



NIA's

*Support to the
Food Staples
Sufficiency Program*



NIA's Support to the Food Staples Sufficiency Program

*“Ang gusto nating mangyari:
Una, hindi na tayo aangat ng hindi kailangan.
Ikalawa, ayaw na nating umasa sa pag-aangat.
Ang isasaing ni Juan Dela Cruz dito ipupunla,
dito aanihin, dito bibilhin.”*

*A policy statement of His Excellency President Benigno S. Aquino III
on his second State of the Nation Address in July 2011.*

With this declaration, the administration focused its attention to further accelerate productivity in agriculture. The government through the Department of Agriculture (DA) formulated Food Staples Sufficiency Program (FSSP) to ensure food security. Food Agricultural Organization defined food security as availability, accessibility and affordability of safe and nutritious food to everyone at all place and time.

Why is there a need for rice self-sufficiency?

An April 12, 2012 briefer by the Department of Agriculture provided the following reasons:

- a. Traded global rice is considered scarce. Only 5-7 percent of the world's rice production is exported.
- b. Rice can only be bought from few sources. In 2008, 84% of rice exports is controlled by five countries: Thailand, Vietnam, Pakistan, India and US.
- c. Rice demand is getting higher. Non-traditional rice-eating countries, such as those in Africa, have exhibited growing demand and are expected to compete with traditional rice-eating countries.
- d. Climate change causes global low production turn-out. The country's traditional import sources are as vulnerable and may no longer be reliable suppliers in the future.

How to achieve?

One of the FSSP's strategies is to increase and sustain growth in food staples production. Food self-sufficiency is the ability of the population to secure its food needs by its own production. The National Irrigation Administration (NIA) is always in support to food production and security. NIA's contribution in the FSSP is to increase production and harvested area by constructing and rehabilitating irrigation systems, and improving the functionality and performance of the facilities.

Situationer:

NIA:

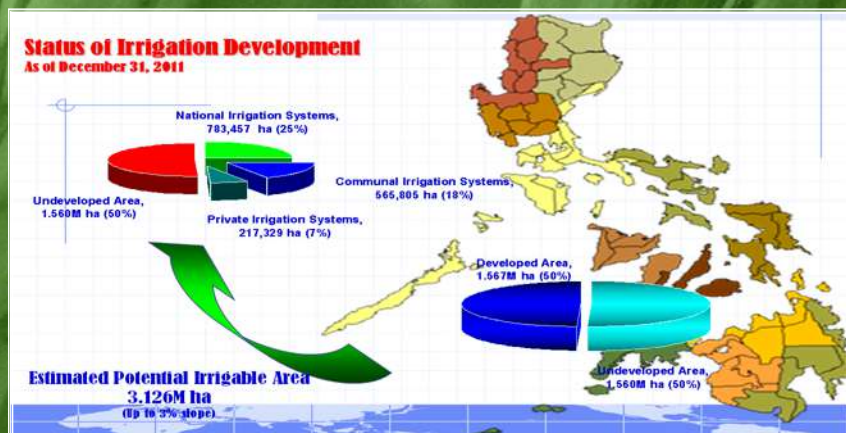
NIA is a government-owned and-controlled corporation (GOCC) created under Republic Act No. 3601 which was signed on June 22, 1963. Its mission is to develop and manage irrigation systems, and provide irrigation services in conjunction with recommended crop cultural practices.

Status of Irrigation Development

The country has a total land area of about 30.0 M ha, with 10.3 M ha classified as agricultural land. NIA uses as baseline irrigable area 3.1 M ha, which encompasses a field slope of 0-3 percent.

Year	Serviceable Area, M ha				Irrigation Dev Level
	NIS	CIS	PIS	Total	%
2001	0.689	0.511	0.174	1.374	44
2002	0.689	0.524	0.174	1.387	44
2003	0.690	0.532	0.174	1.396	45
2004	0.690	0.537	0.174	1.402	45
2005	0.696	0.543	0.174	1.413	45
2006	0.705	0.549	0.174	1.428	46
2007	0.706	0.554	0.174	1.435	46
2008	0.749	0.554	0.174	1.520	49
2009	0.765	0.558	0.174	1.540	49
2010	0.767	0.558	0.174	1.543	49
2011	0.783	0.566	0.174	1.567	50

The ten-year period posted a 6% growth in irrigation area.



