BALOG-BALOG MULTIPURPOSE PROJECT Phase II



... the dream of every Tarlaqueňo

... a great stride towards national food security

... catalyst to countryside development and economic progress

PROJECT BRIEFER

NAST, PHL. Water Infrastructure Policy Discussion

March 9, 2016

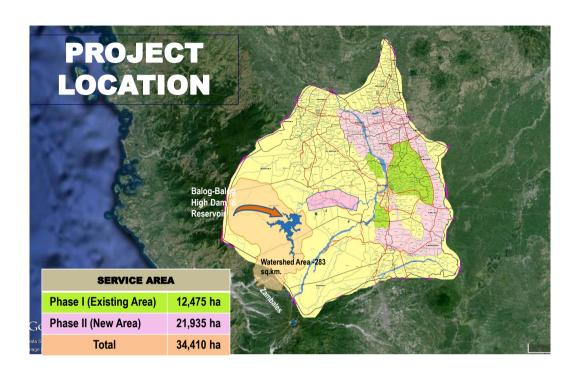
PROJECT LOCATION



THE PROJECT

PROJECT HISTORY

- **▶1968-1969** Pre-Feasibility Study of the Bulsa River
 - SOIL EXPLORATION 40,000 ha
 - **▶1986** conduct of Feasibility Study for BBMP funded by WB
 - **▶1988** the Feasibility Study Report was approved by WB



BRIEF HISTORICAL BACKGROUND

FIRST NEDA-ICC APPROVAL

P2.712 Billion

February 3, 1988

Financing:

USD 85 Million Soft Loan from Italian Government

SECOND NEDA-ICC APPROVAL

P8.064 Billion

January 30, 1992

Financing:

ICC-Cabinet instructed DOF and NEDA to renegotiate the Project's financing package

THIRD NEDA-ICC APPROVAL

P12.028 Billion February 18, 2000

Financing:

1999-2004, Proposed to be financed from the Special Yen Loan Package of Japan

A fountain of hope for the Tarlaquenos

 In 2010, President Benigno S. Aquino III gave his full support to the Balog-Balog Multipurpose Project & promised to finish the project started by his late president-mother.

UPDATED PROJECT COST PROPOSAL

P17.718 Billion

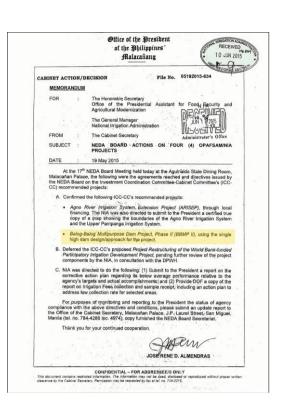
P15.356 Billion – Phase II (including Power)
P 2.362 Billion – Phase- I

August 2011
Financing:
BOT Scheme

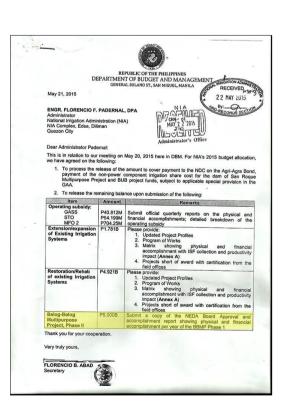
A fountain of hope for the Tarlaquenos

 In May 19, 2015, the Balog-Balog Multipurpose Project Phase II was finally confirmed and approved by the NEDA Board. Given the green light for its immediate construction, the project will give substantial irrigation supply for the vast farmlands of Tarlac Province for countryside development and economic progress.

