanopol Zone, the higher hierarchy of DAR extended the number of barangays to 31 which now covers ARC Balilihan.

The Hanopol Norte-Boyog Norte-Hanopol Weste-Boyog Proper-Boyog Sur-San Roque-Sagasa Farm to Market Road Project was the first priority project identified and agreed by the 31 Barangay Captains who attended the first orientation workshop being undertaken by ARC Balilihan sometime last October 2005. Once implemented and completed, the road will then connect two major commercial centers of Balilihan which is the Balilihan Public Market and the Hanopol Public Market passing through the seven (7) ARC barangays.

The Road Right of Way Survey and the projects Detailed Engineering will be undertaken by the Department of Public Works and Highways. The road's route shall be determined by DPWH Engineers aimed of giving access for better social service delivery and easier economic activities for the farmers. The route shall not be in any manner beneficial to anyone but must have to be in accordance of road worthiness, safety, economic viability and generally accessible to all residents in the area.

I. PROJECT PROFILE

- 1.1 Name of ARC** : BALILIHAN ARC
1.2 Number of Barangays : Thirty One (31) Barangays
1.3 Number of Barangays Covered by this Study: Seven (7) Barangays

The Municipality of Balilihan has 31 barangays with a total land area of 15,022 hectares. The barangays of Hanopol Norte, Boyog Norte, Hanopol Weste Boyog Proper, Boyog Sur, Sagasa and San Roque are the subject barangays of this study. Its combined area of 3,137.81 hectares represents 20.1% of the total land area of the whole municipality.

1.4 Location:

1.4. 1 Geographic Location

The Province of Bohol is found in the lower central part of the Philippines. It is bounded on the North by the Camotes Sea of Cebu, on the East by the Island of Leyte, on the South by the Mindanao Sea and on the West by Bohol Strait.

The Municipality of Balilihan is located 22 kilometers northeast of Tagbilaran City, Bohol's Capital. It is bounded on the North by the Municipality of Catigbian, on the Northeast by the Municipality of Batuan, on the East by the Municipality of Sevilla, on the South by the Municipality of Sikatuna, on the Southwest by the Municipality of Corella, on the West by the Municipality of Cortes and on the Northwest by the Municipality of Antequera.

All of the 31 barangays of the Municipality of Balilihan are under the BALILIHAN ARC. The distance of the barangays which are the subject of this study from the Poblacion area of the town ranges from 6 to 13 kilometers.

1.4.2 Relative Distance to Poblacion, growth and commercial centers

The specific distance of the particular ARC barangays to the town's Poblacion which is the commercial center of the municipality, are as follows ; Hanopol Norte-12 kms., Boyog Norte-11 kms., Boyog Proper-12 kms., Hanopol Weste-11 kms., Boyog Sur-10 kms., San Roque – 5 kms. and Sagasa-5 kms.

(Kilometer distance is based on the proposed road study)

1.4.3 Distance of the nearest and farthest ARC Barangay relative to Poblacion

Of the seven (7) barangays covered by this study Hanopol Norte is the farthest barangays which is 12 kilometers from the Poblacion Area while Barangay Sagasa is the nearest with 5 kilometers.

1.4.4 Existing road transport network and physical condition

Barangays Hanopol Norte, Boyog Norte, Boyog Proper, Hanopol Weste, and Boyog Sur can be reached using the Balilihan-Hanopol-Batuan Provincial Road while Barangys Sagasa and San Roque can be reached through the Tagbilaran-Balilihan-Catigbian-Tubigon National Road.

1.4.5 Availability of public transport

There are daily trips from the ARC Barangays to Tagbilaran City via the Tagbilaran-Balilihan-Batuan Provincial Road and the Tagbilaran-Balilihan-Catigbia-Tubigon National Road. As for barangays Boyog Sur, Boyog Proper, Boyog Norte, however, at present there are no buses plying those routes due to the defective farm to market roads. The only mode of transportation from the Provincial Road Junction is by Motor Service Facilities locally known as habal-habal and lightweight vehicles or multi-cabs. The road is passable during dry season but difficult to traverse during rainy season.

