Perilous Waters

Selected Papers on the Dangers of Privatizing Irrigation

INTEGRATED RURAL DEVELOPMENT
FOUNDATION OF THE PHILIPPINES

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Foreword

In an era where the market reigns supreme, even naturally occurring and commonly held resources are privatized and turned into lucrative areas of investment. Such is the attempt of World Bank, and other international financial institutions, on irrigation water. Instead of a public good that the government must provide, the provision of water for agriculture is treated as a business venture that should accrue profit. Thus, according to such logic, public agencies in charge of irrigation service delivery must not incur losses otherwise they are deemed inefficient; and the only way to cure such inefficiency is to pass it on to private entities.

However, this line of thinking has failed in not a few cases. In the Philippines alone, the takeover of private enterprises in public utilities such as potable water and social services such as health and education did not necessarily result in a better and more efficient delivery of such services. In fact, it did the contrary.

Having had the benefit of lessons from past privatization experiences, the Philippines would do well to take a careful review of the current thrust that World Bank is pushing in the irrigation sector in the country. The so-called participatory irrigation development project will diminish the capacity and strip the government of its essential role in the management of irrigation systems. Many of the institutional reforms (PIDP) seeks to institutionalize are irreversible and will put the country's agricultural production and food security in peril.

This research hopes to shed light on the growing trend to pass on the obligation of providing water to farms and managing irrigation systems to small farmers themselves. Barely able make out a decent living from farming, farmers cannot be expected to succeed in this huge responsibility thus paving the way for the eventual privatization of the operations and management of irrigation systems. The study is seen to contribute to the global discourse, debate, and critique of the model that international multilateral finance and trade bodies have pushed in agricultural countries such as the Philippines, Indonesia and India. Hopefully, policy-makers, students, academics, and advocates of sustainable agriculture and rural development can learn from this publication.

This is a compendium of four research studies that includes a historical perspective on the shift in policies on water, a critique of the participatory irrigation development project and irrigation management transfer of the World Bank, and three case studies on the implementation of this project.

The first paper, "Privatizing Irrigation Water Services: The World Bank Policy Thrust on Irrigation," by Naty Bernardino shows how the increase in irrigation systems in the 1950s to 1980s has contributed to an improvement in agriculture and food production. The paper traces the historical development of World Bank's policy on irrigation – from the Participatory Irrigation Management in the '70s and '80s, to the Irrigation Management Transfer in 1993s, and the Private-Public Partnership n 2007. Bernardino examines the Bank's schemes on privatizing irrigation water and poses key issues on its effects on the livelihood of small farmers and on rural poverty.

In the second paper, "Sovereignty and Food Self-Sufficiency: Alternatives to World Bank Privatization of Philippine Irrigation," Jonathan Hogstad provides an extensive analysis and critique of the World Bank's Participatory Irrigation Development Project (PIDP), including its history, stages of implementation and impact on small farmers, and concludes that it is a scheme that will eventually privatize the provision of irrigation water. The paper argues that PIDP may indeed help rehabilitate the ailing irrigation systems in the Philippines but it cannot address the declining rice productivity much less the deep-seated corruption in the National Irrigation Administration. The real intent of PIDP, the paper noted, is veiled in seemingly progressive lingo but is essentially detrimental to smallholder agriculture. Hogstad reiterates that irrigation is a public good essential to the attainment of food self-sufficiency and sustainable development; its provision and organization are huge responsibilities that demand no less than the power and structures of the State.

The third paper in the compendium, "The World Bank's Irrigation Management Transfer Programs in the Philippines," by Milap Patel studies the application of IMT and PIDP in two irrigation systems in the Philippines: the Angat-Maasim River Irrigation System in the provinces of Bulacan and Pampanga, and one of the oldest and largest irrigation system in the country, and the Lupon Irrigation System in Davao Oriental province in the island of Mindanao. The case studies reveal the negative effects of PIDP. Irrigators' associations, composed mostly of small farmers, to whom irrigation management were transferred find it extremely difficult to cope with the cost and labor requirements of managing the systems especially in exchange for low wages. The National Irrigation Administration, whose responsibility is diminished with IMT, is streamlined leaving it with a structure that could barely cope even with its redefined mandate.

The fourth paper, "Case Study: Roxas-Kuya River Irrigation System in Maramag Bukidnon, Mindanao," by Ananiza Aban shows that the PIDP did not even fully meet its target for expansion of irrigated area because the planned area for expansion are planted to crops other than rice that do not necessarily need huge amount of water. Worse, it is the big corporate plantations which benefit more from the expansion of irrigation services rather than the small rice farmers.

In conclusion, the studies cast doubts not only on the viability but more so if the so-called public-private partnership in irrigation service delivery could actually take off when even the World Bank's report cannot show that such arrangement has really materialized. In the case studies in the Philippines, PIDP proved a dismal failure in terms of meeting its avowed aim of rehabilitating facilities and providing for a more efficient irrigation service. The need for irrigators' associations to assume responsibility over irrigation maintenance, management and operation, the study conclude, is a manufactured idea to justify the eventual privatization of irrigation systems.

Medium- and long-term recommendations are put forward in the studies such as:

- Instead of the public-private partnership in irrigation, study the fully reformed and financially autonomous government water agencies such as done in China and Senegal;
- Scrap institutional reforms of PIDP and instead prioritize food self-sufficiency, farmers' well-being and efficient and accountable public services;
- Support NIA because it provides a public good crucial to food self-sufficiency; but it should be thoroughly reformed to create transparency and accountability from below;
- Set up funds for repair of irrigation facilities damaged by recurring disasters; do not transfer the Communal Irrigation Fund to local government units;
- Renegotiate and cancel illegitimate debts especially those that aim to privatize water as a common good;
- Create a strong and progressive tax structure; and
- Promote grassroots partnership in agriculture and rural development towards long-term change.

These studies were completed in 2010 and were part of a series of studies undertaken in collaboration with the Asia-Pacific Network on Food Sovereignty and its members in other Southeast Asian Countries. Additional studies were conducted by the IRDF.The Integrated Rural Development Foundation wishes to thank the researchers for the time and energy they put into making these researches, as well as the member farmer organizations of the Task Force Food Sovereignty (TFFS) which participated actively in the interviews and focused group discussions.

Arze Glipo
Executive Director

Privatizing Irrigation Water Services: The World Bank Policy Thrust on Irrigation

Naty Bernardino

Introduction

The recent global food crisis draws urgent attention to reviewing agriculture policies that led to declining agriculture outputs and productivity, which exacerbated the vulnerability of developing countries to phenomenal food price hikes. Amongst these is the vigorous drive of governments facilitated by international financial institutions such as the World Bank to privatize institutions and agencies that are tasked to achieve food security goals. Concerns have been increasingly raised on the trajectory to include irrigation water delivery in the ambit of privatization as gleaned in recent World Bank loan programs.

As developing countries struggle to stabilize their food supplies, in the face of rising food price volatilities, impacts of climate change, and more open markets, the urgency of giving renewed focus to the irrigated agriculture sector through increased investments in irrigation expansion and development need not be over-emphasized. World Bank's increased funding to agricultural water management of $1.1 billion in FY10, notwithstanding, there needs to be a thorough rethinking of policies pushing privatization of irrigation through the irrigation management transfer and its variants.

Indeed, irrigated agriculture plays a vital role in meeting the world's demand for food. As global demand for food doubled in the last 40 years, crops that are mostly irrigated, such as rice, maize, wheat and cotton, increased production by two-to-fourfold. This is largely attributable to the Green Revolution technology of the '60s that introduced high yielding varieties dependent on irrigated agriculture and petro-chemical fertilizer inputs. A significant portion World Bank's loan portfolio through the '60s and '70s went to public investments in large irrigation infrastructure and on-farm development. As a result, the irrigated area in developing countries more than doubled and by 2000 covered 234 million hectares, representing 85% of the world's total irrigated area of 276 million hectares and about half the land estimated by FAO to be potentially irrigable.

Since the '80s, however, aggregate lending for irrigation by the Bank and other donors drastically declined to only a fifth of what it was in the 1970s. Reduced investment led to falling growth rates in irrigated area, from a maximum annual rate of 2.3 percent in the early 1970s to less than 1 percent in the '90s. The Bank's investment policy moved away from building new infrastructure towards rehabilitating and improving the performance of existing irrigation systems.

Several reasons were cited for the overall decline in investments for irrigation expansion: sub-optimal productivity and low water use efficiency; poor performance of the government central water or irrigation agency; environmental costs arising from poorly-designed irrigation systems; increasing con-

struction costs; and macro-economic factors such as low crop prices and heavy reliance on government financing and subsidies (WB 2007, FAO 1993, other sources).

The most compelling among the abovementioned factors according to the World Bank are low water use efficiency, a high reliance on government financing and poor standards of management and maintenance. The Bank's response to address these problems is now focused on institutional reforms that will reduce the role of government in irrigation development and management and turn over some of its functions to farmers and the private sector. These reforms involve two distinct but related schemes: *irrigation management transfer (IMT)* and *public-private partnerships (PPP)*. The IMT approach decentralizes and devolves the government function of irrigation system operations, maintenance and management to farmer-irrigator associations. PPP on the other hand enjoins the participation of the private sector in irrigation investment and maintenance, a scheme that was initially undertaken in the power and water supply and sanitation sectors. While IMT has been in place since the 1990s, PPP in the irrigation sector is quite new and has barely taken off. Because farmers and their organizations cannot be expected to take over investments and other complicated functions of management, the private sector through PPP is hoped to be a vital stakeholder in irrigation services.

By reviewing all major World Bank policy papers, reports and related documents on irrigation and water resources management, this paper looks at the evolution of the Bank's policy on irrigation and zeroes in on the Bank's current thrust of privatizing irrigation water services. It is hence organized as follows: Section 1 gives an overview of the state of irrigated agriculture; Section 2 traces the evolution of the World Bank's policy on irrigation; Section 3 examines the privatization schemes; and Section 4 concludes with key questions on the implications of privatizing irrigation water services on the livelihood of smallholder-farmers and rural poverty.

I. Irrigation and Agriculture: an Overview

1.1 Irrigated Land Area

In 1800, the world's total irrigated area was only about 8 million hectares of farmland. By the end of the 19th century, this had expanded to 48 million hectares, mostly as a result of large water projects in India and what is now Pakistan (Postel 1989 cited in FAO 1993). A century later, in 2000, the extent of land under irrigation is 277 million hectares, covering about 18% of the total 1.5 billion hectares of farmed land and producing 40% of the world's food. Rainfed agriculture, on the other hand, is practiced on the remaining 80% of arable land (World Bank 2006a).

Nearly four-fifths of the world's total irrigated area (234 million ha) is found in developing countries, particularly those with arid and humid climate conditions. China, India and Pakistan alone now account for about 45 percent of the world's irrigated area and 60 percent of the developing country total. However, the developing world's irrigated area represents only half of their potentially irrigable land area, with sub-Saharan Africa having the least proportion of irrigated area to potentially irrigable area at 14%. See Table 1.

While a large proportion of irrigated area is found in developing countries, the growth rate of irrigation expansion from the period 1955-1983 is larger for developed countries (See Table 2). This is on account of the relative abundance of capital resources that can be invested in irrigation infrastructure in developed countries compared to developing countries. In China, during the Maoist era of socialism, investment on huge irrigation projects was a necessary requirement to support the large-scale production of communes and state farms. But for the rest of the developing world, it was not until the 1960s that public investments in irrigation

Table 1: Irrigated Land Expansion by Region of the Developing World, 1961–2000

2000 M ha	*1961–3 M ha*	*1979–81 M ha*	*2000 M ha*	*Annual growth rate (%)*	*Irrigated land as % of potentiala*
All developing countries[b]	118	173	234	1.9	50
Sub-Saharan Africa	4	5	7	2.0	14
Near East and North Africa[c]	13	18	21	1.7	62
South Asia	37	56	82	2.3	57
India	25	37	58	2.6	65
East Asia and Pacific	40	59	75	1.6	64
China	30	45	55	1.4	70
Latin America and the Caribbean	8	13	19	2.0	27
Europe and Central Asia	16	22	30	2.3	n.a.
World	142	210	277	1.8	n.a.

Source: FAO 2003d, cited in WB 2006 Re-engaging in Agricultural Water Management

Notes: n.a. = not available.

a. FAOSTAT's estimates of irrigation potential area are based on individual country submissions of the area of land suitable for irrigation development, which, in turn, are based on available land and water resources and (often, but not always) on economic and environmental considerations. Wetlands and floodplains are usually, but not always, included.

b. "All developing countries" excludes Commonwealth of Independent States countries.

c. The Near East and North Africa, as defined by FAO, includes the World Bank Middle East and North Africa countries, plus Afghanistan, Turkey, and Cyprus.

Table 2: Increase in Irrigated Area, 1955-1983

	1955		1983		Increase	
	In million hectares	% of world total	In million hectares	% of world total	In million hectares	% of world total
Developed countries	28	23	61	29	33	118
Developing countries	93	77	152	71	59	63
World Total	121	100	213	100	92	76
India + Pakistan	33	27	55	26	22	67
China	31	26	45	21	14	45

Source: R.J.Oosterbaan 1988 ILRI Annual Report 1988, p.18-34, International Institute for Land Reclamation and Improvement, Wageningen, The Netherlands. http: www.waterlog.info/articles.htm

significantly increased, pushed mainly by loans from the World Bank and regional development banks as well as overseas development assistance from the Global North.

Many agricultural water management systems are typically publicly funded and managed, large-scale, irrigated from surface water sources and predominantly planted to cereals or other relatively low-value field crops. Irrigation systems that make use of groundwater sources are, on the other hand, typically privately owned and managed, small-scale and planted to high-value crops. Table 3 shows the typical features of publicly and privately managed irrigation systems.

Table 3: Features of Publicly and Privately Managed Irrigation Systems

Feature	Publicly managed systems	Privately managed systems
Scheme size	Large scale	Small scale
Water sources	Surface water	Groundwater
Water distribution	Collective	Individual
Water productivity	Lower	Higher
Drainage	Badly drained	Well drained
Cropping pattern	Less diversified	Highly diversified
Main crops	Lower value	Higher value

Source: WB 2006 "Re-engaging in Agricultural Water Management: Challenges and Options"

1.2 Irrigation and Food Production

Irrigation has contributed a lot to increased food production from the 1960s up until the end of the 1990s. According to FAO, "crops that are mostly irrigated –such as rice, wheat, maize, and cotton –saw production increasing two- to fourfold since the early 1960s. The production of irrigated fresh fruit and vegetables increased particularly quickly over the period –by four to six times, and these crops now account for over one fifth of all developing country agricultural exports. Two-thirds of the increase in crop production has come from yield increases, rather than from expansion of the cropped area (except in Sub-Saharan Africa). Average yields of rice and maize more than doubled, and wheat yields went up threefold"(FAO 2003, cited in WB 2006a, p. 26).

Until the 1990s, the world supply of food has generally kept pace with demand, which has more than doubled since the 1960s as world population grows. However, by the beginning of the new millennium, the annual growth rate in the production of aggregate grains and oilseeds has slowed down. Between 1970 and 1990, production rose an average of 2.2 percent per year. Since 1990, the growth rate has declined to about 1.3 percent. USDA's 10-year agricultural projections for U.S. and world agriculture see the rate declining to 1.2 percent per year between 2009 and 2017. Global aggregate yield growth, measured in terms of average aggregate yield, averaged 2.0 percent per year between 1970 and 1990, but declined to 1.1 percent between 1990 and 2007. Yield growth is projected to continue declining over the next 10 years to less than 1.0 percent per year (USDA Economic Research Service 2008).

Such decline in agricultural production, coupled by increased demand in the last ten years, is considered one of the long-term factors that contributed to the global food crisis of 2007-2008. (See Table 4.)

Table 4: Growth rate trends in total world grain & oilseeds production, yield, area harvested, population & per capita production

	1970 -1990	1990-2007	2009-2017
Production	2.2	1.3	1.2
Yields	2.0	1.1	0.8
Area	0.15	0.14	0.39
Population	1.7	1.4	1.1
Per capita production	0.56	0.11	0.02

Source: USDA Economic Research Service 2008

Table 5: Cereals Self-Sufficiency by Developing Region (1997-1999)

Region	Self-Sufficiency %
Sub-Saharan Africa	82
Near East and North Africa	63
South Asia	102
East Asia and Pacific	95
Latin American and the Caribbean	88

Source: FAO 2003d, p. 68.

As seen in Table 5, food self-sufficiency ratios have likewise dropped as food imports rose in several developing regions. Globally, the food self-sufficiency of the developing world has declined from about 95 percent in the mid-1960s to just above 90 percent at the end of the millennium. The FAO (2003) has concluded that there has been a substantial shift in the location of production from the developing to the developed world, with accompanying foreign exchange and food security challenges for developing countries.

Table 6 shows the summary statistics of irrigation and food production based on the data of the International Commission on Irrigation and Drainage for 104 participating countries. Productivity is highest in the United States at 6.4 metric tons per hectare, followed by China at 5.3 mt/ha.

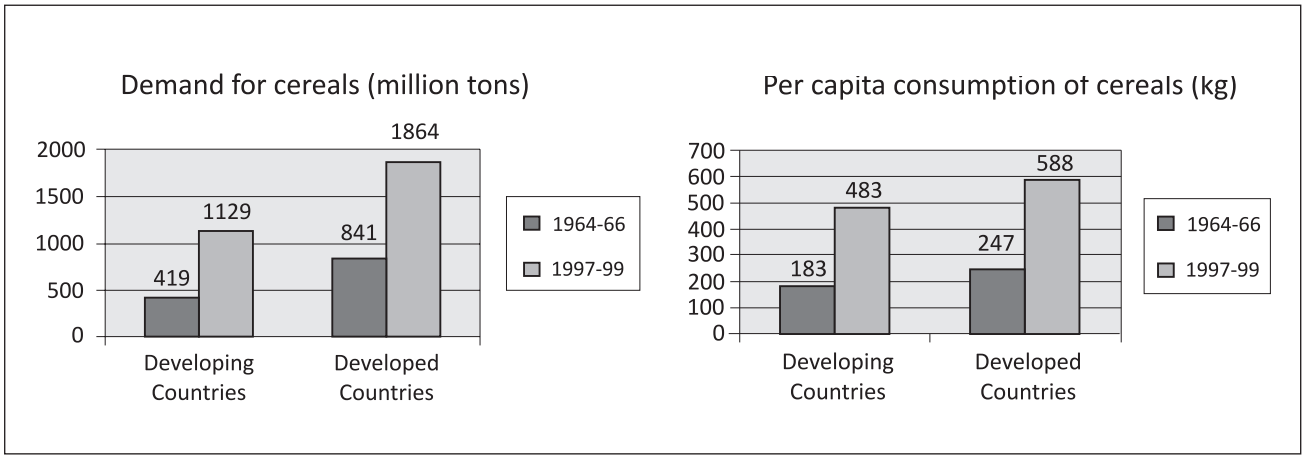
In developing countries, demand has tripled as calorie intakes have increased. However, per capita consumption of cereals in developing countries is still only 40% of developed country consumption (See Figure 1).

Table 6: Summary Statistics on Irrigation and Food Production[a]

Continent/ Country	Total Land area	Irrigated Area (2003) (2007) (2009	Arable and Permanent crop area (APC)	% of APC to Land area	% of Irrigated Area to APC	Food Production (cereals) in 2004	Productivity for Cereals (Av.2003-05)
	(Million ha)	(Million ha)	(Million ha)			(Million tons)	(Kilogram/ ha)
ASIA	3003	197	551	18	36	1030	3007
India	329	61	183	56	33	198	2417
China	960	58	130	16	35	453	5320
Pakistan	79	19	22	28	88	32	2514
AMERICAS	3796	41	374	10	11	648	3372
USA	963	22	175	18	13	389	6443
EUROPE	2174	23	361	17	6	432	4479
AFRICA	2199	13	194	9	7	117	1559
OCEANIA b	801	3	51	6	6	32	4653
TOTAL (104 countries)	11973	276	1531	13	18	2259	
WORLD	13428	284	1540	11	18	2287	

Source: International Commission on Irrigation and Drainage, http://www.icid.org/imp_data.pdf
[a]Data is collected for 104 participating countries of ICID
[b]Oceania data is for Australia and New Zealand combined

Figure 1: Demand and per capita consumption for cereals for developing and developed countries, 1966-64 and 1997-99



Source: FAO 2003 in World Bank 2006a

1.3 Slowdown in Irrigation Expansion and Decline in Public Investments for Irrigation

While the global irrigated area doubled in 40 years from 1961-3 and 2000, the pace of development was faster in the earlier years and slowed significantly in the later years. The expansion of irrigated areas grew at around 2 percent a year in the 1960s and 1970s slowed to 1.5 percent in the 1980s and to hardly 1 percent in the 1990s. This slowdown is reflected in the decreasing rate of dam construction. From the 1950s to the mid-1970s, about 1,000 new, large dams were constructed each year. By the early 1990s, only 260 dams, on average, were being built each year (Postel 1999 cited in WB 2006a).