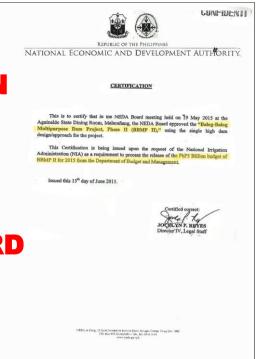
NEDA BOARD ACTION ON BBMP II



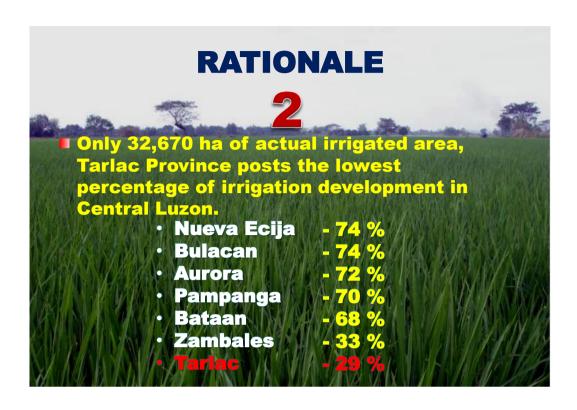
DBM LETTER TO NIA

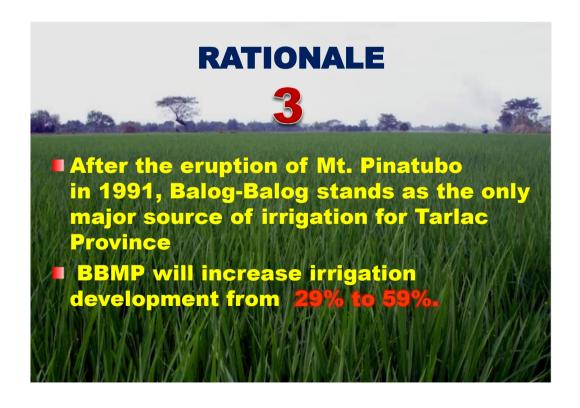


CERTIFICATION
OF
BBMP II
APPROVAL
BY
THE NEDA BOARD



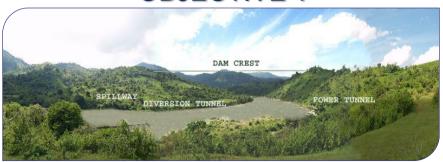






PROJECT OBJECTIVES

OBJECTIVE 1



Construct the Balog-Balog Dam and Reservoir with a storage capacity of 559 MCM for irrigation, power generation, fishery, and flood control purposes.

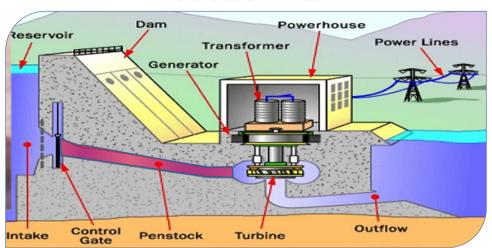


Restore and improve Mt. Pinatubo-affected irrigation canals, facilities & structures to adequately irrigate 8,600 hectares in the TARRIS area and 5,700 hectares in the SMORIS Area.

OBJECTIVE 3



Construct new irrigation canals, facilities, and structures to irrigate an additional of 21,935 hectares of new areas.



Include penstock and power tunnel provisions in the Balog-Balog Dam for the potential generation of 43.5 MW of hydropower.

OBJECTIVE 5



Develop and implement a sound Resettlement Program for the 745 dam-and-reservoir-affected families.



Organize, develop, and strengthen 130 irrigators' associations (IAs) for the effective mobilization of 23,000 farmer-beneficiaries, and for the efficient operation & maintenance of the irrigation system.

OBJECTIVE 7



Increase cropping intensity in the project area from 124 percent to 200 percent, thereby increasing crop production and farm income levels.

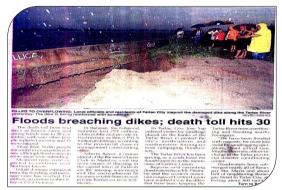


Generate both on-farm and off-farm employment.

OBJECTIVE 9



 Provide the upland communities with livelihood opportunity by engaging in commercial Inland Fish
 Production - 150 ha in the 1,630-hectare reservoir area.



Mitigate flooding in the municipalities of Gerona, Paniqui, Moncada, Camiling, San Manuel, Ramos, Tarlac City, and in other low-lying areas in the province

OBJECTIVE 11



Boost the local eco-tourism industry.