1.4.6 Total Land Area

1.4.7 A. General Land Use Classification (BALILIHAN ARC)

Table 3. General Land Use of the ARC

Category	Hectares	Percentage
Built-up	503.620 Hectares	3.350%
Agricultural	11,960.560 Hectares	79.620%
Timberland	2,125.00 Hectares	14.146%
Infra Utilities & Roads	339.670 Hectares	2.260%
Tourism	2.650 Hectares	0.018%
Parks/Plaza/Recreation	12.040 Hectares	0.080%
Cemeteries	3.460 Hectares	0.023%
River Easement	67.000 Hectares	0.446%
Dumpsite Area	3.000 Hectares	0.020%
Mineral/Quarry	5.000 Hectares	0.033%
TOTAL	15,022.000 Hectares	100.00%

1.4.7 B Agricultural Land Use

Table 4. Agricultural Land Use of the ARC

Category	Hectares	Percentage
Rice	185.07	6%
Corn	37.0	1.2%
Coconut	150.65	4.89%
Banana	18.39	0.59%
Rootcrops	18.59	
Cassava		
Others		
Total	391.11	12.68%

1.4.7 C Land Area Relative to Municipality

ARC Hanopol Norte, Boyog Norte, Boyog Proper, Hanopol Weste, Boyog Proper, San Roque and Sagasa are just seven barangays of 31-barangays Balilihan ARC. The Seven (7) earlier mentioned barangays has a total land area of 3,137.81 hectares or 20% of the total land area of the municipality, which is 15,022.000 hectares.

1.5 Topography

The topography of the ARC varies from mountainous with slopes above 18% to hilly and slightly rolling. Barangays Boyog Sur and San Roque have rugged mountainous terrain. About 55% of the areas are steep slopes and ravines with small narrow valleys in between. The area tends to level off towards barangay Sagasa with topography of hilly to slightly rolling plains. About 70% of the barangay have slopes less than 8%. The average altitude for the ARC is 350 meters above sea level with the highest peak at about 420 meters above sea level.

1.6 Soils and Suitability

There is only type of soil in the ARC under this study, which is the Sevilla Clay. This type of soil is suitable to all kinds of crop production.

1.7 Water Sources

Several springs and small creeks are present in the 31 ARC Barangays of the municipality. This is attributed to the mountainous characteristic of these barangays, however some of these springs and creeks dry up during dry season. There are two major rivers in the area., the Loboc River and the Abatan River which are situated in the eastern and western sides of the municipality. The two major rivers serve as the common boundary of Balilihan and Batuan and Balilihan and Antequera respect.

1.8 ARC Profile

1.8.2 Total Scope by Program type

A. Land Acquisition and Distribution

OLT	-	17.4584 hectares
VOS	-	.6390 hectares
VLT/DPS	-	1.9338 hectares
CA	-	2.2205 hectares
Award	-	6.0000 hectares
TOTAL	-	28.2517 hectares

B. Non – Land Transfer]

Leasehold - 62.3435 hectares

1.8.3 Total Accomplishment as of latest dated report

Area	:	LAD	-	28.2517 hectares
		Leasehold	-	62.3435 hectares
FBs	:	Male	-	106
		Female	-	23
Balance				15.0081 hectares
To be completed CY 2006				

1.9 ARC Population

1.9.2 Total Population

Barangay	Male	Female	Total
Hanopol Norte	153	168	321
Boyog Norte	111	106	217
Boyog Proper	121	91	212
Hanopol Weste	143	140	283
Boyog Sur	142	147	289
San Roque	315	316	631
Sagasa	272	251	523

1.9.3 Number of Households

Hanopol Norte	-	69 HH
Boyog Norte	-	47 HH
Boyog Proper	-	46 HH
Hanopol Weste	-	52 HH
Boyog Sur	-	61 HH
San Roque	-	110 HH
Sagasa	-	105 HH

1.9.4 Average Household Size

The average Household Size is 5

1.9.5 Average growth rate

The average growth rate is 1.48 based on 2000 NSO census.