Historical Performance:

Palay Production, M mt

12.39 M mt in 2000
 15.77 M mt in 2010
 ↑ 3%

Area Harvested, M ha

4.04 M ha in 2000
 4.35 M ha in 2010
 ↑ 2%

Palay Yield, mt/ha

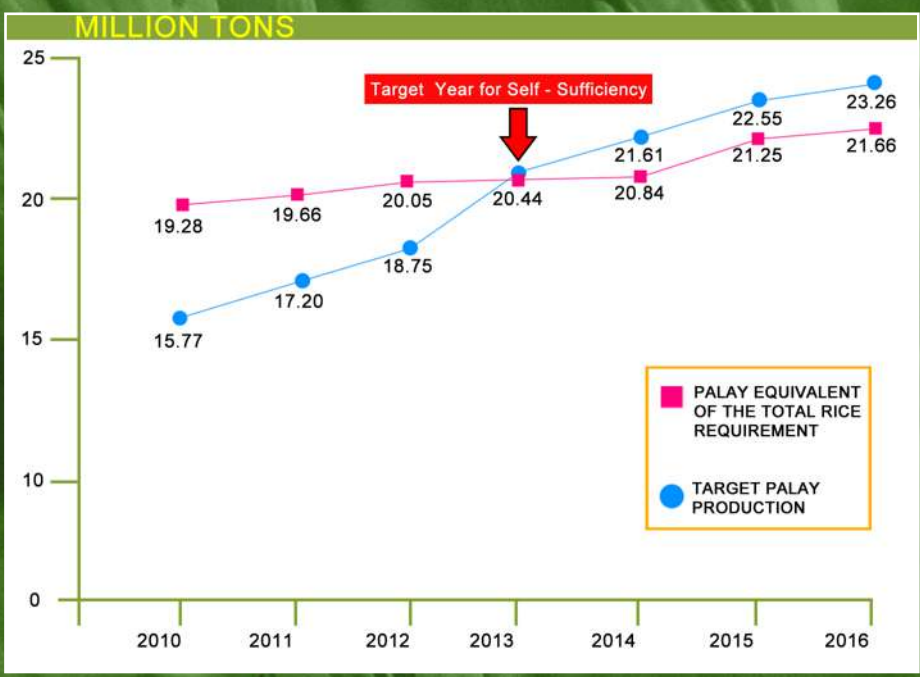
3.07 mt/ha in 2000
 3.63 mt/ha in 2010
 ↑ 2-3%

Historical data from years 2000 to 2010 showed a growth of 3% in palay production, 2% in harvested area and 2-3% in palay yield per hectare.

Target:

Palay Production Target:

	2011	2012	2013	2014	2015	2016
Production, M mt	17.20	18.75	20.44	21.61	22.55	23.26
Palay Requirement, M mt	19.66	20.05	20.44	20.84	21.25	21.60
Sufficiency Level %	87	94	100	104	106	107



TARGET: PHYSICAL AND FINANCIAL 2011 up to 2016

FSSP's Demand from NIA

Particulars	2010	2011	2012	2013	2014	2015	2016
Starting Area, M ha	1.483	1.536	1.578	1.677	1.727	1.753	1.753
Generated SA, ha	7,106	21,910	52,398	26,532	13,594	0	0
Restored SA, ha	45,889	19,562	46,784	23,689	12,138	0	0
Rehab SA, ha	149,495	46,084	47,328	50,304	51,810	56,250	56,250
Ending Area, M ha	1.536	1.578	1.677	1.727	1.753	1.753	1.753
Cropping Intensity	1.40	1.44	1.47	1.50	1.53	1.56	1.60
Harvested Area, M ha	2.076	2.212	2.319	2.515	2.642	2.734	2.804
Δ Harvested Area, M ha		0.136	0.107	0.196	0.127	0.092	0.070
Budget, B P'	13.60	12.79	25.00	15.00	10.00	5.00	5.00
SA = serviceable area							

Source: Department of Agriculture. June 2012. Food Staples Sufficiency Program 2011-2016. Enhancing Agricultural Productivity and Global Competitiveness.