PROJECT PROFILE

Name of Project : Balog-Balog Multipurpose Project Phase II

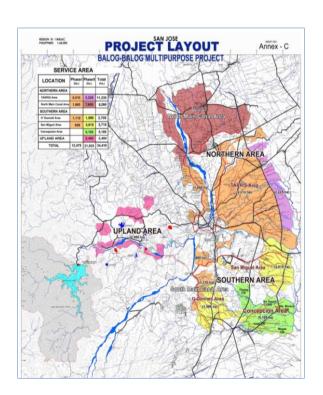
Project Location : Province of Tarlac, Philippines

Total Project Cost: P 13.37 Billion

Implementation Schedule:

	Phase I	Phase II	Total
Schedule	1999 - 2012	2013 - 2018	
Cost, P	2.362 B	13.37 B	15.732 B
Area, ha	12,475	21,935	34,410
FBs	7,340	15,660	23,000

PROJECT LAYOUT



PROJECT SCOPE

The Project involves the construction of the Balog-Balog high dam at the upper Bulsa River, and construction of irrigation canals & structures for:

- Irrigation (9 towns & 1 city)
 Service Area 34,410 ha
 Farmer Beneficiaries 23,000 farmers
- Flood Control and Mitigation
- Inland Fish Production 150 ha
- Potential Power Generation (43.5 MW)

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PROJECT COMPONENTS

- Civil Works
 - a. High Dam

dam height -105.5 m

dam crest length - 1.429.47 m

Diversion Tunnel

diameter - 11 m.

length - 433.25 m.

b. Irrigation Canals & Structures

Main Canals - 60 km
Lateral Canals - 248 km

- Land & Right-of-Way Acquisition
- Institutional Development involving <u>130 IAs</u>
- Resettlement Program for 745 families
- Watershed Management 2,000 ha

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RESETTLEMENT PROGRAM

SUMMARY OF PROJECT COST FOR BBMP II

PARTICULARS	ESTIMATED COST
A. DAM & APPURT. STRUCTURES	
1. Dam (Including Diversion Tunnel)	7,902,538,385
B IRRIG.CANALS & APPURT. STRUCTURES	
1. North Main Canal Extension & Laterals	1,004,083,983
2. South Main Canal & Laterals	1,054,814,952
3. TARRIS & SMORIS Areas	834,101,065
TOTAL CIVIL WORKS	10,795,538,385
C. PRE-CONSTRUCTION & ENGINEERING SUPPORT ACTIVITIES	344,592,963
D. PROCUREMENT BY GOVERNMENT	42,646,967
E. INSTITUTIONAL DEVELOPMENT	51,194,843
F. RESETTLEMENT PROGRAM	600,000,000
G. REPAIR & MAINTENANCE OF PROJECT FACILITIES, EQUIPMENT & VEHICLES	127,716,842
H. CONSULTING SERVICES	106,000,000
I. WATERSHED MANAGEMENT	84,900,000
TOTAL DIRECT COST	12,152,590,000
J. TAXES	
K. PRICE CONTINGENCIES	608,705,000
I. PHYSICAL CONTINGENCIES	608,705,000
TOTAL INDIRECT COST	1,217,410,000
GRAND TOTAL	13,370,000,000

^{*-} preparatory resettlement activities for Phase I includes finalization of resettlement program (resettlement plan, Free Prior & Inform Consent (FPIC), damages & compensation assessment & evaluation, acquisition of resettlement area and initial payment of damages)

RESETTLEMENT/ RELOCATION PROGRAM AT P600 Million

RESETTLEMENT/RELOCATION PROGRAM COST

PARTICULARS	QUANTITY	UNIT COST	ESTIMATED COST
I. RESETTLEMENT			511,662,826
A. RESETTLEMENT SITE ACQUISITION, DEVELOPMENT & CONSTRUCTION			343,062,890
1. Lot Acquisition (65.65 ha Private Land)	65.65 ha	380,807	25,000,000
2. Site Development (65.65 ha Private Land + 10 ha Public Land)	75.65 ha	872,438.86	66,000,000
3. Construction of Core Houses	745 units	179,722	133,892,890
4. Installation of Water System (745 households)	2 systems	2,500,000	5,000,000
5. Installation of Electrical System (745 households)	2 systems	3,500,000	7,000,000
6. Construction of Community Structures	LS	LS	23,170,000
7. Access Road to Agro-Forestry Lots/Farm to Market Road (FMR)	11 km	500,000	5,500,000
8. Small Water Impounding for Agro-Forestry Lots	6 units	500,000	3,000,000
9. Relocation Cost/Disturbance Cost	745 h-holds	100,000	74,500,000
B. RIGHT-OF-WAY COMPENSATION COST (Reservoir Area & Dam Site)	LS	LS	166,599,936
C. SETTLERS ASSISTANCE (Skills Training & Livelihood Dev't. for 745 households)	LS	LS	2,000,000
II. ENVIRONMENTAL MEASURES (Watershed Dev't. for 700 ha Pilot Area)	LS	LS	26,000,000
III. TECHNICAL & SUPPORT SERVICES	LS	LS	62,337,174
GRAND TOTAL			600,000,000