One reason for this trend is a decline in public irrigation investments. World Bank lending for irrigation projects has fallen by 70%, from a peak of about $2 billion per year (in constant 1991 dollars) in 1978 to $1 billion per year in 1992 and to only $0.7 billion annual average in the last ten years. The share of irrigation in the Bank total loan portfolio dipped from a high of 11% in the 70s to only 2% in the last decade.

Apart from the World Bank's and the donor community's disengagement from funding irrigation projects, there were other endogenous factors that led most developing countries to cut back public spending for irrigation. These included, large public and foreign debt loads, rising real costs of new irrigation development, and declining real prices for food grains in the last three decades prior to the food crisis of 2007-2008 (Rosegrant & Svendsen 1993 cited in Wichelns 1998, other sources).

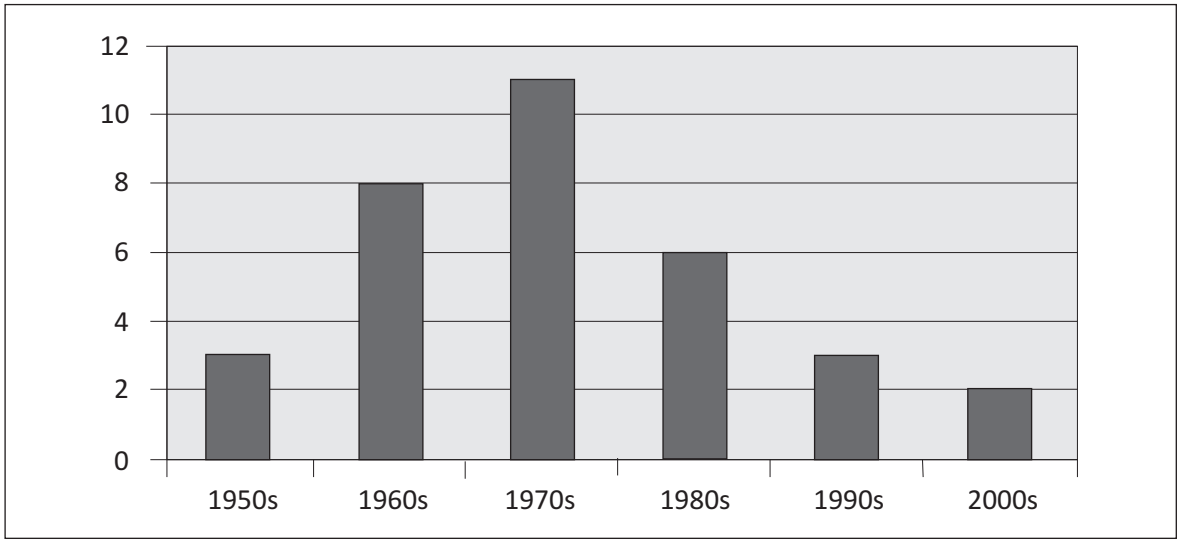
Another contributing factor that led to donor reluctance in irrigation expansion is the low productivity of many existing schemes. Governments generally have not been successful in recovering the capital costs of construction or the operation and maintenance costs from farmers. Failure to collect funds for operation and maintenance has contributed to the poor performance of irrigation systems and to the decline in public funding for irrigation projects (Wichelns 1998). Such problems have prompted a change in investment policy in the sector, away from new infrastructure and toward programs that improve the performance of existing schemes.

II. Evolution of the World Bank's Policy on Irrigation

The World Bank has so far been the largest source of assistance for irrigation and agricultural development. Its policy on supporting irrigation projects, however, evolved through the years. Beginning in the 60's, its emphasis was on massive investment in irrigation infrastructure, with a heavy focus on large civil works (dams and main distribution networks), funded and chiefly managed by governments. This impressive push, largely due to the Green Revolution, took place mostly in Asia. However, towards the 80's and up to the present, the Bank's support for irrigation declined. Figure 2 shows the share of agricultural water management in the Bank's total loan portfolio, declining from a peak of 11% in the 1970s to only less than 2% in the 2000s.

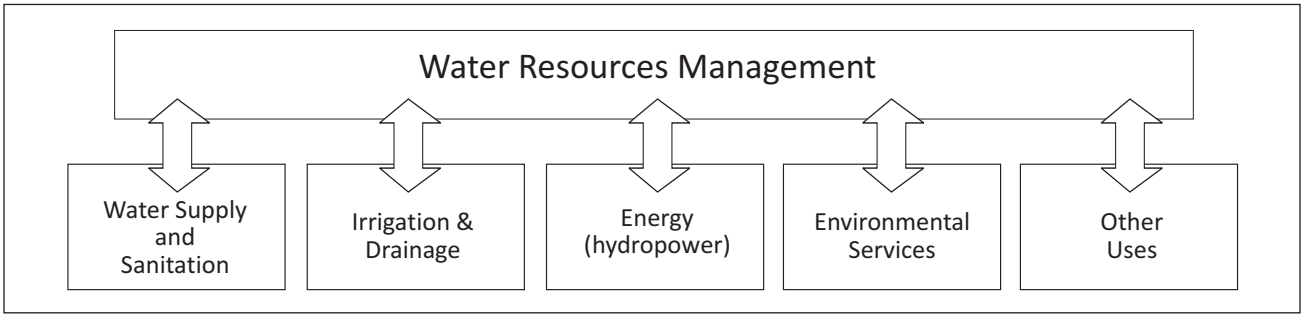
In the Bank's classification of its sectoral and thematic/cross-sectoral interventions, irrigation now broadly falls under ***agricultural water management*** **(AWM)**, which in turn is under the domain of agricultural and rural development and at the same time a subsector under the thematic domain of water resources management. Structural and non-structural measures that harness, control and manage surface and groundwater to improve agricultural production are classified as agricultural water management. Typically these measures include widely variable combinations of irrigation, drainage and flood control, water conservation and storage, and on-farm water management (World Bank 2006b). A significant additional component of AWM is institutional support to improve sustainability, user operation and management, and cost-recovery which constitutes the policy reforms towards irrigation management transfer and privatization. The broader category of water resources management, on the other hand, includes four main subsectors: hydro power (energy); water supply & sanitation (WSS); irrigation & drainage (I&D); and environment (See Figure 3).

Figure 2: Percent Share of Agricultural Water Management to Total WB Lending (1950s to 2000s)



Source: World Bank 2006b

Figure 3: Scope of Water Resources Sector Strategy

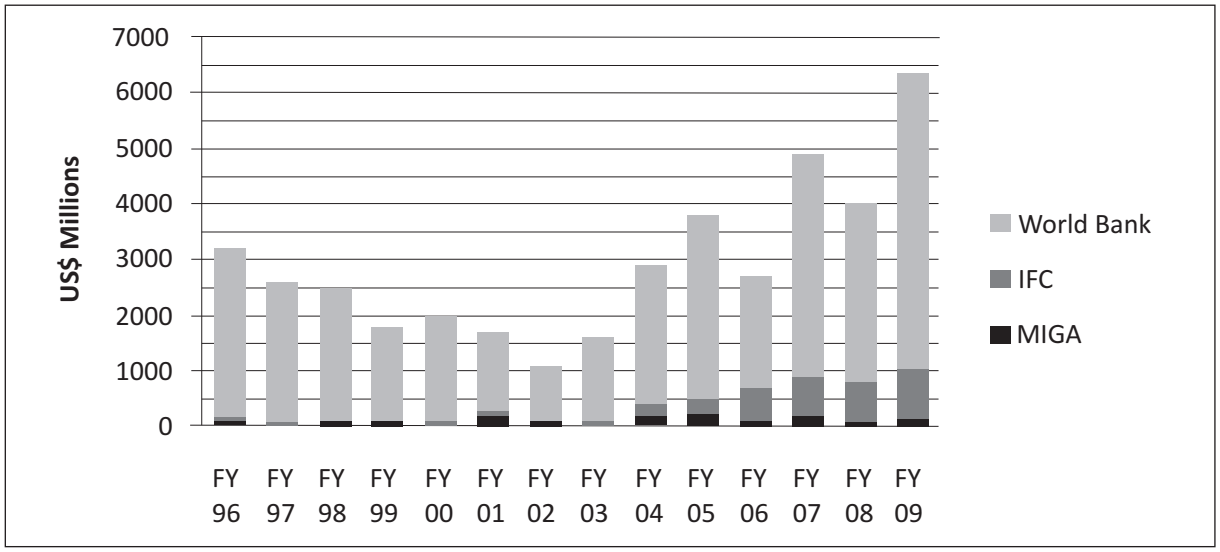


Source: World Bank Water Resources Sector Strategy, 2003.

From 1950 to 1993, the World Bank lent a total of $31 billion (in constant US dollars) for 614 projects with irrigation components, including 365 projects in which more than half of the expenditure was for irrigation. Between 1994 and 2004, WB lending went down to $5.6 Billion for AWM components in 161 projects. Between 2004 and 2009, lending for irrigation and drainage slightly increased to $4.3 billion from $2.6 billion in the same five-year period from 1998 to 2003. The average loan amount per AWM project has likewise fallen from $59 million in 1994 to a low of $15 million in 2001. Almost two-thirds of project loans went to South and East Asia, and half to China, India, Indonesia, and Pakistan.

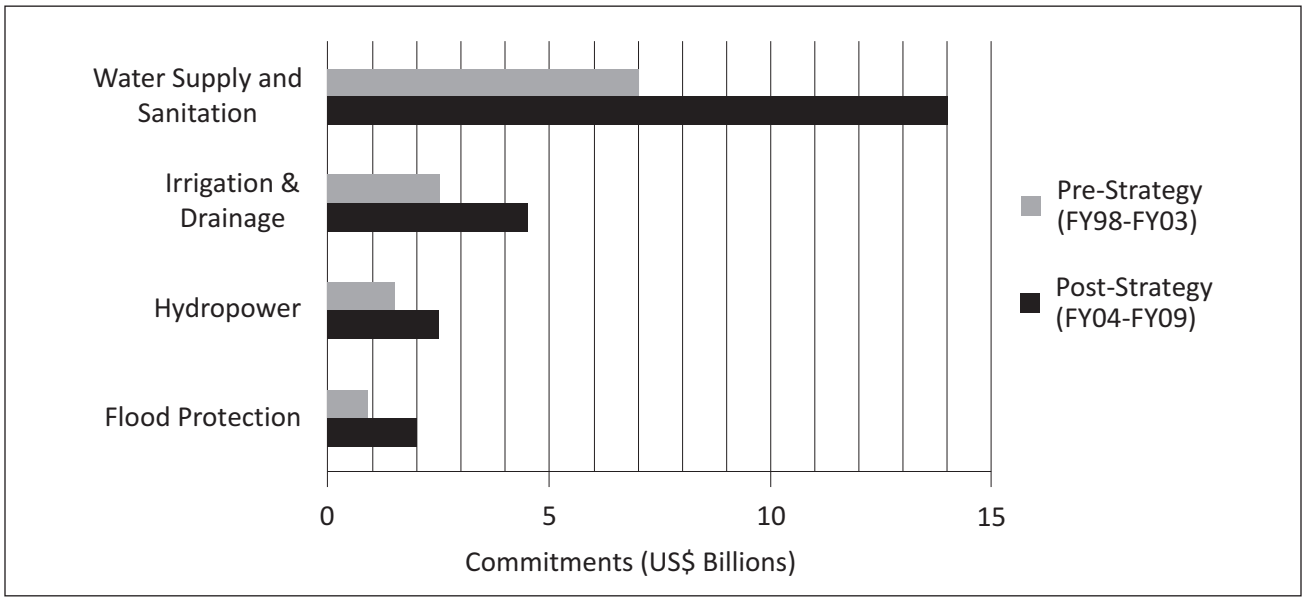
While funding for irrigation projects generally declined from its peak in the 70's, IBRD/IDA lending for water supply and sanitation more than doubled from $6.9 billion in the 1998-2003 period to $13.9 billion in the 2004-2009 period. Three-quarters of the World Bank Group's total water portfolio goes to water supply and sanitation. The International Finance Corporation, the private sector lending facility of the World Bank Group, has increased its commitments in the water sector from $78 million in 2003 to $748 million in 2009. The emphasis on funding for water supply and sanitation is prompted by the development community's pledge to meet the MDG targets for safe drinking water. The World Bank Group's strategy at meeting the MDG target however is hinged at privatizing public water utilities, a policy thrust that has been put in place in several developing countries since the late 1990s. This explains the surge in IFC financing for private companies investing in public water utilities.

Figure 4: World Bank Group Commitments in Water-Related Sectors (FY96- FY09)



Source: World Bank 2010

Figure 5: IBRD/IDA Water Lending Pre/Post 2004 Water Sector Strategy (By Sub-Sector)



Source: World Bank 2010

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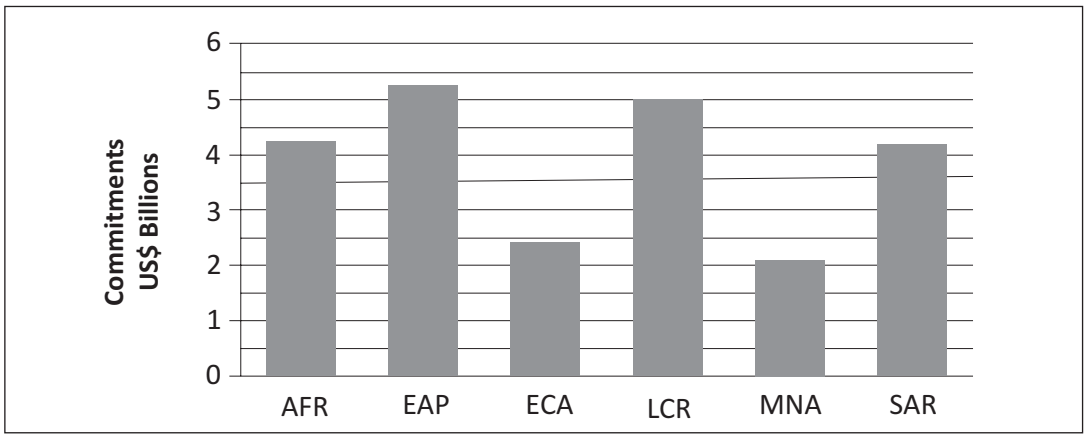

Source: World Bank 2010

William Jones (1995), in a World Bank Operations Evaluation Study, traced the evolution of the Bank's policy on irrigation through four periods, namely:

1. Infrastructure period (1948-71)

- ▹ where the emphasis through the '50s was on the construction of dams and main distributary canals; through the '60s there was increased attention on rehabilitation of existing projects and complementary investments on on-farm works, roads, extension, processing, marketing, coops, etc.

2. Agricultural expansion period (1972-81)

- ▹ lending for irrigation became increasingly integrated with agricultural development projects; emphasis was on cost recovery of irrigation investments or at least part of operations & maintenance costs through mechanisms such as water charges, land betterment levies and market charges; however, until the 1990s

there was little evidence to show any strong links between cost recovery and adequate operations and maintenance.

3. Consolidation period (1982-1992)

- ▹ period of steep decline in bank lending for irrigation but this shift was nowhere to be traced in policy papers; existing policy papers in this period reflect a defensive tenor against external criticisms directed to the Bank regarding the social and environmental costs of dam construction which included issues such as displacement/eviction of tribal communities and destruction of watersheds, among others; the Bank issued guidelines on resettlement of evicted communities and on achieving "balance" whenever wildlands are converted to more intensive uses.

4. Water resources management period (1993 onwards)

- ▹ the Bank's policy focus on water resources management came about in the early '90s at a period of growing global concern for the environment (following the 1987 Bruntland Report and 1992 UN Earth Summit). In its 1993 Policy Paper on Water Resources Management, the Bank acknowledged the growing concern on the impact of water projects on the environment as well as the alleged neglect of popular participation of stakeholders in irrigation and other water projects.

The 1993 Water Resources Management Policy Paper

The 1993 Water Resources Management Policy Paper marked a shift in the Bank's overall framework on water resources management –from a fragmented to an integrated approach that puts together all four subsectors: irrigation and drainage, water supply and sanitation, hydro-power, and environment under the umbrella of water resources management. The approach supposedly takes in consideration both the environmental and economic aspects of resource management. The environmental tone was undoubtedly inspired by the period's pressing global concern for the environment and the need to address the criticisms against the Bank's poor environmental management of its water infrastructure projects. The economic aspect called for cost recovery, productivity, efficiency and the introduction of water pricing or water rights to ensure that users take the financial and resource costs into account when using water.

For the irrigation and drainage sub-sector, the policy paper mandated the shift towards Participatory Irrigation Management (PIM) and Irrigation Management Transfer (IMT), a key institutional reform which involved transferring O&M from the public sector agency to irrigators' associations and the "rationalization" or downsizing of the public sector irrigation agency as a consequence of its diminished functions. By the end of the 1990s, irrigation schemes in more than 60 countries had in place some form of farmer organization, although real farmer empowerment was generally limited.

The 2004 Water Resources Sector Strategy Paper

A decade later in 2004, the Bank came up with its Water Resources Sector Strategy paper which basically reinforced the policy thrusts of 1993. Greater emphasis was placed on the integrated water resources management approach after observing that despite the 1993 water policy paper, Bank practice has remained to be dominated by the so-called "engineering approach" to water (i.e. laying pipes and building dams). Multi-sectoral planning approaches gained ground over sector-based planning. Infrastructure was again repositioned at the top of the Bank's development agenda after losing considerable space in the Bank's priorities during the last two decades of the 20th century. "During the 1990s, in particular, the Bank's commitments to infrastructure sharply declined, reaching a low level of $5.2 billion towards the end of the decade. This de-emphasis on infrastructure was in part deliberate –the result of pressures to disengage from large and complex infrastructure projects and the belief that the private sector could provide the bulk of the financing –but was also the result of an institutional shift toward poverty and social agendas. In the 2000s, infrastructure again became perceived as a critical component for growth and even a counter-cyclical instrument during periods of economic downturn" (World Bank 2010, p.16). The re-focus however towards water infrastructure investments were mainly

on water supply and sanitation, which took up three-quarters of the Bank's water portfolio and for which IDA/IBRD lending more than doubled during the period 2004-2009.

The 2010 "Sustaining Water for All in a Changing Climate" Report

It was not until 2010 that a significant turn in the Bank's water policy could be observed when it released in August its report entitled Sustaining Water for all in a Changing Climate. Although it reaffirms the 2003 Water Sector Strategy paper's projections of climate change and water scarcity, this report is more emphatic in raising the alarm against climate change, water scarcity, food crisis and the need for renewable energy sources –all of which are in the forefront of today's global issues. It calls for renewed attention and increased investments on water infrastructure, notably for generating hydro-power, which it says has a dual role in climate change mitigation and adaptation, being the largest source of affordable renewable energy and low-carbon fuel. At present, hydropower accounts for 20% of the world's electricity supply and 88% of renewable energy sources supply. Developing countries, it adds, are only able to exploit 23% of their hydro-power potential.

From fiscal year 2010-2013, the World Bank Group's total water commitments, led by the IDA and IBRD, are projected to be between $21 and $25 billion. Agricultural lending for Irrigation and drainage is expected to attract attention as a result of the 2007-2008 food crisis which many observers warn to become a recurring problem if its structural causes are not sufficiently addressed. The report, however, notes that the Bank will only favor irrigation projects that integrate water productivity, reiterating the need to address the long-standing problems of efficiency and cost recovery. It squarely states the Bank's approach by which support for irrigated agriculture will be done, namely:

(1) "market-oriented irrigation based on public-private partnerships;

(2) individual smallholder irrigation to high-value markets;

(3) small-scale community-based irrigation for local markets; and

(4) modernization of existing large-scale irrigation," (World Bank 2010, p. 53).