1.10 Economic Activities and Sources of income

- 1.10.1 On – Farm - P 39, 428.57
- 1.10.2 Off – Farm - P 7, 771.43
- 1.10.3 Non – Farm - P 8, 914.29
- 1.10.4 Analysis of average yield /produced and income sources

Twenty Five (25%) percent of the farmers in the ARC are engaged in rice production, Fifteen (15%) percent in rice – corn production, Forty (40%) percent in rice-coconut production and the rest or twenty (20%) percent are engaged in mixed crops such as banana and rootcrops.

The average yield for rice is only 40 to 48 cavans per hectare or 3.6 tons per hectare and for corn, the average yield is only 12 – 15 cavans per hectare or 1.3 tons per hectare. The low output of major crops cannot be depended upon as the main source of income. Farmers therefore, augment their income from off-farm activities such as forestry and others and from non – farm income from carpentry, sari-sari store, motorcycle driver etc.

II. PROJECT BACKGROUND AND RATIONALE

2.1 Statement of the Problem and Opportunities

There are four major problem identified by the farmers, which contributed to the low income in the ARC which are the following: Low crop yield. High cost of production, low over-all productivity, and low price of the produce.

The factors identified during the barangay workshop consultation which contributed to the high cost of production are: high cost of farm inputs, high labor cost due to lack of pre-harvest facilities and lastly, *high cost of transportation due to poor road condition.*

The Hanopol Norte, Boyog Proper, Boyog Norte, Hanopol Weste, Boyog Sur, San Roque, Sagasa Farm to Market Road Rehabilitation Project and the

Boyog Sur Bridge. Public Utility Bus and Jeepneys already stopped plying their route a long time ago because of this problem.

2.2 Project Objectives

The project aims to ensure easy and year-round access to people, farm inputs and outputs, increase stimulation of trade and commerce and mobility and reduce the cost of fuel and maintenance and transportation cost.

2.3 Brief presentation of Socio-economic Indicators (population, livelihood, and relation of the project to the development plan of the project influence area.)

The Hanopol Norte-Boyog Norte-Boyog Proper-Hanopol Weste-Boyog Sur-San Roque-Sagasa Farm to Market road is one of the important farm to market roads of the entire BALILIHAN ARC as it connects the towns two (2) major markets, the Balilihan Public Market (Poblacion) and the Hanopol Public Market in Hanopol Este, Balilihan. Once completed, the road will also shortened the travel time from this barangays to the adjoining towns of Catigbi-an and Batuan.

III. PROJECT DESCRIPTION AND ANALYSIS

A. Demand and Supply Situation

3.1 Existing Roads, Bridges and Transport System in the Area

Road Type	Road Classification (kms)						Total	
	Gravel (in kms.)		Earth (in kms.)		Concrete (in kms.)			
	Passable	Not Passable	Passable	Not Passable	Passable	Not Passable	Passable	Not Passable
Hanopol Norte	1.000	0.2	0.800	0.690	0.265	0	2.065	0.890
Boyog Norte	2.400	0.3	0	-	0.250	0	2.650	0.300
Boyog Proper	2.000	0.350	0.150	-	0.240	0	2.390	0.350
Hanopol Weste	0.160	-	1.100	0.200	0.250	0	1.510	0.200
Boyog Sur	2.700	0.30	1.500	0.500	0.240	0	2.400	0.530
San Roque	5.500	-	1.900	0.200	0.380	0	7.780	0.200
Sagasa	1.414	-	1.500	0.236	0.405	0	3.319	0.236

3.2 Analysis of Road and Transport System (without and with road improvement)

3.2.1 Present Road network condition in the ARC vis- a – vis accessibility of the road to market centers/training points (specify also major market products).