RESETTLEMENT/RELOCATION PROGRAM COST

PARTICULARS	QUANTITY	UNIT COST	ESTIMATED COST
I. RESETTLEMENT			511,662,826
A. RESETTLEMENT SITE ACQUISITION, DEVELOPMENT & CONSTRUCTION			343,062,890
1. Lot Acquisition (65.65 ha Private Land)	65.65 ha	380,807	25,000,000
2. Site Development (65.65 ha Private Land + 10 ha Public Land)	75.65 ha	872,438.86	66,000,000
3. Construction of Core Houses	745 units	179,722	133,892,890
4. Installation of Water System (745 households)	2 systems	2,500,000	5,000,000
5. Installation of Electrical System (745 households)	2 systems	3,500,000	7,000,000
6. Construction of Community Structures			
a. School Building (Floor Area - 450 sq. m.; 8-classroom)	2 units	3,620,000	7,240,000
b. Barangay Hall (Floor Area - 105 sq. m)	2 units	1,000,000	2,000,000
c. Barangay Outpost (Floor Area -72.1 sq. m.)	2 units	500,000	1,000,000
d. Day Care Center (Floor Area -120 sq. m.)	2 units	1,000,000	2,000,000
e. Church	12 units	291,666.67	3,500,000
f. Health Center (Floor Area - 105 sq. m.)	2 units	1,000,000	2,000,000
g. Multipourpose Community Hall (Floor Area - 550 sq. m)	1 unit	4,430,000	4,430,000
h. Intra-site Road to Cemetery (2 km at 6 m width)	2 km	500,000	1,000,000
7. Access Road to Agro-Forestry Lots/Farm to Market Road	11 km	500,000	5,500,000
8. Small Water Impounding for Agro-Forestry Lots	6 units	500,000	3,000,000
9. Relocation Cost/Disturbance Cost	745 h-holds	100,000	74,500,000

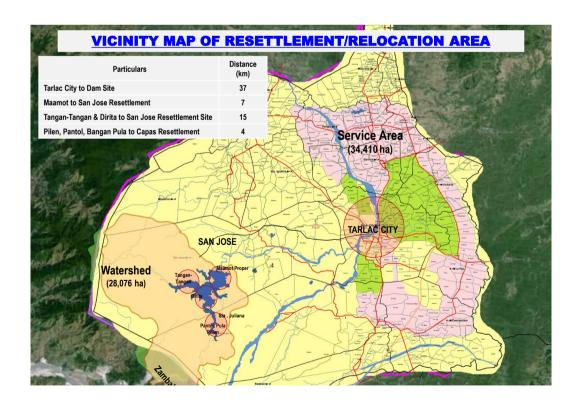
RESETTLEMENT/RELOCATION PROGRAM COST

PARTICULARS	QUANTITY	UNIT COST	ESTIMATED COST	
B. RIGHT-OF-WAY COMPENSATION COST (Reservoir Area & Dam Site)			166,599,936	
1. Houses (Existing)	745 households	LS	53,300,000	
2. Homelots Improvements (Plant Damages)	LS	LS	23,500,000	
3. Farm Lots Improvements (Plant Damages)	LS	LS	89,799,936	
C. SETTLERS ASSISTANCE (SkillsTraining & Livelihood Dev't. for 745 households)	LS	LS	2,000,000	
II. ENVIRONMENTAL MEASURES (Watershed Dev't. for 700 ha Pilot Area)			26,000,000	
A. First Year (234 ha)	23,400 hills	LS	8,280,000	
B. Second Year (233 ha)	23,300 hills	LS	8,704,000	
C. Third Year (233 ha)	23,300 hills	LS	9,016,000	
III. TECHNICAL & SUPPORT SERVICES			62,337,174	
A. Technical Personnel	LS	LS	28,000,000	
B. Institutional/Resettlement Development Officers	LS	LS	34,337,174	
GRAND TOTAL			600,000,000	