Apart from the Water Sector Strategy and Policy Papers, the World Bank also comes up with occasional reports that deal with particular sub-sectors. For the irrigation and drainage sub-sector, two important reports have recently been published, namely:

(1) "Re-engaging in Agricultural Water Management: Challenges and Options" (WB 2006)

- which identified the lingering problems and challenges faced by the I&D sector, warned against future risks caused by rising food demand, called on for a "re-engagement" of the Bank in the sector following three decades of "disengagement", and laid down options by which intervention is to be done.

(2) "Emerging Public-Private Partnerships in Irrigation Development and Management" (WB 2007)

- which took off from the challenges and problems identified in the "Re-engaging" (WB 2006) document, analyzed the success of PPP in the water and sanitation sector, identified the current stage at which PPP is emerging in the I&D sector, and recommended several options or models on how to attract private sector involvement in the I&D sector.

These two reports have obviously influenced the outcome of the 2010 water sector policy paper which, coupled by the impact of the 2007-2008 food crisis, led the Bank to "re-engage" in I&D but this time with greater emphasis on "market-oriented irrigation based on PPP."

III. Towards Privatization: Irrigation Management Transfer and Public-Private Partnerships

Most, if not all, of the World Bank policy papers on water unanimously point to three deep-seated problems that have plagued the irrigation and drainage (I&D) sector for decades: low water use efficiency, a high reliance on government financing, and poor standards of management and maintenance. Much of the search for improved investment and institutional models for the sector has been to resolve these three deep-seated problems (WB 2007).

Low water use efficiency refers to the wastage in per unit of water that is lost through seepages in conveyance systems, wasteful application practices by farmers and other problems such as salinization, water-logging, etc. which may have resulted from poor system design and maintenance. For example, Kirda and Kanber (1999 cited in Johansson 2000) estimate that losses for conveyance systems alone can be as high as 30% in some cases. When including application practices, water losses can reach 55-60% in some developing countries.

3.1 Irrigation Management Transfer

The idea of involving farmers' participation in the various phases of irrigation development and management has been in the World Bank's policy papers as early as the '70s and '80s through what it calls Participatory Irrigation Management (PIM). It was supposed to improve overall irrigation performance and address the poor quality of service provided by government irrigation management agencies. PIM was predominantly done by organizing Water Users Associations (WUAs) or Irrigators Associations (IAs) which were to partner with government management agencies in collecting irrigation service fees from water users and in managing the operations and maintenance of irrigation systems. PIM has its logical culmination in Irrigation Management Transfer (IMT) or the handover of responsibility for the irrigation system's operation and maintenance to farmers and their organizations. The IMT scheme was given official prominence as a key institutional reform in the 1993 Water Resources Management policy paper. It was intended as a solution to the three deep-seated problems facing the irrigation and drainage sector and hence was supposed to relieve governments of both the fiscal burden and the responsibility for asset management and maintenance and to improve efficiency by empowering farmers (WB 2007).

The other side of the IMT coin therefore involves the reduction of government functions in the development and management of irrigation which entails the rationalization of the functions of the government irrigation agency, starting with the downsizing of personnel and staff. In the Philippines, for example, the World Bank's rationalization program for the National Irrigation Agency necessitated the forced retirement of more than 2,000 employees or half of its total personnel. Because this is a politically sensitive issue for most client governments, the World Bank has pledged to fund part of the employees' retirement pay to assuage any possible opposition from the employees' ranks.

The PIM-IMT scheme, however, has not yielded significant results insofar as addressing the three deep-seated problems of the sector is concerned. The World Bank itself admits that although PIM "has made impressive strides" in organizing farmer-water users in several countries, efficiency has risen only marginally and real empowerment of farmers has been limited. There are many cases where operations and maintenance are simply beyond the capacity of farmers, particularly the management of head-works and large distribution systems. Major investments in maintenance such as repair work are likewise beyond the financial capacity of farmers (WB 2007).

Faced by these challenges, the idea of involving private sector investors and managers in publicly-managed I&D schemes was brought up and debated as early as the 1990s. Public-Private Partnerships (PPP) was to be one way of bringing in efficient management skills and fresh funds and of relieving government of the fiscal and administrative burdens (WB 2007).

3.2 Public- Private Partnerships

The 2007 World Bank discussion paper entitled "Emerging Public-Private Partnerships in Irrigation Development and Management" exhaustively discusses the various options by which PPP can be done in the sector. It takes note of the lessons of the PPP experience in the water supply and sanitation sector that took off as early as the 1990s and admits that PPP in the irrigation and drainage sector has yet to gain ground. Three years after this discussion paper was published, the subsequent WB water policy paper in 2010 officially re-affirmed the PPP approach as one of the necessary market-oriented reforms in the irrigation sector.

According to the 2007 WB discussion paper, "a public-private partnership arrangement is, by definition, a contract between a public client and a private service provider. All the many different types of PPP contracts used in the water and sanitation sector fall into two major categories, depending on whether payment for the service is tied to operational results, namely:

(1) Public Contract – If the private service provider is paid a fee by the public client that is not tied to operational results, the PPP contract is termed a public contract; a public contract can be either partial (a service contract for the provision of a specific service) or comprehensive (a management contract); and

(2) Public Service Delegation – If the private service provider is paid according to operational results, the PPP contract is termed a public service delegation (PSD); under this heading come the five arrangements known as lease, affermage, concession, build-operate-transfer (BOT), and divestiture. A characteristic of PSD is that the service provider normally collects fees from the end-user and not from the government" (WB 2007, p.2).

It goes on to say that "the crux of the distinction between these two categories of contract is really how risks are allocated between the public client and private operator. In a public contract, the private operator bills the public client and gets paid, at least theoretically, regardless of operational results or whether the service fees are collected, thus leaving most of the risk with the public client. In a public service delegation, the private operator is responsible for operational results and typically bills the end users, thus assuming the major risks of collecting service fees from a large number of clients," (ibid, p. 2).

The current level of public and private sector engagement in irrigation is shown in Table 7 (next page) where the "average I&D system" is described as "the large collective scheme, using either surface or groundwater to grow subsistence or cash crops under public management," (Ibid, p.22)

This matrix shows that for the average I&D system, the investment function is typically carried out by the public sector, although design and implementation are sometimes delegated to the private sector. Regulation and control, which is a core governance function understandably stays with government. The operations, maintenance and management (OMM) function, which in the past has been a government responsibility, "shows recent modest tendency to slide from public to private. The function of agricultural production is always under farmer responsibility. The matrix thus points to the conclusion that private involvement is likely to be mostly concentrated in the investment and OMM functions," and more intensively at the secondary and tertiary canals where the commercial risks are lesser (Ibid, p. 21). It should be noted however that reference to the private sector in this matrix may mean individual farmers, farmer-irrigators associations, private corporations and private individual technical consultants.

The 2007 WB document likewise reports the findings from 21 case studies chosen from both developed and developing countries where PPP has emerged in the I&D sector (See Table 8). In these case studies, the third party service provider could be public (e.g. a reformed and financially autonomous government agency) or private (e.g. a private I&D service provider looking for business or a WUA turning into a private corporation).

Table 7: The current "average I&D system" management matrix

Components	Water mobilization (head works)		Water conveyance (main canal)		Water distribution (secondary, tertiary canals)	
Functions assumed by	Public	Private	Public	Private	Public	Private
Investment						
Decision to invest						
Financing the investment						
Project design						
Project implementation						
Regulation & control						
Water allocation & police						
Maintenance audit & price regulation						
OMM						
Management of Water allocation						
System maintenance						
System operation						
Water value optimization						
Agricultural production						
Level of Frequency	Low		Medium		High	

Source: World Bank 2007

Table 8: The 21 PPP Case Studies in the I&D sector (World Bank 2007)

World Region	Ongoing PPP arrangements	Planned PPP arrangements
Regions outside the World Bank sphere		
Western Europe	France (CACG/ASA) France (CACG/Neste) France (SCP)	
Australasia		
Regions in the World Bank sphere	Australia (Murray)	
East Europe and Central Asia	Albania (Pequin Kavaje)	
Sub-Saharan Africa	Madagascar (Alaotra) Niger (Toula) Senegal (CSS) Senegal (SAED)	
South and East Asia	China (Tieshan) India (Eastern Uttar Pradesh)	
Middle East and North Africa	Egypt (Dina Farm) Saudi Arabia (Business farms) Turkey (GAP)	Egypt (Toshka Project) Jordan (Adasiyeh Project) Mauritania (Nakhlet Project) Morocco (Guerdane Project) Morocco (ORMVA Reform Project)
Latin America and the Caribbean	Brazil (Juazeiro) Mexico (Sonora)	

Source: World Bank 2007

The findings from the 21 case studies are summarized as follows:

(1) "PPP is a recent business in the sector;

(2) I&D is not an activity that immediately attracts the private sector, particularly when it involves participation in investment;

(3) Of the four I&D functions shown in the management matrix (Table 7), only in two – investment and OMM – are the object of PPPs; Most PPPs included OMM functions (90 percent), either alone or together with private participation in investment;

(4) In terms of contracts, service (and management) contracts accounted for only 13 percent of the sample. By contrast, PSD contracts accounted for four-fifths of contracts. Only about half of all contracts provided for investment, but all except two provided for OMM; and

(5) The levels of risk—country risks, commercial risks, and water-specific risks—are high, and this has very much constrained development. PSD arrangements were more sensitive to commercial risk than public contracts, as the PSD service provider is required to take the risk of collecting fees from farmers. Specific water resource supply risks need special allocation agreements with the public sector; and

(6) Finally, regarding client benefits in the PPPs studied, the general result is improved water service but at a higher price induced by decreased government subsidies not fully compensated by any efficiency gains [bolding added]. The added cost to farmers may be absorbed by higher farm income made possible by improved water service, and higher costs may in fact push farmers to improve their irrigation practices (from surface to drip irrigation) and adjust their cropping patterns (from food to cash crops, and from cash to high-value-added crops). The case studies, however, give no evidence on the success of this process of intensification or on whether farmers were able to manage the increased risk of higher-value cropping," (World Bank, 2007, p 30).

3.3 PPP Modeling

Based on the case studies' findings, the authors of the 2007 WB report have modeled the successive stages of the PPP process for the I&D sector. The following models, as described by the authors, move along a continuum of reducing government involvement and increasing participation by water user associations and private sector service providers:

Model 0: The typical pre-reform situation

- In which government has built the I&D system with public funds, mostly from bilateral or multilateral donors and mostly in the form of grants or soft loans
- Government employees manage the system
- Farmers are asked to meet a portion of the OMM costs by paying irrigation service fees; these water service fees are usually based on irrigated area (ha) and sometimes based on duration of access to water (hours); fees are a flat rate with no relation to the quality of water service
- Farmers' economic performance does not encourage payment of irrigation service fees.

Model 1: First changes between well-identified partners

- Water-user organizations (WUAs) are formed by the government irrigation agency
- However, WUAs are in many cases puppets of the government irrigation agency who in turn are under pressure from donors to push for reform without believing in it and with little enthusiasm from farmers
- The main purpose of these puppet WUAs is to collect water fees

Model 2: Irrigation Management Transfer (IMT) to empowered Water-User Associations

- Transferring public assets to WUAs with a parallel reduction in public financial assistance and downsizing of personnel in the government irrigation agency
- The I&D infrastructure (mostly tertiary, some-

times secondary, rarely primary) is transferred to WUAs through concession contracts, usually with the corresponding water rights

- WUAs take care of transferred assets, collect water fees to cover their OMM.
- IMT success stories (France, Mexico) occur where government subsidies or financial support is extended to WUAs for the rehabilitation of transferred assets. For long-term sustainable success, WUAs need to find professional support.

Model 3A: Service or Management Contracting

- At this stage of reform, WUAs have begun to feel the benefits of managing at least part of their own water service but also have experienced difficulty in fulfilling all OMM functions without support.
- At this point, either partner (WUAs or government) may want to bring in a professional third party by contracting out one or more I&D functions through short-term, task-specific service contracts or longer, comprehensive management contracts.

Model 3B: Public Service Delegation

- An alternative model for delivering high-quality water service is to delegate all the transferable I&D functions to a third party under a long-term arrangement.
- This PSD introduces private sector–style cost efficiency and performance management, either through a lease or affermage contract (when no investment is included) or a concession or a BOT contract (usually for a new investment).
- This outsourcing of OMM may look similar to the previous model, but there is a fundamental difference, i.e. a third-party service provider has taken over all the commercial risks, including direct collection of water fees from farmers.

One interesting element in the case studies that was not substantively analyzed in the modeling is the nature and existence of "public third party professional service providers" which refer to reformed and financially autonomous government agencies. There was no mention of how many in the 21 cases would have a "PPP arrangement" where the firm contracted out to deliver irrigation service is actually a public institution or agency albeit reformed and financially autonomous. Two country cases were selectively mentioned, China and Senegal as having established a government-owned corporation (WSC in China and SAED in Senegal) whose role is to become the third party service provider in PPPs. In France, the CACG, which holds two out of the three PPP contracts, is 50% publicly-owned and 50% privately-owned. The other French service provider is SSC, which together with CACG had been contracted out more than 40 years ago by the French government for irrigation development purposes. And yet three others (CSS in Senegal, Dina Farm in Egypt, and Saudi agribusiness) are purely private investment initiatives wherein public contribution is minimal (involving only the regulatory function normally done by government with or without PPP).

Such mix of third party service providers in the case studies and different ways by which they got involved in I&D surprisingly do not exhibit the features and processes by which PPP in I&D is modeled in the report. Such data represented in the case studies implies that indeed PPP in the sector is an emergent phenomenon, if not non-existent yet in a strict sense. The case for example of fully reformed and financially autonomous public agencies performing the role of a third party service provider is an anomalous representation of a PPP. It is not by strict standards PPP but an improved and efficient version of public service performance. This case does not support the Bank's argument that PPP is the panacea to attaining efficiency in the delivery of public utility services and that efficiency and improved performance are also attainable by the public sector, given certain conditions.

3.4 Water Pricing and Water Rights

In the World Bank's literature, the most cited economic theory or principle that ensures efficient water use is the concept of a well-defined system of property rights wherein negative externalities or spillovers are assumed as costs by the property-owner or holder of user rights. In the case of irrigation, farmers or irrigation-users must be able to assume the financial and resource costs of access to irrigation water service based on a per unit water consumption. The lack of well-defined property rights to tertiary

canals, and to the irrigation water they carry, is said to be the reason behind poorly maintained facilities and inequitable distribution of water among farmers. A well-defined property and user rights system necessarily avoids wastage because farmers will therefore be encouraged to use water more efficiently and productively or they pay the price of wastage and inefficient use. If a well-defined property rights system exists, a water market could also be instituted where water rights can be bought and sold. Excludability is likewise enforced wherein only those willing and capable to pay are serviced with irrigation water.

The economic logic goes on further. The private sector is considered more efficient in instituting a water-user rights system simply because it is oriented to realize profits and recover costs from any investment they undertake, in this case, in a public service delegation agreement or service contract with government. The government, on the other hand, is better off (both financially and administratively) with a minimalist function in the delivery of public services that can best be handled by the private sector. Often, its role should be limited to regulation and control but the function of administering the service should be handed down to the private sector.

This principle formed the basis for pricing water and introducing water user rights in the water supply and sanitation sector. This same principle is deemed to be the basis as well in the effort to privatize irrigation water service. However, pricing irrigation water and establishing the schemes to ensure excludability is not as easy as it was done in the water supply and sanitation (WSS) sector. For one, the volumetric pricing scheme in the WSS sector has long been in place even before the private sector took over the OMM function from government. Water pipelines had already been laid out from the main water source to the end-users (households and commercial enterprises) and each end-user had readily- installed water meters.

Johansson (2000), in his literature survey of pricing irrigation water, identifies three prevailing pricing methods:

1. Volumetric method – charge for irrigation water is based on consumption of actual quantities of water; usually practiced in small-scale groundwater irrigation schemes;
2. Non-volumetric method – charge for irrigation water bases on a per output basis, a per input basis, a per area basis, or based on land values; these methods often result from inadequate information concerning actual consumption quantities; most prevalent in large-scale surface water irrigation systems;
3. Market-based methods - have recently arisen as a need to address water-pricing inefficiencies inherent in existing publicly-managed irrigation systems. These rely on market pressures (supply and demand) and well-defined water rights to determine the irrigation water price.

The pricing method, Johansson (2000) continues, is largely dependent on the method of water delivery. There are three main types of irrigation water delivery systems upon which the feasibility of volumetric pricing depends, namely:

(1) Continuous flow – impossible for volumetric pricing
(2) Rotation – extremely difficult for volumetric pricing
(3) Demand and closed pipe systems – feasible for volumetric pricing; more efficient than the continuous flow and rotation systems but more expensive; usefulness in irrigating paddy crops are not yet fully known.

The financial costs and technical requirements are tremendous if the existing and more prevalent large-scale surface water irrigation systems are to be transformed to demand and closed pipe systems so that volumetric pricing could be enforced. Because of the huge fixed and implementation costs involved, the shift to volumetric pricing may even prove to be sub-optimal in the long run than the normally existing non-volumetric or per unit area pricing.

3.5 Constraints for Private Sector Participation in Irrigation

Johansson (2000, p. 11) notes that several constraints face private investors in large-scale irrigation projects: "For large-scale irrigation projects water services have low excludability because of the large number of farm plots and monitoring difficulties. In such a situation it will be difficult to involve private

firms and market forces will not provide the optimal level of investment. Similarly the provision of goods in large portions (e.g., flood control or large dam projects) that is not readily divisible for private purchase also manifests low excludability. Unregulated markets may therefore be sub-optimal in terms of a country's social or developmental goals in terms of poverty alleviation, food security, equity, and public health."

Risks are also a major constraint to the development of PPP arrangements in the I&D sector which translate into investor reluctance and potentially higher costs. Major risks include:

1. Country risks – political risk, devaluation, export market risk and other macroeconomic risks which are not related to the I&D sector itself but could have direct and indirect impact on the sector;
2. Commercial risks – include risks such as farmers' insolvency, recovery risk, social risks, and other financial risks that are related to the direct income of the investor
3. Water-specific risks – From the service provider's point of view, water-specific risks are waterdemand risk, water supply risk, and technical risks.

These risks normally influence investment decisions and risk-averse investors are expected to be reluctant in committing huge capital investments in the I&D sector unless some form of risk guarantees are afforded to them by the government.

But apart from the abovementioned constraints to private sector involvement in the sector, Easter, Becker, and Tsur (1997 cited in Johansson 2000, p. 10) argue that water-resource development has specific characteristics that makes public intervention/ investment necessary:

1. "Many water investments include large capital investments and long periods before payoff making it difficult to attract private investors;
2. Often, water supply exhibits increasing returns to scale and is prone to underinvestment and monopoly pricing if delegated solely to the private sector;
3. Many water projects incorporate aspects such as recreation, electric power and irrigation, which complicate the decision-making environment;
4. The Central Water Authority (CWA) or government irrigation agency often lacks complete information on water supply, demand, and consumption, all of which can vary widely between years;
5. Irrigation water services are of public good nature and provide benefits not only to farmers."

3.6 Approaches and Incentives for Private Sector Involvement

Given the investment constraints, risks and special characteristics/requirements of water resource development, particularly of irrigation and drainage, the World Bank (2007) has outlined approaches at how best to develop PPP and attract private investments in the sector.

One is to target private sector participation in OMM functions, which by experience have proved to be the easiest function to contract out either through service/management contracts or public service delegation. It is also said that it is in the OMM functions where private sector involvement can have the greatest impact in improving performance and raising institutional standards.