The proposed project is the opening/construction of a new farm to market road which will connect the ARC barangays of Hanopol Norte, Boyog Norte, Hanopol Weste, Boyog Proper, Boyog Sur, San Roque and Sagasa. Although all of the above-mentioned barangays have an existing barangay roads, the existing problem is that they are not interlinked with each other, hence, the people in the area more particularly the farmers find it hard in transporting their produce, hence, the presence of an interlinked farm to market road is a great necessity. Secondly, the existing farm to market roads need improvement so that it will be passable by all kinds of vehicles. Another problem that existed is the need of a concrete bridge to connect Boyog Proper to Boyog Sur as their common boundary is the Hanopol River.

3.2.2 Availability of public transport vehicles in the project area (origin to destination)

Although the existing barangay roads are passable by jeepneys, jeepney operators are still hesitant to ply routes in the area as the existing barangay roads is not linked with each other. All existing roads have dead ends, hence, the construction of a farm to market that will link the 7 ARC barangays is a must as it will not only connect the 7 ARC barangays but to the two (2) major markets of Balilihan, the Balilihan Public Market in the Poblacion area and the Hanopol Public Market of Hanopol Zone. Once completed, there is also a need for a "bridge component" to cross the Hanopol River which separates the 4 ARC Hanopol Zone barangays to the 3 ARC barangays. With the realization of the proposed project, farmers in the 7 barangays will be having easy access to transportation from and to the two major markets of Balilihan, The barangay of Ambuan of Catigbian, Bohol can also use the proposed road.

3.2.3 Seasonal Impassability of the Road Site.

During heavy downpour more on rainy season, the existing barangay roads are not passable due to the road's deteriorated condition.

3.2.4 Alternative /diversion routes used within the project area and their conditions.

For the farmers in the 7 ARC barangays there is no alternate road, the construction of proposed Farm to Market will then be the only alternative shortest route once completed. Without the proposed project farmers in Hanopol Zone Barangays will then be spending much of their time and money by using the provincial road which is so circuitous.

3.2.5 Availability of other modes of transport, which tend to compete with the road under construction.

Presently, there are no other modes of transportation in the area since the seven (7) ARC barangays are in-land barangays.

3.2.6 Existing modes of transport and hauling passenger and cargo.

The existing mode of transportation in every barangay of the 7 ARC barangays are motorcycle for hires which demands bigger amount of fare which is an additional burden of the farmers. Public Utility Vehicles stopped plying the route due to the poor condition of the road.

3.2.7 Current trip volumes destinations, travel times, volume/capacity ratios.

At present, there is no regular trip in each of the 7 barangays so that the people will have to walk up to the Balilihan-Hanopol-Batuan Provincial Road where there are regular routes to and from Balilihan Proper and Tagbilaran City. The travel time from Hanopol Proper to Balilihan Proper is 30 to 40 minutes and 1 hour and 40 minutes to Tagbilaran City. Such estimate does not include the walking time from each of the ARC barangay to the aforesaid provincial road.

3.2.8 Analysis of how the proposed road facility will close in the gap in infrastructure development within the area in terms of generated, induced and diverted traffic.

The opening/construction and rehabilitation of the Hanopol Norte, Boyog Norte, Hanopol Weste, Boyog Proper, Boyog Sur, San Roque and Sagasa Farm to Market Roads would give way for the fielding of regular PUBs, PUVs and Jeepney routes in the area, reducing for almost one half of the present travel time to and from the Poblacion Area and giving the farmers easier way in transporting farm inputs and produce.

B. Technical Analysis

4.1 Existing road alignment describing the route, start and terminal points, surface condition, length, major population centers traversed, road influence area (RIA) and terrain.

The proposed Farm to Market Road runs from barangay Hanopol Norte as the starting point going on to a Southwesterly direction passing by Barangay Boyog Norte, Hanopol Weste, Boyog Proper then to Barangay San Roque and Sagasa which connects to the Tagbilaran-Cortes-Balilihan-Catigbian-Macaas Tubigon National Highway. The existing barangay roads in each of the 7 ARC Barangays are earth/graveled but are passable only during dry season. The total length is **12.38371** kilometers while the bridge is about **24 lineal meters**. Two major population centers which is the Hanopol Zone and the 21 Balilihan Zone Barangays will be traversed by the road which will start in Hanopol Norte and to end up in Barangay Sagasa. The direct road influenced area is more or less **3,137.81 hectares**. The general terrain is hilly and sloping towards Barangay Sagasa.