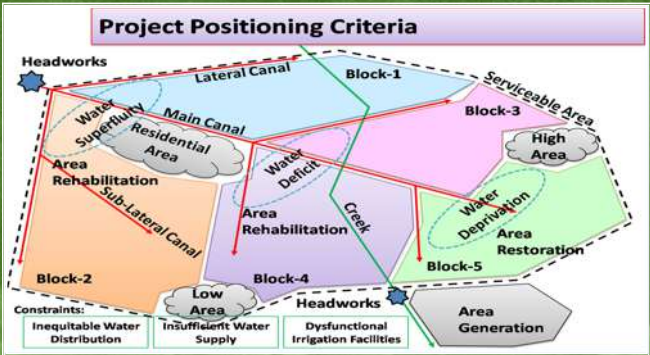
NIA is implementing a three-year special program within the critical (CP) 2011-2013 to shore-up rice self-sufficiency by 2013. This program support the Department of Agriculture's FSSP wherein a budget of P 25 B in 2012 was appropriated - masterstroke that indicates Government's resolve to achieve rice self sufficiency.

NIA shall execute area generation, rehabilitation and restoration projects under the budget strategy. NIA targets 50-55% irrigation development during the CP with the 3-year critical period target growth of 5-6% as compared to 6% growth in a period of ten years, 2001-2011.

IRRIGATION PROGRAM STRATEGIES:

1. To increase serviceable areas (SA)

- a. Generation of irrigation area with preference to rainfed rice areas to increase serviceable areas and harvested area.
- b. Rehabilitation of dysfunctional irrigation facilities or those with water deficit/overage problems to improve water dependability (and crop yield).
- c. Restoration of excluded irrigation areas (excluded due to persistent inability to irrigate) to realize a dry season or a third crop of rice within a year.



The headworks in the form of a dam, reservoir, pump or intake where water could be delivered through the main canal, lateral and sub-lateral canals.

Due to the constraints, such as: inequitable water distribution, insufficient water supply and dysfunctional irrigation facilities, the irrigation system does not operate as desired.

Thus, areas in the upstream of the serviceable area could be subjected to water overage while an occurrence of water deficit in the middle stream. This is where the rehabilitation project is implemented. Finally, the downstream areas suffer water deprivation wherein restoration projects are executed.

2. To increase cropping intensity (CI)

a. Rice-intensifying cropping pattern

The Agency promotes three rice intensifying cropping patterns to increase cropping intensity:

- a.1.** two (2) rice croppings a year that yields a cropping intensity of 1.40.
- a.2.** five (5) rice croppings in two (2) years with cropping intensity of 1.68.

The farmers are assured of five croppings in two years (5 in 2), adopted in NIA-Region 2 and Magat River Integrated Irrigation System (MARIIS), Isabela, the 5 in 2 cropping scheme started the following;

5 n 2 Cropping																
N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M
NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR
1st Cropping- Nov. 1, 2011 to May. 25, 2012																
					2nd Cropping- Apr. 10, 2012 to Oct. 25, 2012											
										3rd Cropping- Sep. 14, 2012 to Mar. 12, 2013						
			4th Cropping- Dec. 1, 2012 to Aug. 7, 2013													
						5th Cropping- Apr. 13, 2013 to Dec. 13, 2013										

Further, the new cropping calendar was planned such that the harvesting stage does not fall during the typhoon months of September and October which is the case with the traditional calendar.

a.3. Rice-Rice-Rice (3 rice croppings a year with cropping intensity of 1.85)

Most suitable for areas having high rainfall and assured, i.e., rehabilitated, repaired and improved, irrigation facilities, adoption of Rice-Rice-Rice cropping pattern (R-R-R CP) is recommended. Adoption of R-R-R CP is possible with the use of early maturing variety, prompt sourcing of enough quality seeds, irrigation. Post-harvest facilities such as grain dryers are considered essential.

b. Water-saving farming system

Sustainable Irrigated Agriculture (SIA), also known as System of Rice Intensification (SRI) in other countries, aims to enhance rice production by improving farming techniques, including water management to intensify the capacity of the soil. SIA develops all organisms in the area, restores soil function and increases crop yield with a lower production costs.

Main features of SIA are: Transplanting very young (8-10 days) seedlings grown through modified dapog method; use of organic fertilizer and organic pesticide; Straight row planting at wide hill spacing; Intermittent water application (10 days interval); and Weeding at recommended intervals.