Second is for government to devise ways by which the impact of risks on private sector investment can be mitigated. The following risk-mitigating tools are recommended in the World Bank (2007) report:

1. *Tariff indexation and resets* – which allow private service providers to adjust tariffs (water user fees) automatically if changes in cost drivers occur wherein tariff adjustment is calculated based on indexation formulas that attempt to anticipate changes in costs over the life of the PPP; Resets are a set of processes that may be used to adjust tariffs and service levels in response to wide and unpredictable changes agreed on before the PPP commenced.
2. *Government risk guarantees* – where government provides private investors with sovereign

guarantees against certain risks, which virtually transfers the risk from the private service provider to government.

3. *Co-financing and guarantees from international financial institutions* – such as from the IFC and MIGA to leverage private financing and create investor confidence.

4. *Two-part projects* – this is advisable for large-scale irrigation projects which are part of larger multi-functional water development projects, as with hydropower and irrigation development; in these cases, private sector financing may not be viable for the whole project which may have to be divided into public and private elements.

5. *Devising appropriate financial instruments* – this may include guaranteed bonds issued by government to help finance large-scale irrigation.

6. *Matching currencies* – Large-scale irrigation revenues are in local currency. With foreign financing, government carries the exchange risk. Financing on domestic capital markets would remove this risk.

7. *Grace or transition period at commencement* – government allows the private investor a grace period at the start of the project during which performance requirements are relaxed in order for the private service provider to collect the information needed to run the business on a commercially viable basis, without being held accountable for performance improvements. At the end of the period, the arrangement may allow key terms to be adjusted if the actual situation differs significantly from initial assumptions. This mechanism spreads the risk arising from inadequate information between the service provider, the government, and farmers.

8. *Financial third-party partial risk guarantees* – a third party, such as a multilateral development bank, acts as guarantor to the service provider. If the contracting governmental agency defaults on specified obligations (e.g. due to political risks) under the PPP, the third party compensates the service provider for its resulting loss. The guarantor can attempt to manage this risk by putting pressure on the contracting governmental agency if it fails to meet its PPP obligations.

9. *Termination payments* – in the event of early termination of the PPP, termination payments compensate a private operator.

To address country risks, the best risk-mitigating tools include government risk guarantees, co-financing and risk guarantees from international financial institutions, matching currencies and third party partial risk guarantees. For protection against commercial risks, the tools recommended are tariff indexation and resets, two-part projects, bond financing of completed projects, two-part projects, grace or transition period, government and third party risk guarantees. For water-specific risks, the report recommends tariff indexation and resets, government risk guarantees and termination payments. Specific to I&D projects is the need for continuous economic assessment of farmers' income and returns to water in order to assess demand and capacity to pay, and to set user fees or charges at optimal levels.

The World Bank for its part will explore existing and innovative ways in which public sector resources can best be packaged with sector reforms to leverage private sector investment. Some of the innovative and more classic ways recommended in the report include:

"Innovative ways":

- Technical assistance and financing of consultancies to prepare feasibility studies for PPP arrangements;
- Support to government and WUAs in negotiation and finalization of PPP arrangements
- Pilot projects to test innovative PPP arrangements

"More classic ways":

- Financing projects involving PPP, in collaboration with government, IFC, other IFIs and the private sector
- Use of partial guarantees to improve the terms on which finance is accessed on capital markets
- Non-commercial risk guarantees (with IFC and MIGA) on management contracts

Given all the abovementioned guarantees and risk protection that government has to offer in order to attract private sector participation in I&D PPPs, there is little chance that government will actually be relieved of the financial investment burden. Add to this the fact that investment in large-scale irrigation projects, particularly the high-cost fixed capital components of headworks and main canals will have to continue as a public sector responsibility since PPPs are expected to be concentrated only in OMM functions at the secondary and tertiary canals. Even the World Bank recognizes this reality and admits that "overall, the experience in the water supply and sanitation sector shows that PPP may not relieve government's investment burden much," but then goes on to justify PPP by saying that "the participation of the private sector, owing to their management rigor, cost consciousness and high technical standards, can improve the efficiency and performance, skills and professional standards across all functions in irrigation development and management, even where the private operator is not directly involved" (WB 2007, p.37).

3.7 Increase in Water User Fees

Another key concern about the PPP experience in the water sector is the impact of increases in water charges or user fees. Will farmers, especially subsistence farmer, be able to afford higher irrigation water fees? In most of the 21 PPP cases studied (WB 2007), water service fees have gone up but the increase has not immediately been compensated by an increase in farmers' income or where government subsidies have been eliminated at the same time. Higher water fees without income increase or government subsidy support inevitably reduce the farmers' willingness to pay, leading in turn to more serious cost recovery problems for the service provider.

The PPP experience in the water supply and sanitation sector resulted in tariff increases of between two-fold and ten-fold in many parts of Asia and Africa in order to have residential consumers pay the cost of the service they receive. The World Bank itself admits that "tariff increases of this magnitude would push about half of the households in Africa and South Asia, as well as about a third of households in East Asia and the Pacific, to reduce their consumption of those services below subsistence norms. Such tariff increases would also have unpredictable effects on demand for utility services and nonpayment rates," (World Bank 2010, p. 63).

The logic behind increasing tariffs is to achieve full cost recovery as far as the private sector is concerned in a PPP arrangement. This was not a major issue in the previous institutional setup where publicly managed utilities could afford to partially subsidize costs and calibrate tariff increases within a longer time span. However, this same institutional setup is exactly what the World Bank and its experts see as the source of inefficiency. Therefore, the World Bank recommends a "happy compromise" wherein government will have to continue providing subsidies, i.e. subsidies that are well-targeted and well-designed, in order to offset the impact of higher tariffs on poverty and inequity.

Conclusion

There are doubts of whether the World Bank's policy thrust of enjoining private sector participation in irrigation development and management could actually take off after almost two decades of encouraging Public-Private Partnerships (PPP) in the irrigation sector. In fact, the case studies shown in the 2007 World Bank report hardly represent any of the relevant PPP arrangements. The commercial and technical constraints faced by the private sector in the irrigation and drainage sector may indeed be bigger and different from those in the water supply and sanitation sector. Still, the World Bank in its most recent water policy paper wishes to pursue privatization of irrigation services in the same way that it was done in the water supply and sanitation sector two decades ago.

The insistence behind the policy thrust towards privatization is hinged on the Bank's orthodox thinking that market-oriented reforms remain the best solution to address problems of public sector inefficiency, sub-optimal productivity and fiscal burdens. While the private sector indeed engaged in water supply and sanitation services, the PPP experience in this sector, as the World Bank itself admits, has not relieved the government of its fiscal burden. This is because government, where these arrangements exist, continues to bear the financial costs of huge capital investments, sovereign guarantees, subsidies & other past liabilities. So-called

efficiency gains brought in by the private sector led on the other hand to between two-fold and ten-fold increases in water tariff rates, which in turn reduced water consumption to below subsistence norms for half the population in Africa and South Asia and one-third of the population in South East Asia. This is data and analysis reported by the World Bank itself, which seem to undermine its own assumptions and rosy projections about the gains from privatization. As if chasing its own tail, one of the World Bank's recommendation to mitigate the impact of high tariff costs to the poor is for government to re-institute subsidies; but of course this time, these subsidies should be "well-targeted and well-designed".

The irrigation sector has a very distinct constituency and varies from the water supply and sanitation sector in many respects. Its clientele are the millions of smallholder farmers, mostly found in developing countries and comprising the majority of the world's poor. Introducing volumetric and market-based pricing of irrigation water in order to satisfy the cost-recovery and efficiency goals of PPPs will likewise inevitably lead to increased water tariffs. Given the complex economic constraints faced by smallholder farming in today's liberalized trading regime, productivity gains from irrigation do not immediately and necessarily translate into improved farm incomes . It is thus not difficult to imagine the potential adverse impact of increased water tariffs on small farmers' livelihoods and on the poverty reduction efforts of developing countries in general.

The irrigation management transfer scheme which has also been a key institutional reform attached to public sector downsizing and decentralization of functions in irrigation development and management, has in the World Bank's words, not really yielded expected results and may not by design be a viable scheme in terms of devolving even just the OMM functions to farmers and their organizations. Cited problems are the limited financial and technical capacity of farmers to assume OMM functions especially of large-scale irrigation systems. Hence, the rationale to involve the private sector through PPPs in functions and aspects of irrigation development and management that farmers are not capable of taking over.

Given the PPP lessons in the water supply and sanitation sector coupled by the fact that PPP in irrigation has taken too long to take off, it may instead be worthwhile for the World Bank to study as a better option the emergence of so-called fully reformed and financially autonomous government water agencies. These entities organized as government-owned corporations and served as the third party public service provider proved to be viable as shown in some of the case studies (China, Senegal) presented in the 2007 World Bank report.

The food crisis of 2007-2008 might have jolted the World Bank to recently pledge a re-engagement in irrigation although only as part of the bigger package for the water resources sector whose emphasis at the moment is more on hydro-power infrastructure development. Increasing investments for irrigation from a period of almost three decades of very little funding is definitely a welcome development. However, without devising new approaches and without departing from a fixation on PPP and market-oriented reforms, the effort to re-engage in irrigation may not prove to be as promising as it is presented at times by the Bank.

The World Bank has been in the business of poverty reduction for more than half a century now. Yet poverty has not improved and even the modest goals of the 2015 MDG targets are impossible to be achieved by 2015. Without much progress in its avowed mission, there must really be something defective, if not contradictory to its mission, in the Bank's whole philosophy of development. It is about time to depart from its religious belief and practice of market-oriented reforms, which for forty years have been blamed for most of the world's economic woes and periodic crises.

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Sovereignty and Food Self-Sufficiency:
Alternatives to World Bank Privatization of Philippine Irrigation

by Jonathan Hogstad

Introduction

Because irrigation plays an important role in increasing rice yields by as much as 2-3 times, the Philippine government is placing particular importance on irrigation improvement in the rice self-sufficiency program it implemented after the 2008 food crisis. At present, only 750,000 hectares out of the 3.1 million hectares of the potentially irrigable areas in the country are irrigated (NIA-CORPLAN, BAS). Given the importance of the irrigation sector, the purpose of this paper is to bring public attention to the Participatory Irrigation Development Project (PIDP) of the World Bank (the Bank) –the current project that will facilitate badly needed repairs for large irrigation systems while imposing reforms on the National Irrigation Administration of the Philippines (NIA) in an overarching effort to partially or wholly privatize irrigation services, which are largely for small rice farmers. Privatization would severely affect small rice farmers in the Philippines. However, even if these reforms fail to promote enough private sector interest in NIA to reach a meaningful level of privatization, the reforms themselves will damage efforts to achieve food security in the Philippines.

Argument Summary

PIDP is essentially a massive subsidy to the private sector that also attempts to free up Philippine tax revenues to pay foreign debt. It will attempt to change a public good into a profitable investment for private capital by strategically reforming NIA in a way that undermines political resistance while creating a profitable institution. PIDP downsizes NIA by financing generous severance packages for NIA personnel (to be paid by future Filipinos) while transferring their duties to small farmers who have to do the work under extremely exploitive conditions. At the same time there are planned service fee hikes for farmers to increase the price of water enough to make NIA profitable without public support. Despite this elaborate plan, it is doubtful that the Bank can make NIA into a profitable institutions as the Bank has to compete with suppliers and money lenders to appropriate the surplus production of rice farmers – NIA's only clients and one of the poorest segments in the Philippines. What is more likely is that PIDP will undermine food security in the Philippines further by compromising NIA's capacity.

The Bank's new strategy in irrigation, exemplified by PIDP, has its origins not in a scientific process but in US imperialism. At the beginning of the twentieth century, a fierce Filipino resistance to US occupation and a strong anti-imperialist movement at home forced the US to find other means to exert influence. In the following era, the US then developed the conditional loan as a vehicle of foreign policy in which American experts were placed in controlling positions in borrower-country governments in exchange for a loan from a private American bank. Despite a rhetoric that the US had moved towards a more civilized relationship with the non-European countries, these loans facilitated exploitative North-South relations. Leading up to WWII this strategy proved untenable because private banks proved undependable and because the American control facilitated by the loans incited revolt. When building the financial institutions for the post-war order at Bretton Woods, the Bank (and the International Monetary Fund) was created as a Washington-based lending institution that was multilateral in nature but dominated by the US, effectively creating a new vehicle of foreign policy that reconciled the problems of the previous era. In the ensuing era, Bank activities were largely influenced by Cold War strategy, often lending to support for pro-American authoritarians, such as Ferdinand Marcos in the Philippines. Within this Cold War context, Bank President McNamara expanded the lending power of the Bank, helped develop a discourse around poverty reduction and development, and remade the bank as a "knowledge bank" with complex networks to promote borrowing from the Bank. As Cold War policy grew more aggressive, so did Bank economic policy. In the '80s the Bank ramped up a draconian campaign to use conditional loans to impose neoliberal reforms that opened up labor and consumer markets in borrowing countries for foreign capital. The results were disastrous and the social and environmental disasters of Bank-financed large-scale projects culminated in global unrest that put the Bank on the defensive. In the late '80s and into the '90s, the Bank had to respond to the imperative of "reform or die" from the Global South while reconciling with the imperatives of expansionary economic policy from the US. While maintaining the use of conditional loans, the new strategy integrated the environment as a priority as well as the idea of partnership with civil society all while retaining a fundamental neoliberal paradigm. These reforms effectively split civil society into a collaborative camp of allies that receives resources and recognition and a marginalized camp that has remained critical. The reforms have actually helped the Bank to further extend its reach. The new paradigm justifies the transfer of public goods such as drinking water to private control in the name of the environment and water scarcity. This push for the privatization of drinking water has again set off global opposition. The Bank's strategy in irrigation is a close offspring of their strategy in drinking water. Now in addition to government corruption, water scarcity and environmental strain, the Bank adds hunger to the list of imperatives for instituting neoliberal reform.

Methodology

A mixed research methodology was used for this investigation. Semi-structured interviews were conducted with key players: farmers, NIA bureaucrats, civil society, and Bank staff.[1] Primary data was analyzed from the Bureau of Agricultural Statistics, National Statistics Office, NIA CORPLAN, and World Bank Indicators. Finally, secondary sources focusing on the World Bank, the political economy of the Philippines, US foreign policy, and the development industry were also drawn upon to both define and inform the political-economic debates and to provide historical context.

1. Carol Geron, Sector Reform Task Leader at the Bank, granted me an extensive and candid interview for which I am grateful. It was arranged through a colleague doing an internship at the Bank. While the comments that she shared with me, which were candid at best and borderline scandalous, were not likely intended to be shared with critical ears, I never provoked the assumption that I was on the side of neoliberal privatization. I shared what organization I was representing (Integrated Rural Development Foundation, which clearly states its anti-neoliberal perspective on its website) and I told her that I was gathering information for a report on PIDP. I feel no ethical qualms sharing her statements.

1. PIDP Policy Examination

Project Outline: Irrigation Privatization Through the Backdoor

The Bank's Participatory Irrigation Development Project (PIDP) will bring much needed rehabilitation of large-dam National Irrigation Systems (NISs). However, it will also implement highly controversial conditional institutional reforms. The amiable language that pervades PIDP –with progressive terms such as "participatory governance" and "public private partnership" that will be discussed later –obscures the nature of PIDP as yet another effort by the Bank to privatize Philippine public goods. The overarching theme of the project is to increase revenues and decrease costs at the National Irrigation Administration (NIA) in order to make it profitable enough to attract private sector investors for privatization. In fact, we will see that many of the reforms are highly questionable for their stated purposes, and it would thus be challenging to understand PIDP as anything but a comprehensive effort to prepare NIA for privatization. While it is unlikely that the Bank will succeed in a substantial level of privatization (discussed below), the reforms involved in attempting to privatize will be damaging enough to push the Philippines into greater food dependency.

PIDP has three stages, each spanning approximately 5 years for a total loan value of $290.36 million and a project cost of $413.59 million (AFP, 2009). Stage I began in late 2009 and involved an initial $70 million loan for: (1) downsizing NIA while transferring responsibilities to local Irrigators Associations (IAs) of small farmers through a process called Irrigation Management Transfer (IMT); (2) an Irrigation Service Fee review that will set the service fee higher to replace the public subsidy to irrigation; (3) a pilot project to test volumetric pricing (charging for irrigation by volume of water used instead of by area irrigated); (4) piloting a Communal Irrigation Development Fund (CIDF) to transfer responsibility of small to medium sized dam Communal Irrigation Systems to Local Government Units. Stage II will then expand on these programs to cut costs and increase revenues for NIA while adding a sub-project to have rice farmers produce other crops despite the fact that the Philippines is one of the most food dependent countries in the world as the world's biggest importer of rice. Stage II consists of: (1) implementation of the new service fee; (2) expansion of volumetric pricing; (3) expanded pilot testing of the CIDF; (4) measures taken to use irrigated land for crops other than rice, despite the fact that the Philippines is the world's biggest rice importer; (5) review study on ways to transfer the provision of irrigation services to the private sector. The Bank plans to build upon the earlier reforms in Stage III, consisting of: (1) CIDF is scaled up for total transfer of CIS care from NIA to Local Government Units; (2) expanded adoption and implementation of volumetric pricing; (3) completion of IMT in all 205 systems; and (4) partial or total privatization of NIA. (See Appendix 2 for full PIDP project matrix.)

In the following sections, the Bank's Sector Reform Task Leader, Carol Geron, clarifies the nature of PIDP in instances when the formal project language is vague enough to leave open multiple interpretations. By first exposing what the Bank actually means when they use progressive-sounding language such as "participatory governance," "irrigation management transfer," and "public private partnership," we can get a clearer picture of the policy direction and goals and come to informed conclusions taking into account the Philippine experience with privatization. In the following analysis, it should also be clarified that Irrigation Management Transfer (IMT) is not new: It is a troubled reform program that has been promoted by the Bank for decades and which PIDP will expand.

New privatization schemes

The first debate that needs to be outlined deals with the nature of PIDP's "public-private partnership" (PPP) as a privatization scheme and the merits of privatization. The bank scarcely uses the term "privatization" instead opting for the term "public private partnership" (PPP) which sounds less loaded than the former term which has been

stigmatized since Bank-led privatization schemes have had such troubled outcomes.[2] The Bank lays out several options for PPP arrangements to deal with the fact that the private sector has been loathe to invest in irrigation (World Bank 2007). Despite the less loaded terminology, in an interview, Bank Sector Reform Task Leader Carol Geron clarified that the new discourse around PPP in irrigation is not a move beyond privatization. Rather the ultimate goal is full privatization with secondary options if that is not possible:

> "Actually what we are thinking down the line –and this is something bold but hopefully we'll get there –eventually, NIA would be privatized –eventually, if the situation is correct and right for it. You know if [the PIDP reforms work and] you're an earning entity, why remain as a government corporation? You can evolve into something. For example, I don't know if you're following the development of the water sector. MWSS [Metropolitan Waterworks and Sewerage System], used to do everything. That's a government corporation, but some of their functions [spun] off [to] Maynilad and Manila Water, which are private sector concessionaires. NIA can do something like that eventually and then you just retain a small NIA, which would just be for regulatory [functions]. That can eventually happen" (Geron, 2009).

While recognizing the difficulties of privatizing water, she emphasized, "it has been done in water, it has been done for household water [with MWSS privatization]. Correct? So why can't we do it for example with irrigation water?" The PPP framework is not an alternative to privatization, but rather a way to address the concerns of the private sector which has been loath to invest in irrigation. PPP acts as a subsidy to the private sector; it is a way to coax the private sector to engage with irrigation if outright privatization is not possible. The Bank states, "Private investors have generally steered well clear of this kind of large-scale irrigation scheme, which is proving most problematic. Public-private partnership, with its promise of shared responsibility and managed risk, has been seen as a means of creating the right incentives for greater private sector involvement" (World Bank 2007). This more flexible regime is not fundamentally different from direct privatization; rather, it is a compromise on the part of the Bank if the private sector is not willing to take the bureaucracy wholesale.