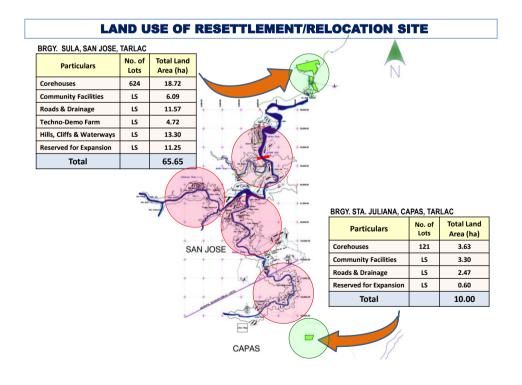
RESETTLEMENT/RELOCATION COST PER MOA

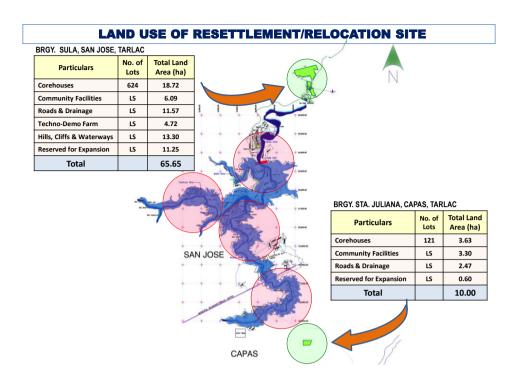
PARTICULARS	QUANTITY	UNIT COST	ESTIMATED COST	ADDITIONAL H-HOLDS	UPDATED COST (With MOA)	INCREASE
I. DETAILED & CONSTRUCTION ENGINEERING			288,985,799		302,849,799	13,864,000
A. DETAILED ENGINEERING (Survey, Design & Estimates and Contracts Administration)			50,121,862		50,121,862	
B. CONSTRUCTION ENGINEERING			238,863,937		252,727,937	13,864,000
1. Site Development (65.65 ha Private Land + 10 ha Public Land)	75.65 ha	872,439	54,722,725		54,722,725	
2. Construction of Core Houses	745 units	179,722	131,673,033		131,673,033	
3. Construction of Community Facilities	31 units	LS	21,538,507		21,538,507	
4. Installation of Water System (745 households)	2 systems	LS	22,172,800		22,172,800	
5. Installation of Electrical System (745 households)	2 systems	LS	6,610,000		6,610,000	
Electric Bill (745h-h x P200/mo. x 12 mo/yr x 3 yrs = P5,364,000)	745 h-holds				5,364,000	5,364,000
7. Access Road to Agro-Forestry Lots/Farm to Market Road (FMR)	11 km	5,500,000			5,500,000	5,500,000
8. Small Water Impounding for Agro-Forestry Lots	6 units	3,000,000			3,000,000	3,000,000
9. Techno-Demo Farm/Small Water Impounding for Agro-Forestry Lots	2 sites	LS	2,146,872		2,146,872	
II. SETTLERS ASSISTANCE			90,957,851		113,457,851	22,500,000
A. DISTURBANCE COMPENSATION	745 h-holds	100,000	74,500,000	225	97,000,000	22,500,000
B. SOCIAL SERVICES AND INTER-AGENCY COORDINATION	745 h-holds	LS	12,538,996		12,538,996	
C. SKILLS TRAINING AND LIVELIHOOD DEVELOPMENT	745 h-holds	LS	3,918,855		3,918,855	
III. REAL PROPERTY ACQUISITION & LAND DISTRIBUTION	745 h-holds	LS	211,764,521	225	256,764,521	45,000,000
A. Maambog, Sula, San Jose, Tarlac Resettlement Site	624 h-holds		172,242,425	185	207,512,695	35,270,270
B. Troso, Sta. Juliana, Capas, Tarlac Resettlement Site	121 h-holds		39,522,096	40	49,251,826	9,729,730
IV. WATERSHED MANAGEMENT DEVELOPMENT AND PROTECTION	LS	LS	8,291,829		8,291,829	
V. HONORARIUM			•		4,788,000	4,788,000
VI. MOTORIZED BANCA	20 units	70,000			1,400,000	1,400,000
GRAND TOTAL			600,000,000		687,552,000	* 87,552,000

Note: The updated cost-with the MOA of P687.55Million from the P600 Million original cost was brought about by the three (3) years delay of project implementation which led to the marriage of some family members, thus, increasing the number of household by 225, from 745 to 970 house-holds. The 970 total number of affected families which led to the marriage of some family internets, thos, increasing on the control of the contr