4.2 Description and location /site of existing structures and their current physical condition.

The existing structure consist of a dilapidated foot bridge, which is **24** lineal meters. The road shoulders and canals in the existing barangay roads also need immediate repair.

4.3 Design Analysis of proposed works

- 4.3.1 Description of proposed road alignment, terminal points, length, maximum grade, minimum and maximum side slopes for cuts and fills, height of embankment, population centers traversed, right of way, direct and indirect RIA, location of critical structures, and major road to which the proposed road will connect.

The proposed road alignment is still the same as well as the terminal points from Hanopol Norte boundary to barangay Boyog Norte, Hanopol Weste, Boyog Proper, Boyog Sur, San Roque and Sagasa. The minimum slide slope is: 2.5% and the maximum is 3% embankment is 3% maximum. The road traverse in the centers of the 7 aforementioned ARC barangays. The right of way is 10 meters wide. The most important structure which must have to be constructed will be the bridge which will connect the 4 Hanopol Zone Barangays and the other 3 Balilihan Zone Barangays. Once completed the road will connect to the Tagbilaran-Cortes-Balilihan-Catigbian-Macaas Tubigon National Road.

- 4.3.2 Design analysis of major and minor structures including drainage crossing or bridge for waterways traversed by the road.

The existing foot bridge is a wooden/bamboo bridge while the proposed is a concrete one to accommodate heavier traffic load and further extends longer life span. A portion of the road with length of 100 meters on both ends shall be concreted due to the 12 % slope in the area.

4.4 Proposed Sources and Location of Quarries, Borrow Pits and Construction materials

- 4.4.1 Relative Distance of quarry and construction materials to project site

- 4.4.2 Handling of materials

The hauling of construction materials shall be provided by the winning contractor.

- 4.4.3 Dependability and availability of required quantities

The materials to be used are readily available in the area and could be provided at anytime needed.

C. Operational Aspects

5.1 Organization to implement the project

- 5.1.1 Status of BIT organization and functional committees

The Barangay Implementing Teams of barangay Hanopol Norte, Boyog Norte, Boyog Proper, Hanopol Weste, Boyog Sur, San Roque and Sagasa were already formed last year 2004. The BIT and various committees have undergone the ARCDP orientation seminar. The members were told of the duties and obligations of the BIT. During the identification of the persons affected by the project, the BIT was very instrumental in facilitating and accelerating the submission of various documentary requirements.

5.2 Plan for management during construction, key roles and responsibilities and implementation requirements.

The project is under contract. The Local government Unit shall create a project implementing officer who is also the Municipal Engineer in coordination with the Barangay Implementing Team.

5.3 Collection of road user fees and other operational policies

The collection of users fee is under study in consultation with the barangay residents.

5.4 Implementation schedule of the sub-project (project duration, estimated start and end of construction)

The sub-project is estimated to be finished in **385 working days** to start during the third quarter of CY 2006 and finished in the last quarter of CY 2007.

5.5 Project monitoring and supervision

The project shall be supervised and monitored primarily by the Local Government Unit in coordination with the Barangay Implementing team. The Provincial Project Office shall also supervise and monitor the project.

5.6 Operation and maintenance of BROM group

The road shall be maintained by the Local Government unit, both by the Municipal and Barangay officials in coordination with the Barangay Implementing Team. An amount shall set aside for the operation and maintenance of the project.

Social Assessment

6.1 Local community participation during planning and preparatory activities.

All the residents in the Barangay especially those who will be affected by the road right of way shall be called to a consultation meeting. The plan for rehabilitation of the road shall be presented to the community. The community especially the Barangay Implementing Team shall be

involved in the planning and preparatory activities such as survey and identification of project affected persons.

6.2 Right of way allocation for existing roadway and canal routes and their brief history (if structures are in place)

All existing roads are well documented in favor of the concerned barangay government unit while those which will be affected by the road opening project are all due for donation in favor of the barangay.