However, the level of PPP (from full privatization to private sector service provision) is not decided upon until the last stage of PIDP. The stages before that are a comprehensive attempt to make NIA profitable enough to avoid direct cost and risk sharing with the corporation. Geron states that when privatizing NIA, "it has to be bidded out. Especially if we are able to prove that we can make money out of it, just like water –like Manila Water [MWSS] –then it has to be bidded out." When asked how it can be proved that NIA can make money, Geron responded by stating that the early phases are a reform project to make NIA profitable: "That's why we plan it [privatization/PPP] for phase three. Our projection is that by the time we start phase II, NIA will already be showing positive returns. So once the private sector sees that, then it will become attractive. Because right now nobody wants to go [invest] in there." Geron's disclosure that the goal of PIDP is privatization by creating a sufficiently attractive moneymaker out of NIA is consistent with the fact that the major reforms of PIDP all deal with decreasing costs and increasing revenues for NIA. The PPP arrangements will privatize profit, but they will also socialize the cost and risk if the private sector is reticent to invest.

Geron chose a highly controversial example for the Bank's ultimate goal for NIA. The MWSS privatization can only be considered a success if success is measured exclusively in terms of transferring control of facilities from public to private hands. If success was measured in terms of social outcomes, the project could only be considered an abysmal failure:

> "On its 10th year, MWSS' privatized set-up has nothing to show but skyrocketing rates, unmet service obligations, heavier debt and financial burdens and a co-opted water regulatory office that has turned deaf to cries of the public as illustrated below: increase in water tariffs by private concessionaires—563% [for] Maynilad and 750% [for] Manila Water from pre-privatization rates … connection fees remain prohibitive for millions of Metro Manila urban poor residents … In 2003, several urban poor communities became victims of cholera and gastroenteritis affecting

2. Examples from the Philippines include the privatization of Metropolitan Waterworks and Sewerage System, the the telecom scandal, the base privatization scandals, etc.

> over 800 individuals and killing eight persons … heavier government financial burden resulting from non-payment of concessionaire fees by Maynilad. … Granting extension of Manila Water's tax holiday for another year (until 2007) translates to revenue loss of approximately Php 650 million. This in spite of reported increase of 51% in profits from its 2005 operations." (FDC, 2007)

Beyond these abysmal results, Bello (2005) documented the privatization process in which Manila's drinking water facilities were effectively split between two of the most powerful families in the Philippines backed by international water corporations. The two sides then proceeded to leverage their control over the water facilities to break their original contract, extract subsidies from the state, and increase water pricing exorbitantly.

Nevertheless Geron expressed the Bank's standard of the MWSS privatization as their highest mark of success. The basic ideology behind the Bank's push for privatization is an argument that poses the private sector as more competent and efficient than the public sector because the drive for maximizing profit inherently drives companies to decrease inefficiencies. On the other hand, the government bureaucracy does not face the same incentives to streamline. The conclusion of this logic is that the government bureaucracy (and the public good that it manages) should be privatized with the government playing a marginal regulative role. This argument, while attractive in its simplicity, is an incomplete picture at best.

A profit-maximizing private firm will have the incentive to reduce inefficiencies, but it will also have an incentive to drive prices up in the absence of competition and tap into state resources if possible –exactly what happened in the MWSS privatization. In services such as irrigation that require large and dispersed infrastructure, there is little room for direct competition, as firms cannot coexist in the same facility or even in the same geographic region. Moreover, the privatization argument assumes that there are no reforms that could be imposed on government to increase accountability and efficiency. This is simply not true and it ignores the long struggle to reform bureaucracies that now provide reasonably accountable public services. The biggest validation of this counter-argument to privatization was Elinor Ostrom's 2009 Nobel Prize in Economics. The Royal Swedish Academy of Sciences wrote, "Elinor Ostrom has challenged the conventional wisdom that common property is poorly managed and should be either regulated by central authorities or privatized" (nobelprize.org 2009).

The privatization argument was never based on sound theory and the experience in the Philippines with MWSS should be a lesson that no one forgets. The fact that the PPP arrangements of PIDP are this type of privatization with the addition of some form of cost and risk sharing arrangement between the corporation and the people of the Philippines should give pause to Filipino policymakers.

Politically strategic privatization

The two groups that would be most immediately affected by the privatization of NIA are NIA personnel and the small rice farmer clients of NIA. Hence the Bank must placate or fool these two groups to get around their potential political resistance to privatization. PIDP is configured to do just that while creating de facto public subsidies for whatever corporation takes over irrigation. "Irrigation Management Transfer" (IMT) has effectively become a process that transfers the fee collection and canal maintenance responsibilities of laid-off NIA personnel to small farmers who have to do the work under severely exploitive conditions. This can be seen in systems that have already undergone IMT. Farmers take over the tasks of former NIA personnel, while taxpayers pay the loan for NIA personnel severance packages that are necessary to obviate political resistance on their part. The farmers quickly become overburdened by the new responsibilities while the downsized NIA no longer has the capacity to retake these duties. Thus the farmers themselves choose to privatize maintenance duties. IMT acts as an intermediate stage after which there is no going back. Public subsidies from taxpayers and the farmers' labor are being used in an attempt to make a profitable, "privatizable" institution devoid of political resistance. These arguments are substantiated below.

Geron emphasized that political resistance from the bureaucracy's personnel can be a significant obstacle to the Bank's privatization plans. She drew the difference between NIA personnel, who she said are

older and more willing to retire, and the personnel of another Bank privatization target the National Food Authority, who she says are younger and more resistant to privatization. By offering severance packages to NIA personnel the Bank is placating NIA employees, who in turn promote the Bank's involvement to ensure that their severance packages are paid. She explained how offering the severance packages enlisted the cooperation of NIA personnel as opposed to the resistance that the Bank normally receives: "They [NIA personnel] were saying that 'we will be up in arms if the World Bank will not support this.' It's the reverse, you know. It's not as if they are against the World Bank…in this case, they actually want to assure that World Bank is part of the story, because they want to be assured that people that go [are laid-off] in year three, year four, year five, will really get the money [as they feel the government alone is not dependable enough]." While cutting NIA personnel makes for attractive books at NIA for eventual privatization, it is problematic that Philippine taxpayers are paying the loan for these severance packages that benefit the future irrigation private firm, which will take over a liability-free institution. It is even more problematic that the duties of the laid-off personnel are transferred to small farmers who subsidize this process by working under severely exploitive conditions.

While it is true that small rice farmers will generally do what it takes to survive, they should not be considered cheap or free labor. It takes time and energy to maintain the irrigation systems and the workers in the Irrigators' Association (IA) that do this work should be compensated fairly. The arrangements under IMT have been extremely exploitive. For instance, four times a year, San Francisco IA president Percival Malda spends 15 full days of work coordinating the clean-up of the 17 km of main canals completely unpaid. Moreover, his IA only receive 1000 pesos for work that takes two days for a team of five men to finish—100 pesos/day/worker, which is less than half of the region's agricultural minimum wage. Another example can be found in the BIGKIS (rice farmers' association) leaders that took over the Bukas Mata IA because they found it corrupt. They now spend so much time on the IA that other BIGKIS members have complained that they no longer have enough time to do the community organizing work that has been so important in raising living standards in their community. They now find the work extremely taxing. The Bukas Mata IA president worries so much about the irrigation system that when it rains hard at night, he will go to the dam to make sure that their improvised repairs are not destroyed –despite the fact that there is nothing he could do about it. Another example is president of the Magdaguson IA Mario Ortile, who dislikes collecting the service fee from the many poor farmers who often require multiple visits because they cannot pay the fee. With an exhausted tone he told us, "When you go to their house and you collect the fee, you can hear their children crying [from hunger], because all that is left after harvest [when they pay their debt to the money-lenders] is the rice straw." An IA in Davao Oriental that cleans the canals under IMT arrangement gets paid so little for the work that they do, they call the pay "snack money" (see Patel, this compendium). IMT is unfairly placing the burden on farmers in order to downsize NIA in preparation for privatization.

It is important to understand that the burdening of farmers in this process facilitates further privatization. In their Public Private Partnership (PPP) framework for irrigation, the Bank indicates that the general experience in similar irrigation reforms in other parts of the world is that, after IMT, overburdened farmers generally opt for a private service provider (World Bank 2007). IMT is described as,

> "[the] stage of reform, [in which IAs] have begun to feel the benefits of managing at least part of their own water service but also have experienced difficulty in fulfilling all OMM functions without support. At this point, either partner may want to bring in a professional third party by contracting out one or more … functions through short-term, task-specific contracts" (World Bank 2007, p35).

The Bank understands that the IAs will have difficulties with their duties and risk, which is why IMT is only held as an intermediary stage.

After IMT, the Bank's PPP framework lays out the option of "Private Service Delegation" (PSD) through a "long-term agreement" (2007, p36). They explain: "for the government, this option may be attractive where a private provider can take over investment and management functions retained by government, or where there are doubts about the capacity of [IAs] for IMT." If it is a lower-level irrigation service priva-

tization, "the empowered [IA's] decision to contract out all OMM functions is often prompted by the feeling that things are 'getting out of hand.' Usually, however, it comes about as a result of [IA] members' preference to go back to concentrating on their professional job –farming" (2007, p36). This statement further indicates the Bank's understanding that IMT serves the purposes of greater privatization because the intermediate stage of IMT puts farmers in a situation they want to escape from. As IMT facilitates a not-easily reversed NIA capacity while transferring burdens to farmers there is then little other option but to further privatize.

Effectively, society is paying certain NIA personnel to retire and do nothing, while their tasks are transferred to rice farmers (one of the poorest groups in Philippine society) in order to create a more profitable NIA to then privatize. There may be two counter-arguments to this critique: (1) because rice farmers are the ones to benefit from irrigation it should be exclusively their responsibility to maintain the irrigation systems, i.e., they should not have any assistance from NIA or a public subsidy; and (2) IMT is a form of empowerment in which farmers take control of their irrigation services, entailing that they are better off because they are in a stronger position to fight inefficiency and corruption that affect their services. The first argument is addressed in the next section by reexamining irrigation's appropriate place as a public or private good. The second argument is later addressed by examining how IMT has actually manifested in terms of farmers' power to command quality services from NIA. It will be seen that neither of these counter-arguments hold.

NIA: Public Drain or Public Good?

The Bank's privatization argument rests on the assumption that NIA should not receive government support. As Geron stated, "For many years, they [NIA] have been in deficit. They are not supposed to be relying on government." Any financial support is then attributed to inefficiency. Therefore, according to this logic, transferring NIA responsibilities directly to the farmers for exploitive wages is justified because the farmers are the beneficiaries anyways. Any lack of proper wages is simply a product of non-payment and should be worked out between the beneficiaries (farmers) and does not merit public support. While NIA's inefficiencies and rice farmers' ability to pay will be later addressed, the assumption that NIA should never receive public financial support must be challenged.

NIA, as an agency providing a public good, should be supported by definition. A public good is a good in which parties beyond just the buyers and sellers in the transaction benefit. For instance, without government support, schools would sell education services to students who would buy the amount of education they choose. Many poor students would likely choose to purchase little or no education because they must work instead and they do not have money to pay fees. However, when someone is educated , society as a whole will also benefit because an educated person spreads knowledge further and is more likely to be productive, healthy, and informed. Despite the fact that it is in the interest of all of society to help educate those who may not be able to afford it, a nebulous concept of society cannot contribute to others' education. Government solves the problem of how society can cooperatively support the education of its people by collecting taxes and subsidizing education for everyone so that all can afford it. Without the subsidy, there would be a level of education in society that is less than ideal. Other public goods include public health, national security and food security. None of these goods are expected to be profitable.

Food security is in the interest of all of society because it avoids the high costs of emergency measures to prevent famine, the social costs of food riots or simply the injustice of living in a society that allows people to starve—all of which were felt by various countries during the Food Crisis of 2008. Irrigation is vital to attaining food security, a public good, in the Philippines. Thus, government has a clear role in facilitating society's support of irrigation if there are not sufficient amounts of rice being produced domestically to feed the country. As the world's largest importer of rice, the Philippines is amongst the most food insecure nations. Vietnam stands as an example of what is possible when the state supports irrigation. Between 1981 and 2007, Vietnam nearly tripled its rice production and became the second biggest rice exporter in the world, whereas the Philippines only doubled its production and became the biggest rice importer in the world (Food and Agricultural Organization, 2008). As opposed to the Philippines whose irrigation spending dwindled

(see Chart 2), in Vietnam, "of absolutely crucial importance [has] been –and continue[s] to be –the state investments in irrigation infrastructures as well as subsidies in the form of low irrigation user fees paid by farmers. Investments in irrigation make up 50-60% of total state expenditure in the agricultural sector! ... Not only the initial construction but also the later maintenance of the irrigation infrastructure benefits substantially from state financing. Without this state support, the provincial Irrigation Management Companies would make large losses because the irrigation user fees charged on farmers are very low" (Rock 2007, p4). Through state support of irrigation, Vietnam benefits from being a food secure nation. The contrast was stark in 2008 when Vietnam stood in a position of power and security while the Philippines negotiated for rice from a position of desperation and weakness.

For the Philippines to achieve food security, irrigation needs government support. The only argument that the Bank can make in this case is that government support does not go to irrigation but rather to bureaucratic inefficiency and corruption. Indeed this is partly true, however, the reforms that have been imposed have done nothing to curb corruption and in fact may have only exasperated them: nothing has been done to increase the power of farmer beneficiaries to command better services. Moreover, as has been seen with the MWSS scandals, privatization can simply privatizes corruption and inefficiency and does not necessarily diminish it. The next section discusses how the package of reforms has affected corruption.

Addressing NIA Corruption and Inefficiency

While organizing rice farmers into Irrigators' Associations (IAs) and transferring responsibilities to them through the process of Irrigation Management Transfer (IMT) has been done in the name of "participatory governance" and "empowerment", the effect has been disempowering to farmers and has fostered corruption. The IAs could potentially be used to check bureaucratic corruption and inefficiency as the farmers have the self-interest to monitor NIA to assure that services are efficiently delivered. However, instead of positioning the farmers to demand better, more efficient service from NIA, PIDP uses the IAs to create a more profitable NIA that can then be privatized. While the agency of IAs remains as diminished as ever, the Bank uses the IAs to collect service fees at a higher rate by using peer pressure and to transfer burdens from NIA under exploitative conditions. Indeed, it would be puzzling to explain why the Bank has not prioritized facilitating greater agency for IAs if it were not clear that this would work against their priority of privatization of NIA –empowered IAs could easily become a strong political force against privatization. Co-opted by the neoliberal priorities of the bank, "participatory governance" has devolved into exploitation. As rice farmers have no self-interest in engaging in such exploitive associations built around the Bank's priorities, IAs suffer from lack of community engagement and many have become a *source* of corruption rather than a check on corruption. Just as important, IMT has undermined the legitimacy of the IAs and thus their ability to greatly increase water-use efficiency through coordination efforts.

Both farmers and long-time NIA bureaucrats report that IAs are largely disengaged and/or corrupt. Avelino Mendones, secretary of Bukas Mata IA, told us, "Most farmers do not go to the IA meetings, and most IAs are corrupt." The local BIGKIS (rice farmers' association) members of Bukas Mata recently realized that their corrupt IA officers were hurting their community and orchestrated a take-over of the IA by calling a meeting and confronting the leadership. While the Bukas Mata IA is now engaged and organized, they are the exception, not the rule. One of NIA's most senior bureaucrats Renata Gamboa, manager of the Institutional Development Division that organizes rice farmers into IAs, confirmed that there is often a problem of "transparency in the IA officers' behavior" and community engagement as "few of the farmers that are invited to [IA] meetings come; 50% would be the best." What is more unfortunate about this situation is that the IAs are intended to be a check on corruption but under these circumstances, they are often a source instead. Mendones asserts that "corrupt IA officers will strike a deal with contractors when there is construction and they will pocket money from the deal." While Gamboa and others at NIA are striving to improve the situation, the problem is well recognized.

Furthermore, even the IAs that are engaged and honest suffer great difficulty because there is so little transparency when dealing with NIA and negotia-

tions have been highly exploitive. Irrigators of the San Francisco IA in Sorsogon province, which have had maintenance responsibilities transferred to them under IMT under a previous reform, are not satisfied with the service they receive from NIA. One farmer said, "There's no transparency. They [NIA] come one time [to collect the fees] and they leave." They explained that their IMT contract from 1991 adjusted the service fee for farmers to inflation but left the payment that go to the IAs for maintenance work as fixed; meaning that at this point the pay for their labor is shamefully low. They complained about their lack of power in their relationship with NIA: "Maybe there has been an increase in payment but there is no access to information. We don't know!" Furthermore, they claim there is a NIA water tender "but he's never here" and they are powerless to do anything about it. Despite great efforts to maintain their system, under such conditions their irrigated land has dwindled to 50% of what it was. The main canal is damaged and they say that their improvised sandbag repairs help but it is not as efficient as it would be with proper repairs. The San Francisco IA, is an example of how IMT has left farmers powerless to demand efficient, honest, and adequate services from NIA.

While IMT has left IAs largely isolated and powerless to the massive and opaque NIA bureaucracy, there have been other efforts to genuinely empower rice farmers to demand better service. These attempts were trammeled however. According to Gamboa, in 1996, there was an effort to make a national federation of IAs with the hopes that the "federation officer at the national level [would become] a member of the NIA board, instead of the NIA board coming from the private sector, appointed by the President, and in many cases contractors and the like. This was the intention of the Magna Carta of Small Farmers.[3] … But many [in the government administration] went against it. It's politics. They say [we can't have the IA representative because] we [would] have to change the policy of NIA. They always have a reason not to." Thus, organizing IAs for accountability of NIA towards farmers is not a new idea. Rather, it is one that has been excluded from practice. Meanwhile the Bank has promoted organizing for greater service fee collection from poor farmers and greater burden on IAs.

Ironically the Bank's stated purpose of their latest trend of irrigation reform is to increase water efficiency because "irrigation and drainage is also facing acute challenges of water and finance scarcity" (emphasis added, World Bank 2007). However, Bank reforms have not only undermined the IAs ability to check bureaucratic inefficiency but also their ability to check water inefficiency. While IMT has served to create corrupt and disengaged IAs, the greatest efficiency gains can only made through the coordination efforts that strong and legitimate IAs can provide. According to Gamboa, who is a leading expert in rice irrigation, very little water-usage efficiency comes from individual decision-making as water flows from the plot back into the canal and on to the next plot regardless. By far, the largest gains are made by collective decision-making and coordination through schemes such as alternating wet and dry irrigation and downstream to upstream irrigation. Gamboa reports, "In Amborian, we introduced the [downstream to upstream irrigation] scheme for five years and the cropping intensity was consistently higher by something like 44%. That was the equivalent of 1,200 ha!" Furthermore, this scheme can help to address the greater poverty incidence in downstream areas of irrigation systems (as downstream farms are often left without irrigation in the dry season). However, engaged and respected IAs are needed to coordinate the efforts, as upstream users can simply divert the flow. IAs that are capable of doing this job could hardly be built under the exploitive and opaque conditions seen in recent reforms.

The peripheral importance of individual decision making to increasing water efficiency also calls into question the Bank's plan to move to "substantial use of volumetric pricing", in which a meter will be installed on each plot so that farmers pay for the volume of water they use instead of a fee based on the size of their plot. Volumetric pricing might make sense in the US with massive corporate farms, however, there is very little justification for the cost of installing and maintaining meters in the Philippines. In this context of small rice farmers, community provides both the means and the incentives to increase efficiency, i.e., strong, legitimate IAs increase water efficiency not individual farmers.

3. Republic Act 7607 of 1991 stating that farmers can elect representatives to sit on the board of respective government agencies, including NIA, and later to be repealed to conform to conditions for the World Trade Organization agreement on agriculture (Bello, 2005, p139)

For the Bank to successfully implement PIDP, they must use IMT to transfer burdens to poor farmers to create a profitable institution. Yet at the same time, to handle these complex tasks, they must organize engaged, transparent and democratic community organizations (the IAs). This contradiction that the Bank has labeled "participatory governance" is in practice a patronizing and disempowering process that ironically creates corruption and water waste despite pretenses. The next section discusses how farmers will also receive increased service fees on top of increased exploitation.

Ivory Tower Economics: The Bank's Justification for Increasing Fees to Poor Farmers

PIDP will increase the service fee to rice farmers in an attempt to create a profitable NIA while taking away government financial support of the institution. The Bank argues that because repairs will accompany the service fee hike, farmers will have greater production and thus greater ability to pay the fee. However, this argument is flawed: there are many reasons to believe that service will not improve as corruption goes unchecked, and even if production improves there is no guarantee that the surplus rice will not be appropriated by money lenders, input suppliers, and rice traders, all of which have stronger market positions than small rice farmers.