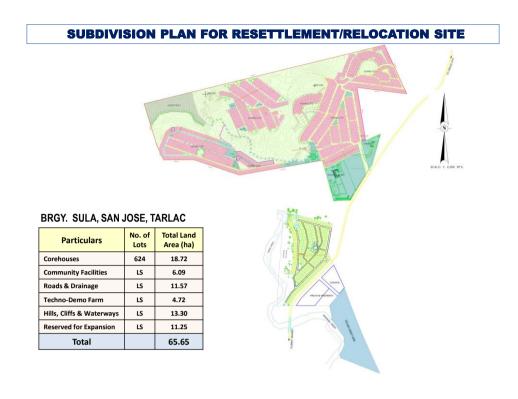


LAND USE OF RESETTLEMENT SITE





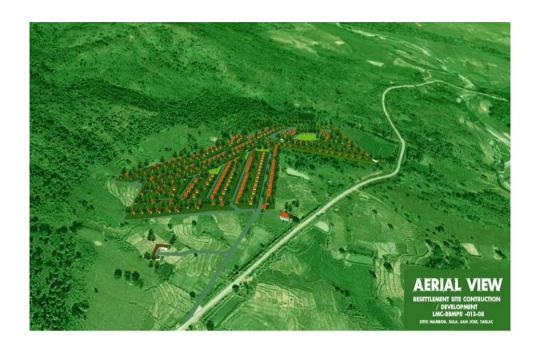
SUBDIVISION PLAN FOR RESETTLEMENT SITE



SUBDIVISION PLAN FOR RESETTLEMENT/RELOCATION SITE

BRGY. STA. JULIANA, CAPAS, TARLAC



























RESETTLEMENT UPDATE

- Resettlement Site Construction and Development
 As of December 31, 2015,
 Phase 1A 100% accomplishment (completed)
 Phase 1B- 5.60% accomplishment
- Construction of Corehouses
 As of December 31, 2015,
 236 units 100% accomplishment (completed)

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RESETTLEMENT UPDATE

- Construction of 8-Classroom School Building
 1 unit 100 % accomplishment (completed)
- Detailed Design of Community Facilities & Structures
 water system, barangay hall, barangay outpost,
 day care center, , health center, & basketball court
 is completed and ready for implementation
 and construction this year

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RESETTLEMENT UPDATE

- Inventory, Assessment and Valuation
 of affected properties in the dam and reservoir
 area is on-going
- Payment of Damages Compensation for 338 residential houses including plant damages thereon was carried out.

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WATERSHED MANAGEMENT (P84.90 Million)

WATERSHED MANAGEMENT PLAN

(700 ha Pilot Area & 2,000 ha Watershed Area)

- Plantation Establishment of 700 hectares Pilot Area
 2012 to 2014 525.93 ha
- Plantation Establishment of 2,000 hectares
 Watershed Area

2015 - 196 ha

Balance – 1,804 ha - (For Contract Agreement with the affected IP Families)

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SETTLERS ASSISTANCE

SETTLERS ASSISTANCE

- Disturbance Compensation of P100,000 for the 970 PAF
- TESDA Skills Development & Training for Affected IP-Families

1. Training: Masonry in Building Construction

No. of Participants: 80

Date: February 13-20, 2012

2. Training: Carpentry in Building Construction

No. of Participants: 56

Date: February 22-27, 2012

3. Training: Painting in Building Construction

No. of Participants: 37 Date: April 23-27, 2012

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SETTLERS ASSISTANCE

- Livelihood Opportunities thru Commercial Inland Fish Production in 150 hectares of the Reservoir Area
 - Provision of Motorized Banca
 Units Maamot, San Jose
 Units for Sta. Juliana, Capas
- Provision of Agro-Forestry Lots
 - 1. Two (2) hectares
 - 2. Six (6) units of Small Water Impounding within their Agro-Forestry lots

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RECENT UPDATE

- February 17, 2016 approval for the issuance of Cetification Precondition (CP) for the project.
- On February 22, 2016, NCIP
 Chairperson Atty. Leonor C. Quintayo signed and awarded the CP to BBMP II

RECENT UPDATE

- February 24, 2016 the PMO requested the restitution on the validity of 1992 ECC and seeked the withdrawal of its new ECC application in 2010.
- On March 7, 2016 concurred the validity of the 1992 issued ECC for the

THANK YOU