6.3 Project Affected Persons (PAP)

During the Barangay Consultation Workshop, there were a total of 100 individual owners of the would-be affected lots which are already identified and convinced to donate a portion of the lot in favor of the barangay. 88 out of the hundred have already signified their intention while 12 are absentee owners, however, their administrators promised to convince the owners, hence no problem is foreseen during the implementation. Negotiations of the aforementioned activity was through consultation with the presence of Barangay, Municipal and DAR officials. During the negotiation process, it has been agreed that lot acquisition shall be by "Donation".

The estimated total affected area of the project is 12.59 hectares or with an average lot size of 0.0826 hectare.

6.4 Defining the geographical limits of lands or properties to be acquired (in has.) compared to total landholding per PAP

The total affected area is more or less **12.5900** hectares. The average percentage compared to the total landholding of the PAP is only **12%**

6.5 Existing land use of proposed road/bridge sites.

There is an existing bridge however such is not suitable for PUVs and PUJs. There is also a need to construct a new bridge, hence, the existing land use is no consequence.

6.6 Consultation /negotiation process with PAP

Consultation meeting shall be called with the PAP before finally deciding whether to push through with the project. We see no problem in the consultation and negotiation since the project was identified in consultation with the residents of the barangay and the ARC during the Barangay Workshop Consultation held last year.

6.7 Status of right of way acquisition for lands to be used by road project (DoD, quitclaim permit to enter /construct /operate , compensation, if any)

The PAP is willing to execute a deed of donation and or quitclaim on the areas affected by the road.

6.8 Social Impact to project beneficiaries and others

The proposed road shall drastically improve the economic situation in the influenced area. It is expected that traffic shall increase and hauling expenses as well as transportation fares shall be reduced with the project.

6.9 Presence of Indigenous Persons / Communities

ARC Balilihan through the Honorable Mayor has sent a letter request to the NCIP requesting for an ocular inspection to the project site and same was granted where a team from NCIP was sent to the area. ARC Balilihan is now waiting for the NCIP CERTIFICATION for that matter where accordingly will be issued by its Regional Office.

D. Environment Considerations

7.1 Environmental Management Plan for the proposed road sub-project (Please refer to attached Environment Management Plan)

The total project stretch is **12. 38371 kms.** from **Barangay Hanopol Norte to Barangay Sagasa.** The project's activities consists of Planning and designing of road opening and rehabilitation, Trainings and Seminars to sub-project implementers and Monitoring and supervision of sub-project implementation. It is estimated that a total of **135 to 140 cubic meters** of different species of trees will be cut and or removed in implementing the project, however, Barangay Captains of the areas affected are required to replant trees along the road once completed and intensify their tree planting drive in the residents' individual lots. Very step areas are being spared in the proposed road route.

7.1.1 Impacts

There will be only a slight impact to the environment as long portion of the project already existed.

7.1.2 Mitigating /Enhancement Measures

There are no mitigating or enhancement measures planned for reasons mentioned above.

7.1.3 Cost of Mitigation

There will be no cost of mitigation.

7.1.4 Responsible Units

Responsible units are the local government units and the barangay implementing team.

7.2 Analysis of more critical environment impacts and how these were addressed in the technical design.

7.3 Status of ECC application, tree cutting permits

The Department of Environment and Natural Resources (DENR) have already issued an "INVENTORY OF TREES TO BE CUT" which will be affected by the project and the LGU was already requesting for an ECC for that matter.

E. Financial Costs

8.1 Total Project Cost by Financing Source and Cost sharing WBLP, LGU, ARC.

The total project cost is Php 39,664,804.47 for the farm to market road. Php 19,832,402.23 (50%) shall be sourced from WBLP, while the remaining Php 19,832,402.23 (50%) shall be by the LGU/ARC counterpart.