In year 3 of stage I, there will be a review of the Irrigation Service Fee (ISF) policy in view of "national policy," "IMT," and " NIA's financial viability" that will change fees to a "market-based pricing for water" according to the Bank's Sector Reform Task Leader Geron. After a lengthy conversation over the accounting of how NIA will remain solvent after taking away government support, Geron recognized that the service fees would have to increase. However, she was explicit in how the increase should be presented:

> "The calibration of the ISF will have to be because of how they price the water at that point in time, not because they have to compensate for the subsidy that was taken away. I want that very clear, I don't want that in your report. The World Bank can be blamed for a lot of faults and wrong policy advice, but it's one thing to do it deliberately and another thing to do it accidentally. So in this case, that's not what we're trying to do. We're not trying to shift the burden of subsidizing NIA from government to farmers who will be paying higher irrigation fee for water. No. We're trying to create a more market-based pricing for water, which should have happened several decades ago but no politician had the balls to do it [sic], because how dare you upset farmers who would say, 'Oh, when you say you're going to review our fees that means you're going to increase our fees!' If you're a farmer and you're business minded, you won't mind getting increased service fees as long as you know that it will contribute to your production system, right?"

There are a number of problems with Geron's presentation of the fee increase. Firstly, in whichever way Geron packages the ISF review process, the ISF will be calibrated based on making NIA profitable without government financial support—a circumstance that she recognizes will mean an ISF increase. Even the Bank's Public-Private Partnership (PPP) framework concedes that of "client benefits in the PPPs studied, the general result is improved but more expensive water service … [as] decreased government subsidies [are] not fully compensated by efficiency gains" (2007, p3).

Secondly, it is admirable that Geron recognizes that "the World Bank can be blamed for a lot of faults and wrong policy advice." However, claiming a meaningful difference between doing so "accidentally" or "intentionally" is without base. When a driver repeatedly drives a truck into a ditch, intentionally or accidentally, that driver needs to be fired; intentions are peripheral to results.

Thirdly, the fact that policymakers have been hesitant to increase fees might actually be because farmers provide a public good and are amongst the poorest in a poor country—not necessarily because "no politician had the balls."

Finally, "business-minded" or not, there are many reasons for farmers to doubt the PIDP reforms will lead to better service. There are no measures put in place to create a bureaucracy that is more accountable to its beneficiaries. Most of the streamlining that is happening is actually just transferring the burden to the farmers (which they would then be paying for with a fee increase). These reforms also don't address the slow mobilization of repair funds after typhoons and other calamities (to be discussed below). Beyond all of these reasons, even if service does improve and production increases, there is no

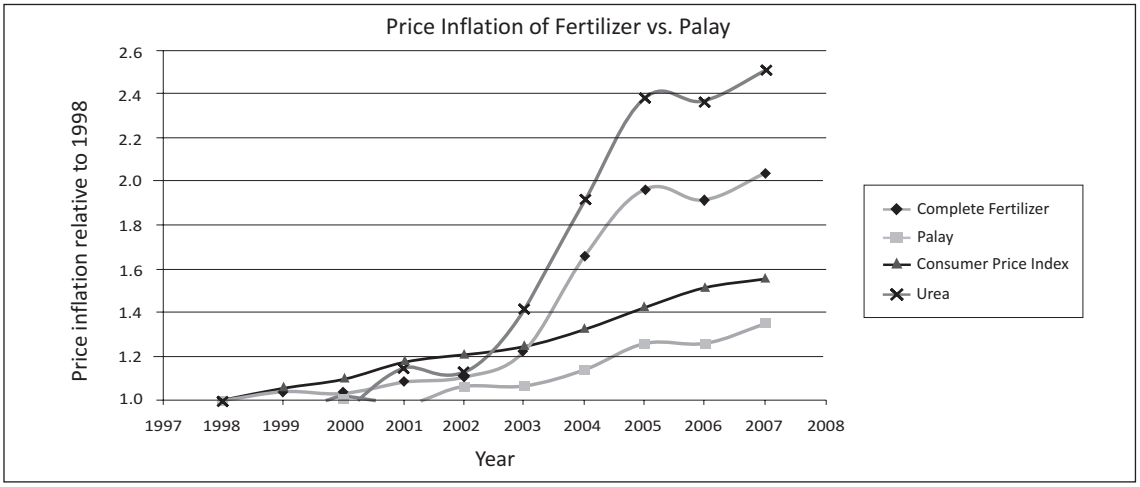
reason to believe that farmers will keep their surplus production when dealing with other market actors such as money lenders and rice traders.

The neoliberal economics of the Bank may look very convincing on a drawing board in their high-rise offices in Ortigas or Washington, but their assumptions do not always hold water in the realities of rural Philippines. The Bank implicitly assumes that farmers are poor simply because they do not produce enough. Consequently, if farmers receive irrigation systems, they will produce more, earn more. Thus the Bank is using this logic to justify increasing irrigation fees for small farmers as part of the PIDP reforms. While this thinking seems plausible on first glance, it ignores the fact that more powerful economic actors (rice traders, agricultural input suppliers and moneylenders) bargain away the surplus production from small farmers, often leaving them with barely enough to survive, and it does not account for the vagaries of global rice and farm input markets which (as shown below) can become disconnected at the expense of the farmer.

When asked about market competition holding down farm input or lending prices, Magdaguson IA president Mario Ortile laughed: "There's plenty of them [dealers and lenders] to choose from; they're all on one street in town. They all have the same prices though and they all lend you just 300 pesos [in farm inputs or cash], which you pay back with a [50 kg] sack of palay [unmilled rice] at harvest time. You can get 500 pesos for a sack at harvest time though," meaning an interest rate of 66% over three months or a 672% annualized rate. He continues, "Out of 104 farmers in the Magdaguson IA, maybe 5 don't depend on borrowing for their inputs. … People don't get rich out here; they just don't." According to Ortile, due to these market relations, on which they are dependent, farmers do not have the privilege of reaping the full reward of their rice harvest. There is no basis for an assumption that an increased production would mean that the farmer would keep all or even most of the surplus that is produced.

In 1998, Asia Development Bank (ADB) undertook a technical assessment of the Southern Philippine Irrigation Sector Project (SPISP). Based on the predicted increase in yield that the project would give, ADB assessed the ability of the farmers to pay higher costs after the project. In their analysis they assume that the farmers can defend their profits, i.e., production equals profits. Chart 3 shows how prices for fertilizer (Urea and Complete), palay and the Consumer Price Index (CPI-a calculated basket of consumer goods) changed over time relative to their base year prices in 1998 (Px/P98). Farmgate palay prices should have risen much more than the CPI to pass on the soaring costs of fertilizer, by far the most expensive rice farm input. Instead, palay devalued relative to the price of other goods that the farmer would buy while fertilizer prices took off, driving a wedge between farmers and their ability to purchase goods and services. The farmers affected by ADB's project were at the same time affected by fee increases.

Chart 1: Expansion of prices of fertilizer, CPI and Palay 1998-2007



Source: Bureau of Agricultural Statistics

Increasing service fees to farmers based on an assumption that production will increase is dangerous because it is not a safe assumption that service will improve as corruption goes unchecked and it does not take into account the adverse market relations of the rural Philippines. In the next section we will add that PIDP does not address the main reason why irrigation systems have become increasingly inoperable in the Philippines: sporadic typhoons and natural disasters that damage irrigation systems and then remain unrepaired.

Rice Importation and Crop Diversification for Export vs. Food Security

WB generally opposes government support for increasing production of rice, as typhoons frequent the Philippines and increase the cost of domestic rice production relative to rice exporting countries. Conistent with this policy, PIDP will introduce "additional measures to make a substantial effort to increase crop diversification" (WB PIDP Program Matrix, 2009), i.e., to use irrigated areas for export crops rather than for rice as they are currently used. WB does not give importance to food security. Instead, it would promote even greater liberalization. After all, the free market, according to WB, should dictate the most efficient use of resources. If rice farming is not profitable enough through the free market, then the Philippines should import more rice and farmers should grow more valuable export crops or work in other industries in which the Philippines has a "comparative advantage." However, there are three major problems with this ideology.

Most importantly, the international rice market is simply too thin to depend on. The 2008 food crisis taught us how dangerous it is to be rice dependent and export crops are not the boon that WB presents them as. Hence, rice should be prioritized and supported over export crops.

Secondly, economic crises have periodically decimated Philippine industries since the beginning of the WB free-market experiment at the start of the '80s. This periodic expulsion of workers from industries that collapse creates a labor surplus and depresses real wages. Philippine industry, hobbled by instability, simply cannot absorb many of the would-be farmers. They would more likely join the labor surplus and the urban poor, depressing wages further and increasing exploitation.

Thirdly, turning the Philippines into a supplier for grocery stores in rich countries is more problematic than WB would indicate. Without international institutions to regulate agricultural production and trade (in the liberalized market that WB idealizes), there is no guarantee for commodity prices. For instance, coffee is a major export crop from the Global South to the rich countries but has not proved as beneficial to countries from the Global South as was originally proposed. Amanor (2009) states, "liberalization of coffee has resulted in a crisis of production, in which international coffee prices are at their lowest for decades. … While there is much concern with promoting coffee as a cultured and sustainable product in Northernmarkets, the international marketing conditions under which it is produced are often hostile to producers and undermine their ability to gain a sustainable livelihood". Furthermore, the recent trend in the global food chain has been for greater consolidation of international supermarket chains. This greater consolidation means that the supermarket chains can better use their powerful collective bargaining power to usurp a larger majority of the profits and shift the risk down the food chain by demanding quality standards that are often unattainable for small farmers (Amanor, 2009). This has given a greater advantage to large agribusiness that can pay for the necessary equipment to do the quality control and find the funds to survive a low quality cropping (Amanor, 2009). While large agribusiness may have the advantage of accessing foreign markets, it does not come without a cost to society. The power relations that exist between the agribusiness owner and the workers create large incentives for exploitation. For example, the massive agribusiness farms of California are renowned for intense yields and uniform quality, but the agricultural workers, often migrants from Mexico, are some of the most exploited workers in the U.S. (USDL, 2006). This has been somewhat viable (although not moral) in California with a large laborforce to bring in seasonally from Mexico but the Philippines does not have a Mexico; it will be Filipinos that are exploited. In either case, whoever accesses the foreign market will be subject to the dangers of a drop in terms of trade that would undermine livelihoods and the foreign exchange increase that was originally sought.

Missing the biggest problem: natural disasters and lack of repairs

PIDP addresses disrepair in Philippine irrigation by lending money for repair of large dams while imposing Irrigation Management Transfer (IMT) on those systems, which, as previously discussed, is part of a process to privatize NIA. However, by far the greatest disrepair is actually in small dam systems, which are completely ignored by PIDP. Moreover, IMT is recommended as a reform that will stop the deterioration of irrigation systems, yet IMT has been fully implemented in small dam systems and it has only led to aggravated deterioration.

The areas irrigated under NIA fall into two classifications: large dams called National Irrigation Systems (NISs), and small dams called communal irrigation systems (CISs). In the 2006 PIDP concept paper, the Bank notes the alarming situation where "about half a million ha in the existing service area is not irrigated, due to system deterioration due to inadequate [oversight, management and maintenance] and lack of routine rehabilitation, and improper management of available irrigation water due to technical and institutional deficiencies" (p1). However, out of the 500,000 ha of inoperative service area that the Bank refers to, 300,000 ha are CIS small dam systems. In fact, the CISs are in even greater disrepair: A 1994 NIA audit discovered that 300,000 ha of CIS service areas were permanently non-functional and thus taken out of the accounting. This would put the Bank's number up to 800,000 ha, of which only 200,000 ha are inoperative large dams (70% of constructed NISs are operational versus 30% of CISs) (NIA-CORPLAN, 2008). This raises serious questions about why the Bank considers PIDP an appropriate reform agenda to fix the problem of disrepair in Philippine irrigation when PIDP ignores 75% of the disrepair. This also calls attention to the fact that the reforms the Bank is recommending are actually the reforms that have already been completed on all small dams where the results have been abysmal.

All CIS small-dam Irrigators' Associations (IAs) have long undergone Irrigation Management Transfer (IMT), i.e., they have been given full responsibility for service fee collection, operations and maintenance and paying amortization fees for the cost of infrastructure. The Bank argues that the NISs are in disrepair and thus need greater IMT. However, small-dam systems have completed IMT and are in a much greater state of disrepair.. In fact, the largest problem affecting small dam systems is damage during typhoons or other calamities such as volcanoes, after which they cannot mobilize funds for repair.

When interviewing farmers and NIA officials in Sorsogon, we found a local picture that is consistent with the national one: CISs are generally in disrepair and are not functioning anywhere near peak capacity. For instance, in Montigo, the CIS has a damaged water-gate that floods and destroys a portion of the crop. The small dam for the Bukas Mata CIS, shown in Picture 1, has collapsed after a typhoon, and local farmers have been left to improvise insufficient temporary fixes while they wait for repair funds. When asked if there are similar problems in other areas, Sorsogon NIA Provincial Officer Servio Manlangit declared, "Yes! I know because in every conference, all of the provincial officers [who support small dam CIS systems around the country] complain about the same thing. It's the same thing everywhere!" Tony Ete, IA president of Burabod-San Julian small dam system badly needing repair, opined, "They say they don't have money and what can we do?" Contradicting the Bank's shallow analysis of the issues, the damage to CISs after calamities is the biggest source of irrigation disrepair. IMT does nothing to address this problem.

As there is no budget allocation for repairs after natural disasters, when small dams are damaged, the funds are supposed to come out of the discretionary Calamity Fund of the National Government. However, this fund has been largely inaccessible to small-dam IAs as the government is in a constant debt crisis. Not only does IMT not address this problem, but transferring responsibilities from NIA to the Irrigators' Associations of small-dam systems may have contributed to the disrepair by allowing NIA to treat these systems with an "out of sight, out of mind" attitude—as opposed to the many large NIS systems directly managed by NIA personnel in which NIA has to intervene. It is irrational for NIA to exclude repair costs for small dams from its budget simply because they are less apparent. For an individual area calamities happen sporadically, but on the national level they happen consistently.

Picture 1: Bukas Mata CIS Dam, broken in a typhoon and awaiting funds for repair.

Instead of addressing the problem of natural disaster damage, PIDP simply pushes the small-dam systems further out of NIAs hands, which serves to create a more profitable and privatizable NIAdamaged. PIDP creates a Communal Irrigation Development Fund which will transfer the last responsibilities of small-dam systems that NIA has to Local Government Units (LGUs). This is supposedly based on the principle of devolution, i.e., that government units that are closer to the community will be more responsive to community needs, however, local politics in the Philippines are often rife with corruption. While some LGUs may indeed be more responsive, others may misuse the fund. This reform may endanger many CISs.

Viability of PIDP Privatization

While Geron compares NIA's privatization with the privatization of Manila's public water utility, there is a fundamentally important difference: Manila has millions of middle-class water customers while rice farmers are almost exclusively low-income with almost half (44% in 2006) living below the poverty line (Castro, 2009; World Bank, 2009). While totally unethical, the Manila water companies can achieve profitability by targeting prices for the middle class while excluding the urban poor. It is very likely that NIA will not reach a profitable enough level for full privatization as there are limits to how much more such a homogeneously low-income segment of society such as rice farmers can be exploited. If some level of privatization is reached it will only be with substantial cost and risk sharing through Public-Private Partnership (PPP). If by Stage III the Bank no longer deems full privatization or PPP viable, NIA will be left a shell of what it was and the local Irrigators' Associations will not have the capacity to properly maintain systems. In any of the above possibilities in which the PIDP is allowed to continue unabated, exploitation of rice farmers will increase, irrigation will suffer, and the Philippines is likely to become even more food insecure.

Up to this point the policy aspects of PIDP show that despite benevolent pretenses, PIDP is a highly sophisticated strategy to overcome political resistance to privatization of Philippine irrigation services that subdues resistance from both NIA employees and rice farmers. As verified by Geron, the Bank's leader on PIDP, every major step of the process is intended to create a more profitable NIA that can then attract private sector bids for privatization. In the next part of this investigation we look at the methods that were used to push these policy reforms into law so as to initiate PIDP. Those methods as well as the structure of PIDP's political strategy are then examined in historical context to discover how the Bank arrived at such a point.

The neoliberal era saw a radical shift in US foreign policy and economic ideology at the Bank. While the resulting catastrophes and global unrest pushed the Bank to perform a spectacle of reform, the underlying structure of Bank ideology and practice is still a market-fundamentalist approach that fits US policy while quieting dissent and enlisting new allies. The next section will show the most recent waves of crisis and the latest evolution of the Bank's strategy as found in PIDP.

Emerging crises and strategies

A number of environmental and social disasters associated with large-scale Bank-financed irrigation projects pushed the Bank away from one of the sectors where it was originally most active (see Bernardino, this compendium). Now the Bank is returning to the sector with a neoliberal ideology and practice shaped by years of political upheaval. This time the Bank is not financing new construction (which often entails the political backlash of displacing large communities) but rather repair of deteriorated infrastructure. The Bank is responding

to two imperatives: (1) the 2008 global food crisis showed the importance of irrigation in maintaining food production at pace with population growth; and (2) irrigation infrastructure has been observed to be decaying in the global South (World Bank 2007). Based on the same troubled ideology that justified privatizing drinking water based on environmental strain, the Bank is now offering loans for infrastructure repair with governance reform conditionalities to take privatization measures such as those seen in PIPD.

> While the imperatives that the Bank points out are true and alarming, the Bank has not yet recognized that the Bank's own neoliberal reforms were a major causal factor in both the food crisis and the irrigation disrepair (discussed below). This new intervention in irrigation represents the latest evolution of the Bank's ideology and practice. The connection between the ideology that supported drinking water privatization and irrigation water privatization is further supported by the fact that Geron cited the MWSS drinking water privatization as the model of what they want to do to NIA.

There are potentially massive Bank project loans coming towards irrigation reform under the same terms as PIDP. Bernardino (this compendium) states, "From fiscal year 2010-2013, the World Bank Group's total water commitments, … are projected to be between $21-$25 billion. Agricultural lending for irrigation and drainage is expected to attract attention as a result of the 2007-2008 food crisis." The Bank's framework for intervention in this sector cites the importance of irrigation and the impending limitations of water scarcity as the overarching factors necessitating governance reform and privatization:

> "Water availability for irrigation is increasingly constrained. Irrigation accounts for 85 percent of water withdrawals in developing countries, and the rapid growth of the sector has been based on the availability of huge quantities of low-cost water. Now, rising demand for agricultural water faces increased domestic and industrial consumption. In many areas, there are already rising costs associated with the competition for water. … Governments have led the expansion of large-scale irrigation, but performance has been suboptimal. With strong investment and management input from governments, large-scale irrigation has contributed to rapid increases in food production, the major public policy goal. However, the supply-led approaches and large-scale irrigation infrastructure that were to fuel growth have resulted in bureaucratic institutions that lack the structure and incentives for efficient management and have resulted in inflexible water-delivery systems not capable of responding to farmers' needs"(World Bank 2007).

The problems with this argument have already been discussed in part I of this paper. The point now is to show the basis of this analysis in the Bank's history of crisis and reform within constraints to maintain a neoliberal paradigm. The irony here is that the neoliberal reforms that the Bank prescribes as solutions to the stated problems are more readily interpreted as the causes.