SIA is promoted in all NIS nationwide.

c. Modernizing rehabilitation of irrigation

As NIA encounters constraints in irrigation operations, the counter measure is the modernization to augment water supply. NIA constructs reservoir projects. It has 15 existing Small Reservoir Irrigation (SRI) System located in different regions. The Nasig-id SRIS in Zamboanguita, Negros Oriental has the highest Dam height of 32.0m and Acop SRIS in Rosales, Pangasinan has lowest dam height of 12.5m.

Other interventions that result in increased serviceable area and cropping intensity are:

Interventions	Additional Q, %	Remarks
Tap New Stream	7	Increase water supply
Reuse Drainage Water	3	Increase water supply
Setup Transitory Reservoir	2	Increase water supply
Heighten Dam Crest	3	Increase intake discharge
Line Irrigation Canals	5	Minimize conveyance losses
Restrict Offtake Discharge	5	Minimize wasteful diversions
Repair Dilapidated Facilities	-	Improve water conveyance
Note: Q = water discharge		

d. Crisis-alleviating water distribution

When the irrigation system does not operate as designed, and with existing one or more constraints such as: inequitable water distribution, insufficient water supply and dysfunctional irrigation facilities, the following are the steps to alleviate crisis on water distribution:

step 1 - Divide the system serviceable area into near-identical five blocks.

step 2 - Slice the cropping rhomboid into five one-week thin sub-rhomboids. Under this setup, we can achieve a short effective duration of transplanting, so near simultaneous crop growth stage.

step 3 - Prepare a rotational water distribution schedule

NIA's BUDGET STRATEGY (BS)

Particulars	2010	2011	2012	2013
Beginning Area, ha	1,483,140	1,536,135	1,620,959	1,755,999
Generated Area, ha	7,106	29,526	81,170	62,215
Restored Area, ha	45,889	55,298	53,870	42,219
Rehabilitated Area, ha	149,495	124,977	91,620	112,619
Ending Area, ha	1,536,135	1,620,959	1,755,999	1,860,433
Cropping Intensity, %	1.40	1.44	1.47	1.50
Harvested Area, ha	2,076,396	2,212,034	2,382,810	2,633,998
Increment Harvested Area, ha	0	135,638	170,776	251,188
Irrigated Crop Yield, mt/ha		3.16	3.27	3.50
Increment Palay Production, mt		428,616	558,438	879,158
Budget, B P'	13.60	16.08	24.45	27.329

Source: CorPlan

Restoration works have significant contribution to additional harvested area and palay production. NIA's Budget Strategy targets higher than the demand of DA's FSSP. The Agency desired to contribute more to the program.

NIA's 2011 Accomplishments

Particulars	FSSP	BS	Achieved	
Beginning Area, ha	1,536,135	1,536,135	1,536,135	
Generated Area, ha	21,910	29,526	23,923	met FSSP
Restored Area, ha	19,562	55,298	31,331	met FSSP
Rehabilitated Area, ha	46,084	124,977	137,062	met FSSP
Ending Area, ha	1,577,607	1,620,959	1,591,389	
Cropping Intensity, %	1.44	1.44	1.44	
Harvested Area, ha	2,212,034	2,212,034	2,212,034	
Increment Harvested Area, ha	135,638	135,638	135,638	
Irrigated Crop Yield, mt/ha	3.16	3.16	3.16	
Increment Palay Production, mt	428,616	428,616	*428,616	
Budget, B P'	12.79	16.08	15.60	

Includes carryover accomplishments in 2011 of 2010 targets
Based on FSSP targets

In 2011, the Agency surpassed the target in generated and restored areas. A significant accomplishment in the rehabilitation works posting a +90,978 ha translating to additional harvested area and palay production.

NIA's Accomplishments as of 31 October 2012

Particulars	FSSP	BS	Achieved	
Beginning Area, ha	1,577,607	1,620,959	1,591,389	
Generated Area, ha	52,398	81,170	36,498	90%
Restored Area, ha	46,784	53,870	37,273	80%
Rehabilitated Area, ha	47,328	91,620	123,751	100%
Ending Area, ha	1,676,790	1,755,999	-	
Cropping Intensity, %	1.47	1.47	1.46	
Harvested Area, ha	2,319,080	2,382,810	2,339,342	
Increment Harvested Area, ha	107,050	170,776	127,308	achieved
Irrigated Crop Yield, mt/ha	3.27	3.27	3.27	
Increment Palay Production, mt	350,054	558,438	416,297	achieved
Budget, B P'	25.00	24.45	24.45	

NB. Includes carryover accomplishments in 2012 of 2011 targets.
Based on the FSSP targets

NIA has prepared a catch up plan to ensure achieving the BS targets before the year ends.