8.2 Total Project Cost Breakdown

Construction Of Hanopol Norte, Boyog Norte, Hanopol Weste, Boyog Proper, Boyog Sur, San Roque, Sagasa FMR

BREAKDOWN OF ESTIMATED PROJECT COST	ARCDP 2	LGU/ARC EQUITY	TOTAL
A. Direct Cost			
Materials	6,877,108.50	2,292,369.50	9,169,478.00
Labor	6,496,615.80	2,165,538.60	8,662,154.40
Contingencies	2,284,875.00	761,625.00	3,046,500.00
Contractors Profit	782,929.97	260,977.62	1,043,906.62
Equipment Rental	1,565,859.93	521,953.31	2,087,813.24
Vat	1,565,859.93	521,953.31	2,087,813.24
Quality Control	18,750.00	6,250.00	25,000.00
SUB-TOTAL	19,591,999.13	6,530,667.34	26,122,665.50
Cost Sharing	75%	25%	100%
B. Indirect Cost			
Eng'g Supervision (3% of DC)	391,839.99	391,839.99	783,679.97
FS Prep. & Pre-engineering		650,000.00	650,000.00
Survey of Affected Lots for ROW		100,000.00	100,000.00
ECC Clearance & other Permits		75,000.00	75,000.00
		391,839.99	1,216,839.99
% Cost Sharing	24.36%	75.64%	100%
TOTAL (A + B)			27,731,345.47
C. OTHER COSTS			
ROW Cost		6,713,926.00	6,713,926.00
Oper. & Maintenance Cost (10 years)		5,219,533.00	5,219,533.00
Sub-Total		11,933,459.00	11,933,459.00
TOTAL COST	19,832,402.23	19,832,402.23	39,664,804.47
% Cost Sharing	50%	50%	100%

8.2.1 Direct Cost

For the bridge (will be under the Philippines Bridge Program through the Department of Public Works and Highways)

8.2.2 Indirect Cost

8.2.3 Other Costs (ROW& O&M)

The other cost of the FMR is P 13, 427852.

8.3 Capital Cost and O&M Cost Breakdown

CONSTRUCTION OF BOYOG SUR-BOYOG PROPER BRIDGE

The bridge sub-component of the project shall be under the Philippine Bridge Program with separate program from DPWH.

8.4 Status of LGU equity availability and LFC certification

The LGU is ready with the Equity of the project. The LFC could be issued as needed.

F. Financial and Economic Analyses

9.1 Valuation of Project Benefits

9.1.1 The Project Influence Area

Agricultural and Forestry Production Areas to be served by the Hanopol Norte, Boyog Norte, Boyog Proper, Hanopol Weste, San Roque, Sagasa Farm to Market Road Rehabilitation and Boyog Sur Bridge Construction.

Barangay	Crop	Area	Ave. yield per ha.(kg.)	No. of turnover / cropping season/yr	Annual Production (kg)	% of Production sold
Hanopol Norte	Rice	21.5800	3,600	2	155,376	50%
	Corn	5.1150	1,300	2	13,299	50%
	Coconut	27.5800	416	3	22,947	100%
	Banana	2.5000	5,000	2	25,000	75%
	Others (Root crops)	10.5000	4,000	3	126,000	50%
Boyog Norte	Rice	17.4100	3,600	2	125,352	50%
	Corn	7.0800	1,300	2	18,408	50%
	Coconut	16.4100	416	3	20,480	100%
	Banana	3.0000	5,000	2	30,000	75%
	Others (Root crops)	7.0000	4,000	3	84,000	50%
Boyog Proper	Rice	21.2500	3,600	2	153,000	50%
	Corn	6.2500	1,300	2	16,250	50%
	Coconut	22.7500	416	3	28,392	100%