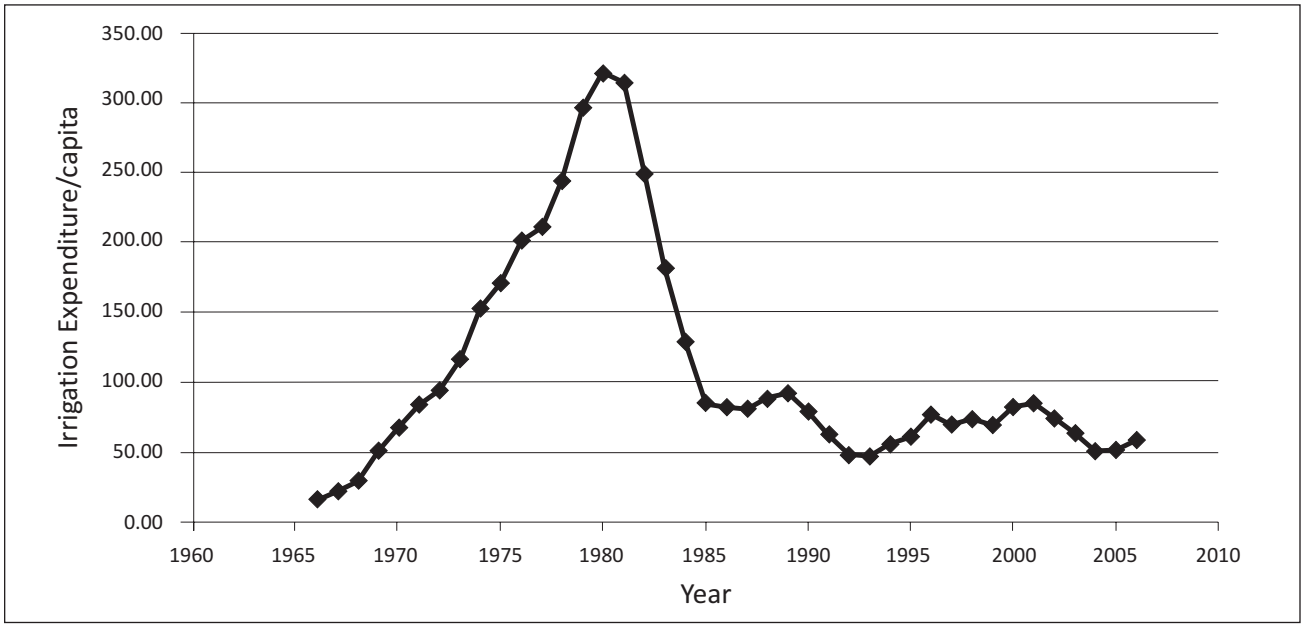
The 2007-2008 food crisis saw massive hunger-based social upheaval: "Some thirty countries experienced violent popular actions in 2007 and 2008. … Across the continents, people came out in the thousands to protest the uncontrolled rise in the price of imported staple goods. Scores of people died in these demonstrations of popular anger" (Bello 2009, p2). In the Philippines, social upheaval was narrowly avoided only by spending approximately 70 billion pesos (~$1.6 bn USD) in emergency measures for rice procurement and distribution. The food price crisis was caused by a combination of changing agrofuel policies, manipulation by private sector traders and a somewhat poor harvest (Bello 2009; FAO 2009). However, these factors would not have mattered if so many countries were not dependent on food imports. Before SAP set in at the start of the '80s, the Philippines and Africa were not only food self-sufficient, they were net food exporters. Currently, however, the Philippines is the biggest rice importer in the world (15.5% of domestic supply (BAS, 2009)), while Africa imports 25% of its food (Bello 2009, p68). To understand how this dramatic transition occurred, one can look to structural adjustment. Amongst the key thrusts of structural adjustment in agriculture were the "drastic cuts in farm subsidies and price supports and the disengagement of both postcolonial states and the World Bank from irrigation support" (Araghi as quoted in Bello 2009, p31). SAP's failure in agriculture was even recognized in the Bank's 2008 World Development Report (Bello 2009, p82). It is important to recognize that, as opposed to the Bank's narrative, food dependency was

not a product of bureaucratic inefficiency, but rather it stemmed from the disengagement of the state from agriculture.

The other imperative that the Bank is using to justify its intervention is the widespread irrigation disrepair: "Costly [irrigation & drainage] investments are deteriorating all over the world. Some of them are in such bad shape that they are useless for production purposes. Poor maintenance is attributed to lack of funding and weak management all along the line" (World Bank 2007). The Bank's prognosis for the problem is that NIA is inefficient and sucks up the funds that should be getting spent on irrigation repair and maintenance. However, understanding the history of the Bank in the Philippines, one knows that state expenditures have been increasingly constrained by debt burden as well as constant austerity measures imposed by the Bank in the neoliberal era. Indeed, examining the capital expenditures spent on irrigation per person (Chart 2), one can see the dramatic correlation between the important stages of Bank practice and spending on irrigation: In the '70s, irrigation expenditures were high at the time when McNamara expanded the lending capacity of the Bank. The beginning of the '80s saw a massive drop in irrigation expenditures as the Bank moved into structural adjustment. In the neoliberal era there has been dwindling irrigation expenditures. In 2006, NIA expenditures were only 63% of what they were in 1989. In 1994 and again in 2004, irrigation expenditures hit lows that had not been seen since the first four years of NIA's existence. Given that irrigation capital expenditures decreased this significantly, it is not surprising that structures have decayed. It is far more plausible that the budgetary strain of debt burden and the neoliberal policy pressures to disengage the state from agriculture were the major causal factors for disrepair in Philippine irrigation than an "inefficient bureaucracy" as Geron argued. For the Bank's explanation of deteriorating infrastructure to have been caused by an inefficient bureaucracy that wastes money, they would have to show that NIA was far more efficient in the 80's than it is now. While it is possible that there are some changes, the changes in capital expenditures are far larger than can be explained by inefficiency.

The Bank's newest strategy to privatize irrigation services is based on the previous ideology of green neoliberalism, that was used to privatize drinking water as a solution to environmental strain and water scarcity, but adapted to current circumstances. Ironically, this time Bank is posing market-fundamentalist reforms as solutions to the hunger and decaying irrigation systems that they observed, when it was these set of reforms that were the original causes of food insecurity and infrastructure delapidation.

Chart 2: NIA Capital Expenditures per person (3 year moving average, 2000 constant USD)



Sources: NIA-CORPLAN, WB Development Indicators.

Part 2: Sovereignty and Food Self-Sufficiency: Policy Alternatives

PIDP brings the Philippines a special opportunity to reassert sovereignty from foreign interests. To seize this opportunity, the neoliberal institutional reforms of PIDP must first be scrapped and new reforms must take their place that prioritize *food self-sufficiency, the well-being of farmers and creating accountable and efficient public services*.

Legislative Agenda for Immediate Change

1. **Recognize that NIA provides a public good and thereby needs government support to provide food security for society.** Food security is a national priority not an individual one. Therefore society needs to help farmers so that this goal can be achieved and not expect profit-making institutions to emerge from this scenario. As the climate changes, there is no telling when an even more severe food crisis may come and the Philippines is left without rice to import. The state should support farmers and food self-sufficiency by explicitly and fully supporting irrigation. The Bank's dream of a financially independent NIA serves to strengthen the government's ability to pay its foreign debt but does not support people-based development or political stability.

2. **Reform NIA by creating ground-up authentic accountability.** This starts by creating a structure in which irrigators' associations can be organized to push NIA to give effective and efficient services as well as organize their own communities to allow for equitable and efficient water distribution. No one else but the direct beneficiaries have the self-interest to engage NIA and push it to be a better institution. The Bank should be kept out of the picture as they have a proven track record of subjugating community needs to the needs of international finance. In this effort though, NIA needs the help of the people's organizations (POs) with proven community-organizing track records. NIA can supply expertise in irrigation and water distribution while the POs can supply expertise in messaging, flexible organizing techniques and structuring of democratic community organizations. NIA and the POs can work together to achieve what neither could achieve singly. In the long run, the irrigators themselves must become the primary partners to NIA in organizing IAs. They must be able to elect leaders that represent them in periodic regional and national forums to continuously strategize and act on how they can make NIA better and weed out corruption at all levels. Meaningful transparency is key. Irrigators must be given the capacity and the opportunity to engage in joint governance, auditing and monitoring. Moreover, there needs to be IA representation to voice the needs of the farmers in the NIA board and any other important decision-making body.

3. **Create a fund within NIA that can be mobilized to repair irrigation projects that are damaged by storms.** The practice of paying for broken infrastructure with the Calamity Fund does not make sense on the national level in a country where typhoons are frequently hitting somewhere. There needs to be a specific fund within NIA that can be mobilized quickly to fix national and communal irrigation systems damaged by typhoons. No set of recommendations can address the failing irrigation systems without this critical reform.

4. **Do not transfer the Communal Irrigation Development Fund to Local Government Units.** This idea was based on creating a more profitable NIA and did not consider that this would place many communal irrigation systems at the mercy of the many corrupt local government units.

5. **Renegotiate or cancel illegitimate debts.** Ironically, while WB reforms have led to suffering, the Philippines has amassed debt to pay for the projects that imposed those reforms and under authoritarian leaders such as Marcos who cannot claim to have taken the loans with the people's interest in mind. This debt is illegitimate and renegotiating or cancelling it is a just and practical way to free up funds that are desperately needed for sustained social investment.

6. Create a strong and progressive tax structure. While contributing to efficiency and accountability, these reforms also demand greater government expenditure. While it is true that the national government is low on funds, this is partly because corrupt officials are robbing the state and partly because of the unstable and insufficient tax revenues. Since 1990, revenues have ranged between 17% in 1997 and 12.4% in 2004 (WB Development Indicators, 2009). Even at its highest fluctuation these figures pale in comparison to American tax revenues, which, at 28% of GDP in 2006, were was among the five lowest of the 30 OECD countries. Moreover, Philippine tax revenues are overwhelmingly dependent on the regressive Value Added Tax (VAT). As the poor invariably spend all of their income on consumption purchases, while the wealthy can afford to save or invest a large part of their income, VAT is a regressive tax on the poor. While the Philippine government may have a paucity of funds, the same cannot be said about Philippine society. There is plenty of wealth but it is concentrated in elite circles that have been sheltered from reasonable taxation levels, i.e., "there is not enough money" is not an acceptable reason to deny the reasonable spending that is necessary for these reforms. A stronger and more progressive income tax, wealth tax, a profit tax and measures to recover resources hidden by the wealthy in offshore tax havens could help tap this massive resource for sustained social expenditures.

Grassroots Partnership for Long-term Change

Take the sovereign democratic policymaking process back by politically punishing elected officials that uncritically yield to the Bank behind closed doors. Changing the Bank into a just institution that fulfills its mandate of facilitating development and ameliorating poverty has been beyond the scope of many efforts as documented in Part 2, however, their influence can be curbed. The public should be educated about the Bank's history as an institution that has been used mainly as an extension of colonial relations and a vehicle of US foreign policy in the global South. It should become a well known fact that the Bank's neoliberal ideology has failed and that the Bank-financed research that justifies the Bank's projects is problematic at best. Moreover, the people should know that politicians that cater to them are not taking care of their interests. To accomplish this, a vigilant network is needed of progressive organizations, media representatives and policymakers who understand that the Bank has controlled Philippine policy for far too long. Whenever a network member catches legislation that pushes the neoliberal agenda, the alarm will be sounded to the public with the name of the policymaker involved and how the policy undermines the interest of the Philippines. With a disciplined and strategic effort by the network, the public will begin to understand and react accordingly. Furthermore, the history of Bank reform should also be well understood to prevent the Bank from going through the spectacle of inadequate reform as it has done so many times in the past.

Annex 1: Acronym Key

ADB-Asian Development Bank
APL-Adaptable Program Loan
CIDF-Communal Irrigation Development Fund
CIS-Communal Irrigation System
DBM-Department of Budget and Management
IA-Irrigators' Associations
GOP-Government of the Philippines
IFI-International Financial Institutions
ISF-Irrigation Service Fees
JICA-Japanese International Cooperation Agency
NIA-National Irrigation Administration
NIMF-National Irrigation Maintenance Fund
NIS-National Irrigation System
OMM-Operation, Management and Maintenance
SAP-Structural Adjustment Program
SPISP-Southern Philippine Irrigation Sector Project
PIDP-Participatory Irrigation Development Project
PPP-Public Private Partnership

Annex 2: PIDP Program Matrix

Long-Term Investments and Institutional Reform Agenda

APL 1	TRIGGERS (from APL 1 to 2)	APL 2	TRIGGERS (from APL 1 to 2)	APL 3
THEME – PHASE I: Start process of NIA rationalization and strengthening, modernization of irrigation systems and transfer of management to IAs.		THEME – PHASE II: Deepening of NIA restructuring and strengthening, Introducing additional policy reforms in national irrigation sector, and expanding modernization of irrigation systems.		THEME – PHASE III: Consolidate NIA's role, consistent with national policy and adopting new private-public partnership, achievement of sustainable financial viability and complete modernization of 205 NISs, adopting substantial use of volumetric pricing
IRRIGATION SECTOR RESTRUCTURING AND REFORM				
(a) Complete NIA Rationalization Plan as approved by GOP (in 5 years) (b) Establish and operationalize NIMF (c) Implementation of NIA Strengthening Program, including fiduciary improvements (anti-corruption measures, FM procedures, procurement management, external/internal auditing, cash management, etc.) (d) Effective IMT implementation in 58 systems (with different Models)	(a) NIA stall reduced by at least 2,000 people (to be finalized with DBM & NIA) (b) NIA personel budget reduced by 15% (to be finalized with DBM & NIA) (c) NIMF is effectively collecting PS savings resulting from RP implementation (d) IMT implemented in 35 systems with contract signed with IAs.	(a) ISF Policy Reform phased implementation (b) CIDF Pilot testing establishment in 6 provinces (c) Implementation of enhanced IMT models (d) Implementation of complementary institutional reform recommendations in NIA (towards permanent configuration), including cash management and financial strategy to perform its defined long-term goal in the sector. (e) NIMF & PTF revised and enhanced on the basis of lessons learned.	(a) Adoption of time bound schedule for introduction of new volumetric pricing policy (b) CIDF pilots successfully established in 6 provinces (c) New generation of IMT methodologies adopted.	(a) Ensure sustainability of NIMF and PTF systems. (b) Achievement of NIA sustained financial viability, according to its long-term role as defined by national policy. (c) Upscale of revised CIDF model for nationwide replication. (d) Consolidation of new partnership (private-public) arrangements in the irrigation sector. (e) Broader adoption and implementation of volumetric pricing policy in relevant system (scaled up) (f) Final roll out of implementation of IMT in all 205 systems.

APL 1	TRIGGERS (from APL 1 to 2)	APL 2	TRIGGERS (from APL 1 to 2)	APL 3
INFRASTRUCTURE DEVELOPMENT				
(a) Investments focusing on rehabilitation and modernization in 58 systems (14 Core A and 44 Core B) (b) Establish pilot areas to test water measurement and volumetric pricing systems.	(a) modernization completed in 35 systems (b) Increase in 15% in irrigated area and 20% in cropping intensity	(a) Investments focusing on rehabilitation and modernization in a second group of 65 systems (b) Introduction of additional measures to make a substantial effort to increase crop diversification and irrigation efficiency (c) Introduction of water measurement and volumetric pricing in (at least) 10 irrigation systems, based on the experience in APL 1.	(a) modernization completed in 45 systems (to be confirmed with NIA) (b) Croppin intensity increased by 20% (to be confirmed with NIA) (c) Water measurement and volumetric charging introduced in at least 10 irrigation systems.	(a) Investments focusing on rehabilitation and modernization in a third group of 82 systems (totalling 205) (b) Additional investments in selected systems to expand effective water measurement and volumetric pricing systems.
SUPPORTING POLICY REFORM WORK				
(a) Year 3: conduct an Independent Revies of NIA's Institutional Arrangements and Role in the context of the national irrigation sector (taking into consideration all factors such as institutional rationalization, strategic planning, ISF Policy, IMT implementation, and national policy for the sector) in order to have a long term vision for the sector (a) Year 3: review of national ISF Policy (in view of national policy, IMT program and NIA's financial viability) to come up with an action plan for reform (c) Years 2-3: carry out a CIDF review, in order to prepare an action plan for pilot testing in APL 2, to ensure effective transfer to LGUs (institutional, financial and technical)	(a) Official approval of new ISF Policy with a time schedule for application uder APL 2 (b) Submission of an agreed action Plan for pilot testing volumetric pricing for selected APL 2 sites (c) Submission of agreed institutional reforms to be done for Communal Irrigation Systems for pilot testing in selected APL 2 sites; and (d) Submission of an agreed institutional development plan for NIA, for implementation under APL 2	(a) Comprehensive volumetric pricing policy formulation (based on Pilot schemes) and recommend schedule for broader adoption (b) Extensive review of NIMF, CIDF and PTF effectiveness (c) Revies study on ways to increase private sector participation in irrigation sector (d) Review NIA's financial situation and recommend additional ways to improve its full financial viability (e) Review measures needed to enhance ISF collection and use (f) Carry out review of potential establishment of water rights system	(a) Official approval of volumetric pricing policy with time schedule for implementation (b) Adoption of final decision by GOP on long term role and status for NIA.	Agenda for the future of the irrigation sector in the Philippines • Unfinished policy agenda • Legal and regulatory Framework • Institutional • Financial • Technical

Stage I:

- Irrigation Management Transfer (IMT) implemented in the first 58 systems.
  - ▷ Under IMT, local IAs of small rice farmers assume many of the risks and responsibilities of oversight, management and maintenance (OMM). As IMT transfers irrigation duties to the farmers, NIA will be progressively scaled down.
- Pilot areas established to test water measurement and volumetric pricing systems and a review of volumetric pricing policy in year 3 to recommend a schedule for policy reform.
  - ▷ Volumetric pricing charges the user for the volume of water used as opposed to the current system where the user pays a flat rate per season per area for service.
- Irrigation Service Fee (ISF) policy review in year 3.
  - ▷ This will set a "market-based price" for water that allows for a profitable NIA without a government subsidy.

- Plan made for pilot testing a Communal Irrigation Development Fund (CIDF) to transfer responsibility of CISs to LGUs.

Stage II:

- Phased implementation of the ISF Policy Reform decided upon in Stage I.
- Comprehensive volumetric pricing policy formulation (based on Pilot schemes) and schedule recommended for broader adoption.
- CIDF Pilot testing established in 6 provinces.
- Additional measures introduced to make a substantial effort to increase crop diversification and irrigation efficiency.
- Water measurement and volumetric pricing will be introduced in (at least) 10 irrigation systems, based on the experience in Stage I.
- Comprehensive volumetric pricing policy formulated (based on Pilot schemes) and a schedule for broader adoption recommended.
- Review study on ways to increase private sector participation in irrigation sector.

Stage III:

- Consolidation of new partnership (private-public) arrangements in the irrigation sector.
  - ▹ This refers to implementation of a form of privatization. There are different levels and models that could be used as laid out by WB (PPP Framework, 2007).
- Broader adoption and implementation of volumetric pricing policy in relevant systems (scaled up) and additional investments in selected systems to expand effective water measurement and volumetric pricing systems.
- Final roll out of implementation of IMT in all 205 systems.
- Upscale of revised CIDF model for nationwide replication.

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The World Bank's Irrigation Management Transfer Programs in the Philippines

Milap Patel

Introduction

The over-all decline in agriculture production in the past decades is seen to be one of the long-run factors that led to the global food crisis in 2008 and 2009. This occurred alongside with the decline in public investments in agriculture which affected the development of infrastructure including irrigation systems. The growth in expansion of irrigated areas declined to only 1 percent in the 1990s compared to a 2% growth in the 1960s and 70's. This is attributed to a major shift in irrigation policy in the 1990's from irrigation development to irrigation management transfer.

Irrigation management transfer (IMT) programs have, in form or another, existed in several countries around the world since the 50s when they were implemented across the US, France, Colombia, and Taiwan.[1] They received a major legitimizing push after the 1992 Earth Summit held in Rio de Janeiro in which it was agreed that water should be treated as an economic good, that water management should be decentralized, and that farmers and other stakeholders should play a more important role.[2] More than 50 countries around the world currently undertake some form of participatory irrigation management (PIM). The Philippines' experience in participatory irrigation management dated back to the late 60s. It was first developed in the mid-1970s for communal systems, and then expanded to national systems in the 1980s.

The philosophy underpinning IMT is that of expanded participation by users of resources (or other private entities) in the administration, planning, and operations and maintenance (O&M) of irrigation systems. According to its promoters, the necessity for IMT, globally, is growing due to 1) rising competition for scarce water, 2) rising pressure to use water more effectively and productively, and 3) rising socio-economic pressures to define water rights more clearly.[3] It is thought, with the appropriate design and support from government agencies, that IMT can transform supply-oriented government administrations into responsive, demand-oriented management systems led by water users. Also the requirement for overstaffed government bureaucra-

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cies can be cut down. If effective, IMT may improve irrigation system maintenance and reduce the need for loan-financed rehabilitation projects. The empowerment of farmers and community-building are also goals for some implementers.