Other FSSP strategies to achieve self-sufficiency:

1. **Increase farmers' access to high quality seeds.** Community seed banks (CSB) will be established in cooperation with private seed growers in each province. PhilRice will continue to supply breeder and foundation seeds, while the Bureau of Plant Industry (BPI) will expedite seed certification process. The Land Bank will provide credit assistance to seed growers.
2. **Research and Development (R&D) and Promotion of Appropriate Technologies.** PhilRice will continue to conduct research and development of rice production technologies; the Bureau of Soil and Water Management (BSWM) will promote balance fertilization; while the National Organic Agriculture Board will promote sustainable farming systems in areas with low use of inorganic fertilizer.
3. **Extension and Farmers' Education.** The Agricultural Training Institute will coordinate efforts to build the capacity of rice farmers through community organizing, training, and electronic extension (e-Learning).
4. **Farm Mechanization and Postharvest Loss Reduction.** FSSR seeks to improve mechanization level of rice production in the country; provide multipurpose drying pavement, modified multipurpose drying pavements (MPDP), and flatbed dryers to eligible farmer associations; and, the modernization of rice mills.
5. **Development of Upland rice-based farming systems.** Location-specific-technology development tests the appropriateness of component technologies using Palayamanan Systems (for rainfed lowland and upland areas) as platforms to suit local, seasonal, soil, and climatic condition as well as farmers' financial capacity.

These interventions are envisioned to increase harvest area, boost yield, lessen post harvest losses, and intensify total production.

References:

Agbisit, Melissa C. (2012). MARIIS Gears Up for Five Croppings in Two Years. NIA Digest.

Briefer on Food Staple Self-Sufficiency Roadmap 2011-2016. An April 12, 2011 briefer by the Department of Agriculture. Downloaded at <http://www.gov.ph/2011/04/12/briefer-on-the-food-staples-self-sufficiency-roadmap-2011-2016/>

Department of Agriculture. June 2012. Food Staples Sufficiency Program 2011-2016. Enhancing Agricultural Productivity and Global Competitiveness.

Labiano, Bonifacio S. "Food Staple Self-Sufficiency Program (FSSP): Status of Irrigation Intervention (NIA Part)". Irrigation Engineering Center (IEC) Division, Operations Department, National Irrigation Administration, QC. December 20, 2011.

Labiano, Bonifacio S. "Irrigation Development in the Philippines: Status, Programs and Concerns". Paper presented at the 42nd Project Implementation Officers (PIO) Meeting, 28 August 2012, NIA Convention hall, IEC Building, NIA Complex, Quezon City.

NIA Corporate Planning (CorPlan) Services

Torbio, Macario P. (2012). In Region 2: 5 in 2 cropping scheme gains positive results. NIA Digest.

Project Inspectorate and Advisory Group (PIAG)

The goal of attaining rice self-sufficiency by 2013 depends on NIA's performance. The Food Staples Sufficiency Program of the government requires NIA to contribute 35 percent to the incremental 4.67M metric tons of palay for the period 2011-2013. NIA's commitments to the FSSP include increasing serviceable and irrigated area, and increasing cropping intensity and palay yield. Compliance with the established strategy needs monitoring and evaluation during these critical periods (2011-2013). Thus, the creation of PIAG is essential for validating project physical accomplishments.

Objective:

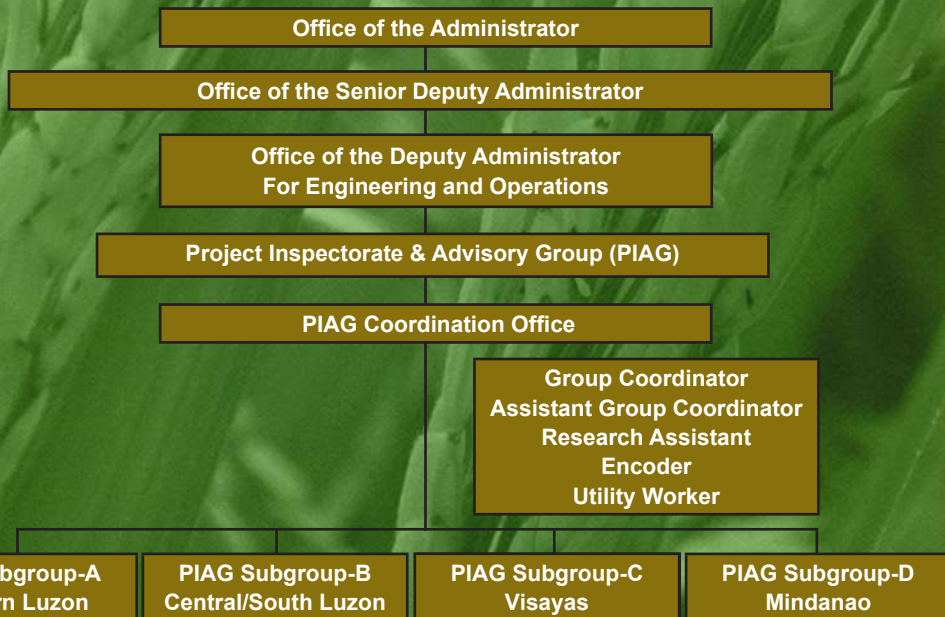
General – to achieve

- a. accurate reports by project executors on the size and location of generated, restored and irrigated serviceable area reflected on irrefutable parcellary maps
- b. clear awareness by project executors of the demands of the rice commodity of the FSSR including the implementation strategy of the NIA support program.

Specific – to achieve

- a. quick appraisal of the strategies and priorities in project execution by each responsibility center vis-à-vis attaining the demands of the NIA support program to FSSR
- b. quick resolution of any existing and emergent constraint including oversight to boost optimum and prompt performance in project development and execution

Fig. 1 Organizational Set-Up of PIAG based on Memorandum Circular (MC) 17, s.2012



PIAG's Principal Responsibility:

- Primary priority on the validation of project accomplishments as these define NIA's success or failure in meeting imposed NIA share in the Food Staples Sufficiency Program (FSSP). It shall check compliance by concerned units of the development of parcellary maps for the generated new serviceable areas considered invaluable in irrigation operations.
- Secondary priority shall focus on the validation of which sections of the reported generated new serviceable areas in any semester becomes irrigated/operated forthwith. In case of shortfalls in accomplishments in generated, restored, rehabilitated and irrigated serviceable areas, PIAG must pry into the causal factor.

PIAG's Tasks:

1. Consolidate the monthly reports of the PIAG subgroups and synthesize such into a Powerpoint material for presentation in Managers' and Management Conferences
2. Submit consolidated reports on the generated, restored, rehabilitated and "irrigated" serviceable area by project, province and region complete with brief discussions and pictures, by quarter
3. Pick-up the most relevant observations and recommendations of the subgroups for discussion with the Deputy Administrator for Engineering and Operations
4. Monitor the performance commitments of the RIOs and PMOs (template already circularized through a Memorandum) and draft communications to notify concerned units
5. Suggest strategies and interventions intended to resolve/avert constraints/problems in project implementation and irrigation operations
6. Conduct coordination meetings of the subgroups on a regular frequency and as necessary to dissect issues on project implementation and irrigation operations, with emphasis on accomplishments
7. Give suggestions to further streamline the tasks of the PIAG to delineate such from the tasks of the organic units, to lessen duplicity but uphold complementation
8. Recommend courses of action on interested civil society groups (CSGs) in the task of non-implementer-based validation work
9. Monitor the execution and impact of the modified cropping patterns – giving particular attention with the goal of increasing cropping intensity and crop yield
10. Maintain close coordination with the DA Rice Program Directorate and concerned DA bureaus and attached agencies regarding FSSP and agri-supporting services matters
11. Submit reports on the status of rice self-sufficiency by province and region, indicating deficit, sufficient and surplus provinces

PIAG's creation aimed to boost the accomplishments of the engineering and operations sector as well as to meet the desired output of the DA-NIA Food Staple Self-Sufficiency Program.

References: NIA MC No. 47, series of 2011 and MC No. 17, Series of 2012.

Produced by:

Public Affairs and Information Staff

In cooperation with Corporate Planning Services and Operations Department

National Irrigation Administration
EDSA, Diliman, Quezon City

www.nia.gov.ph