	Banana	6.0000	5,000	2	60,000	75%
	Others (Root crops)	5.7707	4,000	3	9,309	50%
Boyog Sur	Rice	20.1600	3,600	2	145,152	50%
	Corn	3.6600	1,300	2	9,516	50%
	Coconut	19.5700	416	3	24,423	100%
	Banana	7.8300	5,000	2	78,300	75%
	Others (Root crops)	15.0000	4,000	3	180,000	50%
Hanopol Weste	Rice	23.7500	3,600	2	171,000	50%
	Corn	1.2500	1,300	2	3,250	50%
	Coconut	24.0000	416	3	29,952	100%
	Banana	6.0000	5,000	2	60,000	75%
	Others (Root crops)	8.0000	4,000	3	96,000	50%
San Roque	Rice	38.7000	3,600	2	278,640	50%
	Corn	4.6250	1,300	2	12,025	50%
	Coconut	25.2920	416	3	6,604	100%
	Banana	2.0000	5,000	2	20,000	75%
	Others (Root crops)	10.0000	4,000	3	120,000	50%
Sagasa	Rice	42.2240	3,600	2	304,013	50%
	Corn	9.0230	1,300	2	23,460	50%
	Coconut	15.0500	416	3	18,782	100%
	Banana	7.5570	5,000	2	75,570	75%
	Others (Root crops)	5.6000	4,000	3	67,200	50%

9.1.2 Population within the direct road influence area and other areas to benefit from the road facility.

Population within the Road Influence

Barangay	Population	HH	Ave. Annual Population Growth Rate	Ave. Annual real income growth rate Per capita
Hanopol Norte	321	69	1.48	P 6, 500.00
Boyog Proper	212	46	1.48	P 6, 500.00
Boyog Norte	217	47	1.48	P 6, 500.00
Hanopol Weste	283	52	1.48	P 6, 500.00
Boyog Sur	289	61	1.48	P 6, 500.00
San Roque	547	110	1.48	P 6, 500.00
Sagasa	533	105	1.48	P 6, 500.00

9.1.3 Existing vehicular traffic based on Traffic Survey Results and indicating representative vehicles, passenger occupancy/average load by vehicle type, average daily trips and traveled distance.

Annual Average Daily Traffic in Barangay, 2005

Barangay	Existing Mode of Transport in the area	No. of vehicles units	Ave. operating days/year	Ave. loading capacity	Ave. no. of daily trips	Observed transport fares for passenger	Ave. traveled distance	Origin to destination
Hanopol Norte	MSF	5	Year-round	4/trip	8	P 6.00 / head	12 km.	Hanopol – Pob.
Boyog Norte	MSF	6	Year-round	4/trip	7	P 6.00 / head	11 km.	Boyog Norte-Pob.
Boyog Proper	MSF	6	Year-round	4/trip	7	P 6.00 / head	12 km.	Boyog Proper-Pob.
Hanopol Weste	MSF	7	Year-round	4/trip	9	P 6.00 / head	11 km.	Hanopol Weste – Pob.
Boyog Sur	MSF	5	Year-round	4/trip	7	P 6.00 / head	10 km.	Boyog Sur – Pob.
San Roque	PUJ -MSF	4-8	Year-round	4/trip	2-8	P 6.00 / head	5 km.	San Roque – Pob.
Sagasa	PUJ -MSF	3-8	Year-round	4/trip	2-8	P 6.00 / head	5 km.	Sagasa – Pob.

Legend: MSF – Motor Service Facility (commonly known as HABAL-HABAL)

9.1.4 Transport Prices by Animal /Human Haulers

Barangay	Type of Animal/Human	Origin to Destination	Transport Distance (km)	Transport Price (Php)	Ave. Loading Capacity
Hanopol Norte	Human	Poblacion	12	P 50.00	4
Boyog Norte	Human	Poblacion	11	P 60.00	4
Boyog Proper	Human	Poblacion	12	P 60.00	4
Hanopol Weste	Human	Poblacion	11	P 50.00	4
Boyog Sur	Human	Poblacion	10	P 50.00	4
San Roque	Human	Poblacion	5	P 30.00	4
Sagasa	Human	Poblacion	5	P 25.00	4

9.1.5 Direct Jobs from Construction

- No. of Unskilled Laborers to be hired
- No. of Skilled Laborers to be hired

	No. of Skilled Laborers	No. of unskilled laborers
Direct Jobs from Construction	29	79

MUNICIPALITY OF BALILIHAN

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