This study aims to discuss the conditions that brought about the shift in policy to irrigation management transfer and the World Bank's broader policy framework It presents two cases of national irrigation systems that are now being transformed into IMT models under the World Bank funded Participatory Irrigation Development Project (PIDP) and discusses the prospects of a "rationalized" national irrigation agency and "empowered" water user associations and their implications on securing food and farmers livelihoods.

The World Bank and IMT

The irrigation sector is the largest recipient of public agricultural investment in the developing world, accounting for 7% ($31 billion) of all World Bank lending from 1953-90. Globally, the Bank supported 614 projects with irrigation components in that time frame, including 365 in which more than half the project expenditures went to irrigation.[4] Bank investments in irrigation projects have declined since the peak in the mid to late 70s and early 80s when there were significant, neo-Malthusian anxieties surrounding agriculture on a global scale (see Table 1 below for breakdown of number of Bank-funded projects and average loan amounts, per decade). After the 70s, disbursals for irrigation were increasingly lumped with wider, 'rural development' projects as priorities shifted towards wider infrastructure projects and packaged services. The rhetoric about 'participation' also began at this time as a way of shifting some of the previously centralized provisions onto users.

Table 1. World Bank Funded Irrigation Projects[6]

Decade	Number of irrigation projects per year approved for loans	Average lending per year (in 1991 US$)
50s	1	$37 million
60s	4	$343 million
70s	26	$1,120 million
80s	26	$1,273 million
90s (up to 1995)	15	$1,032 million

The Bank has been a key promoter of IMT schemes across the developing world from the beginning as it fits in with many of the key tenets that are actively pushed through all loan disbursals for natural resource management – notably on privatization, reduced government expenditures, and the imposition of pricing of basic resources as a way of promoting 'efficient' use.

The most recent publication addressing the Bank's policies in this sector was the 2006 Re-engaging in Agricultural Water Management report. The highlights were the emphases on the decentralization of responsibility for water management, a larger role for farmers (users) in decision making and priority-setting, and the observation that government performance in the expansion of large-scale irrigation has been suboptimal. The supply-led approaches of the past have spawned inefficient public bureaucracies, according to the report, which struggle to flexibly respond to farmers' needs at a time when the scepter of climate change makes a more responsive approach to water management necessary. Also, importantly, the Bank identifies few public sector irrigation agencies and schemes that have become financially self-sustaining and cost recovery generally remains low. The responses are IMT schemes and other public-private partnerships (PPP) in the sector. The report goes on to say "PPP brings in a third professional party that can be the catalyst for improved management and the genesis of a corporate culture," which opens the door for corporate involvement in irrigation provision. The institutional changes required to create a demand-responsive water service delivery typically include a reduction in the role of governments in management and financing, and promotion of decentralization, agency accountability, and scheme financial autonomy as an interim milestone toward full scheme management transfer. Finally the report importantly identifies IMT and PIM as working best as "part of a broader package of rural development"

4. The World Bank and Irrigation, World Bank Publications, Jones, Williams (August 1995)

5. Re-engaging in Agricultural Water Management: Challenges and Options, International Bank for Reconstruction and Development/ World Bank (2006)

6. The World Bank and Irrigation, World Bank Publications, Jones, Williams (August 1995)

and with adequate government support – these assertions are themselves contradicted by the way the Bank's Participatory Irrigation Development Programme (PIDP) in the Philippines is being implemented, as shall be explained below.

Philippines and IMT

IMT-type reforms are not unknown to the Philippines, as the organization of irrigators into user groups – the irrigators' associations –has been a facet of rural life since the late 80s. By 1999, 2,078 IAs operated in nationally owned irrigation systems and 3018 IAs managed communal systems. Overall, these irrigator associations cover 82% of the area developed for irrigation.[7]

Variants of IMT started in the 90s when the first World Bank-supported project pushing for it came about with the Second Irrigation Operations Support Project (IOSP II) and the first IMT contract signed in 1998 in the Magat Integrated Irrigation System. NIA's own strategy has been to institute IMT in its irrigation systems. Other donor supported projects with IMT components include the World Bank Water Resources Development Project (WRDP), as well as two ADB supported projects: the Southern Philippines Irrigation Sector Project (SPISP) and the Second Irrigation Systems Improvement Project (SISIP. NIA itself defined a new contract between it and IAs under the auspices of IMT in which the agency would become a "whole-sale irrigation water manager" for head works and main canals, while newly empowered IAs would take over responsibility for smaller systems. These were just the beginnings however as the initial IMT conditionality and guidelines under this project were somewhat vague. A more concrete and comprehensive program was elaborated under a second World Bank loan in 1996. There was also simultaneously a strong push towards decentralization effort within the Philippines government. In December 1997, the government enacted the Agriculture and Fisheries Modernization Act, which facilitated further devolution in the irrigation sector.

There is a recognized need for some reform of the existing set-up in which piece-meal approaches towards IMT have left NIA reassessing its role, and coming increasingly under fire from the World Bank and other lenders for its mounting financial losses and under recovery rates. Conversations with NIA staff reveal that the agency's income barely covers 50% of expenditure and, on several occasions, staff have had to go several months without pay until the central government stepped in. The agency is a government owned and controlled corporation (GOCC), which means it was created or established by a special charter or law in the interest of the common good but *subject to the test of economic viability*. Administrators within NIA say P10.5 billion is needed to just rehabilitate existing NIS and CIS systems throughout the country, which leaves aside the 1.3 million hectares of rain-fed rice lands (or nearly half the country's rice fields) that represent potential irrigable area for expansion. However the approach that is favored by the agency staff, who have built up substantial local knowledge, over 30 years of experience in organizing farmers, and backed by the financial resources of the government, is often for O&M and rehabilitation of irrigation systems to be left in the charge of NIA. Whether this is merely a government bureaucracy clinging to its old role or out of genuine national interest is one of the issues under focus here.

Under the PIDP and other donor-assisted programs, NIA has drawn up a spectrum of IMT models to be implemented on a successive basis, depending on the success in a particular area of the previous model.

Model 1 highlights

- NIA manages the entire system but transfers specific O&M activities to IAs including:
  - ▹ Maintenance of canals
  - ▹ Discharge monitoring and preparation of list of irrigated and planted area (LIPA)
  - ▹ Distribution of ISF bills and campaign for payment

Model 2 highlights

- NIA manages the main system, from head works to the main canal up to the head gates of lateral canals and transfers to IAs the management of laterals, sub-laterals, and terminal facilities
- Sharing of collections can take two forms:
  - ▹ Gravity system – NIA share in current collection subject to negotiation with IA but in no case should exceed 60% of current account

- ▹ Gravity system – NIA share not to exceed 50% of current account collectible
- ▹ Pump system – 90% of any collection in excess of energy cost to be IA share, balance of 10% to be NIA share to pay overhead cost

Model 4 highlights

- NIA completely transfers to the IA the management of the entire system including the head works and stops all its activities on the management of the system except monitoring and evaluation, collection of seasonal or annual payments from the IA, and periodic technical assistance as may be requested by the IA
- Repayment scheme – NIA and the IA shall agree on annual or seasonal amortization of the IA to repay the investment cost of the project, repayment period should not exceed 50 years

Participatory Irrigation Development Project

The PIDP is supported by the World Bank (via the International Bank for Reconstruction and Development) with a $70.36 million loan. The government of the Philippines will contribute $43.32 million giving a total project cost of $113.59 million for the first phase. The phase 1 project implementation period began in September 2009 with an expected end in September 2014.

According to Bank documents the project's goal "is to improve irrigation service delivery on a financially and technically sustainable basis that will contribute to increased agricultural production and productivity among beneficiary farmers in irrigated areas." The first phase of the project will cover: "(i) Institutional Restructuring of NIA, including the implementation of its Rationalization Plan with substantial downsizing and initial reform in the sector as well as initial implementation of the unified IMT program; (ii) Infrastructure Development Component, covering the rehabilitation of approximately 14 Core A and 44 Core B systems (about 28 percent of the total number of systems in the country); and (iii) Project Coordination and Management. Core A projects are defined as requiring a more intense level of investment (an average of $1,000 per hectare) and target the 14 highest priority NISs that have not been rehabilitated or improved in the last 10 years, showing an advanced state of deterioration and dysfunction. A less intense level of investment is required for Core B systems, which are selected on the basis that they are all previously rehabilitated and improved schemes that were originally funded under foreign-assisted projects during 1992-2005. Their inclusion in the PIDP is for NIA to pursue deeper reforms involving the institutionalization of IMT across the country.

The Case of the Angat-Maasim River Irrigation System (AMRIS)

AMRIS is one of the oldest and largest irrigation services in the Philippines, operational since 1927. Adjoining the Metro Manila region is the Pampanga River Basin (9759 sq. km.) in the north, which includes the Angat River sub-basin in its southeast eastern portion (located northeast of Metro Manila). In this sub-basin, a multi-purpose Angat River Dam/ Reservoir (with a sub-catchment area of 568 sq. km. generates hydro-electricity for the Luzon Grid ,and also provides for 97% percent of the municipal water-supply requirement of Metro Manila (at a capacity of 46 cubic meters per second or almost 4000 million liters per day or MLD) and the irrigation requirements of the rice lands in the province of Bulacan where Angat River passes through before joining Pampanga River which drains to northern Manila Bay. This irrigation provision per season is 15,000 m3 per hectare in the rainy season and 17,000 m3 in the dry season. For this, the irrigation service fee (ISF) is charged at the rate of 3-5 cavans[8] of rice per hectare per harvest, or if the price of rice is low then NIA often takes a cash payment of P1,500 per hectare in the wet season and P2,000 in the dry season. This is identified by farmers a source of corruption since NIA is able to capitalize on high prices of rice by accepting ISF payments in kind.

The surface water resource at Angat Reservoir serves two other purposes aside from being the water supply for Metro Manila – electricity for the Luzon power grid and irrigation for Bulacan (16 municipalities) and Pampanga (4 municipalities) provinces. The areas served for irrigation purposes are seen in Figure 1 below. In the separate releases for water supply and irrigation, hydro-electricity is generated, although higher head is attained and therefore more

8. 1 cavan is equal to 40 kg of palay

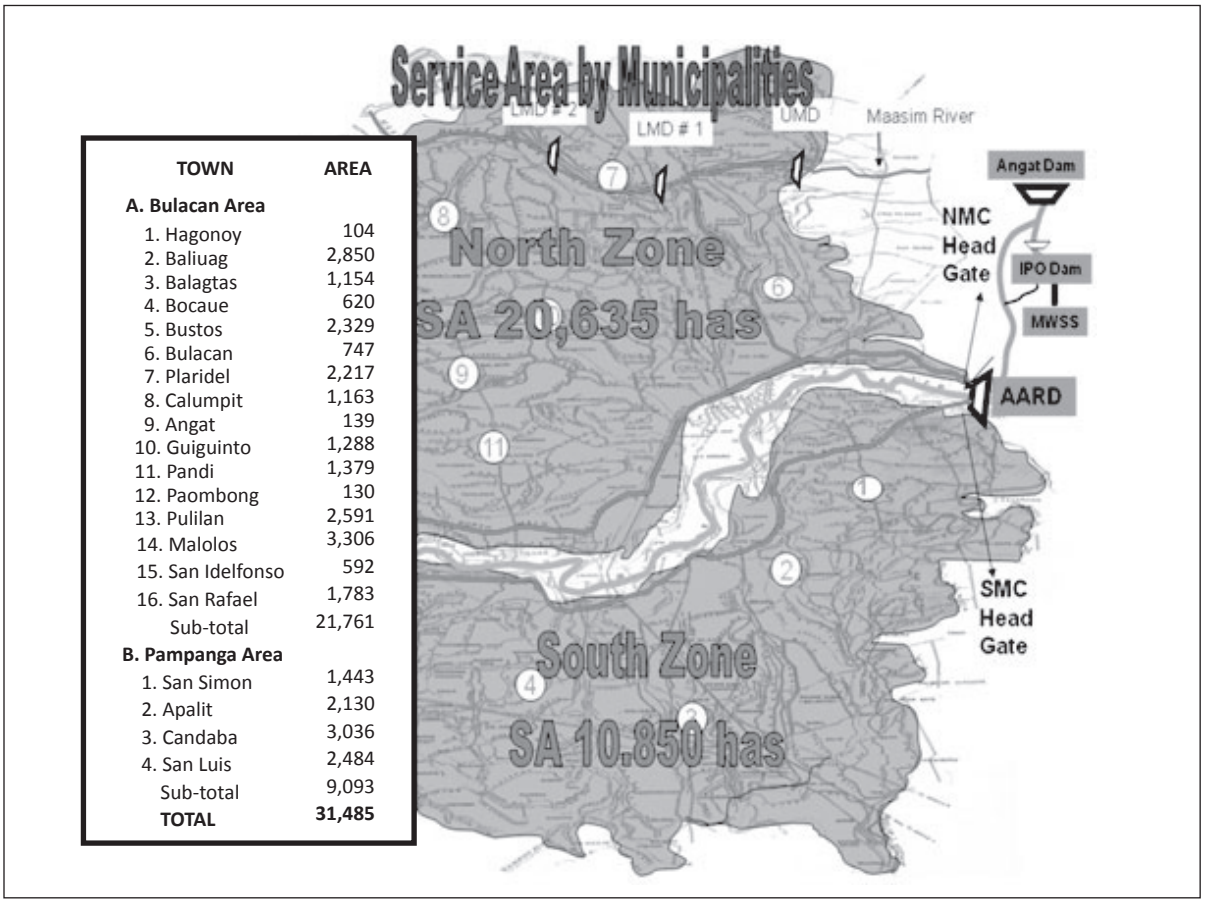
energy can be generated along the outlet works for irrigation.[9] However, the Water Code of the Philippines states that during times of scarcity, domestic water supply has priority over other uses such as irrigation, which has the potential to destabilize farming systems in the Bulacan Province if climactic or man-made conditions are not favorable. Scarcity from the Angat reservoir is defined when the water level dips below 186m, as of July 23, 2010 the level was 158m. The 'Rule Curve' in use by NIA for determining the prioritization of domestic water supply over irrigation is given in Figure 2 below. Conditions are certainly not favorable given the major increases in population taking place in Manila as well as the scepter of climate change. The current drought affecting the Angat reservoir has seen no water being released to farmers for irrigation, delaying the onset of the planting during the current wet season. Therefore the full portion of the reservoir's water is flowing to Manila and past the fields of farmers in Bulacan.

Selected Data on AMRIS from NIA

Sources of water supply	Angat and Maasim rivers
Service Area	31,485 hectares
Number of farmers served	22,190
Average farm size	1.42 hectares
Length of main canal	118,588 km
Lenth of laterals	577,899 km

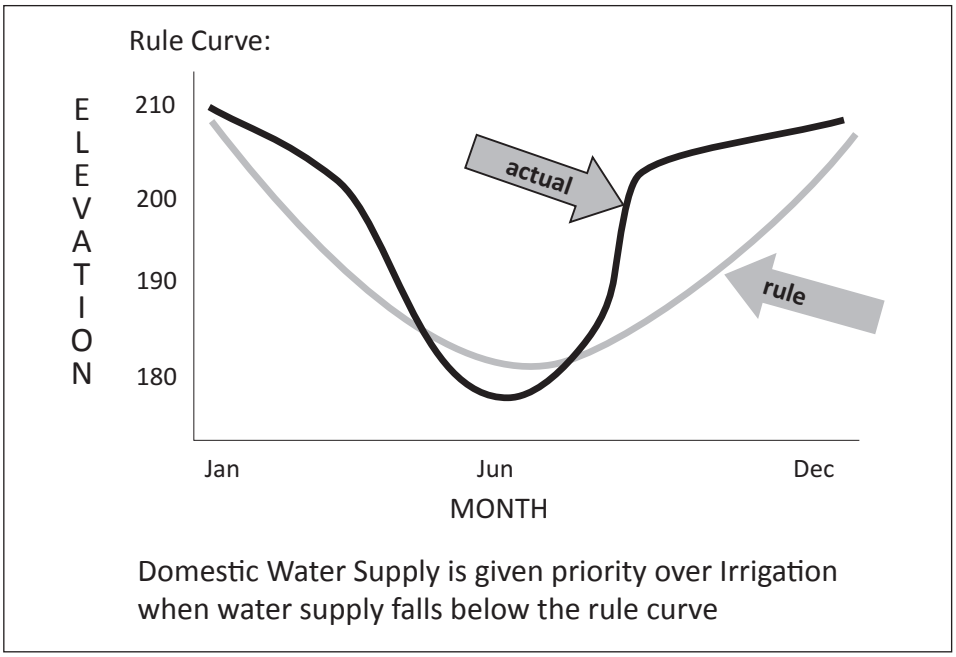
Season	Benefited area (ha)	Average yield (cav/ha)
Wet	19,668	80
Dry	28,345	100

Figure 1. Service Area of AMRIS



9. Water resources management in the Philippines during El Nino episodes, Liongson, Leonardo

Figure 2. Rule Curve by NIA



Agro-economic Profile of AMRIS Region

AMRIS serves approximately 23,000 farmers, of whom 86% are organized into the 103 IAs in operation in the region. What was emphasized by the NIA staff in the San Rafael provincial office was that IMT was not new in this region as IAs had been organized as far back as the 80s and nominal levels of responsibility were ceded to them even then. Farmers in the region overwhelmingly produce rice as their main source of agricultural income with small animals such as ducks and chickens being used primarily for household consumption. Most farmers find it difficult to support their families purely on the land however and many of those interviewed had diversified their income in whatever way they could.

Small-scale farmers in the region usually own or are tenants on land plots that are less than 3 hectares. Yields will fluctuate according to the elevation, proximity to the sea and irrigation canals, and by season. Generally farmers in the area can expect a high of 100 cavans per hectare (usually in the dry season) and a low of 50 cavanss per hectare, although this lowest figure was only reported by one farmer. An average of around 73 cavans per hectare is generally attained. Farmers will keep a portion of this for their household consumption and sell the rest; prices at the time of research were P16 per kilo during harvest time, while after harvest the price goes up to P18-20 per kilo. The buyers of the harvest are usually traders/dealers/or middlemen who come to individual farms to buy the harvest and then take the palay away to be processed into rice and re-sold. Some farmers also report selling harvests to barangay buying stations.

Impacts of the PIDP Project

On NIA

The NIA regional office in San Rafael, Bulacan is one of the implementing regional offices of the PIDP as AMRIS is a Core B project. The end goal of the PIDP Phase 1 is for a Model 2 type contract to be implemented in which NIA will only manage the irrigation waters coming out of the Angat reservoir. However even at these initial stages – at the time of research NIA's official role was to conduct informational sessions with the farmers and IAs and train them to manage aspects of the irrigation systems – NIA staff were expressing reservations as to the capabilities of the IAs to fully manage systems including the financially costly and labor intensive rehabilitation requirements. Training of the IAs is conducted with help from the Bureau of Post Harvest Research and Extension, under the Department of Agriculture. The major impact to NIA through the PIDP project will be the Rationalization Plan (RP) component, which has already begun and is a prerequisite for other aspects of the PIDP to take place. The San Rafael office previously had 6 divisions which are now down to 2. A staff force of 132 will be reduced to 44 by the end of the 5 years. The severance packages of the released workers are financed by the loan. Finally, the 10 field offices (irrigation management offices) in the area will be reduced to 3. The staff at the NIA office will have obvious reasons for opposing the RP but, in many cases, the IAs are also opposing the cuts to NIA personnel since it will reduce their own capacity to attain information from the smaller number of field offices. Another issue highlighted by staff is the persistent fear that after RP and the full implementation of the PIDP, NIA will be an attractive (due to the lack of debt) target for privatization. Based on the experience of other Bank assisted projects around the world, this is not an entirely irrational fear.

On IAs

Contradicting some claims made by NIA, some IAs in the area are still in the dark regarding the IMT process and do not understand the processes leading up to Model 2 contracts. The promised workshops from NIA staff have not materialized for some IAs. An IA representative from the Malolos area said that instead of workshops NIA staff informed them that, by 2012/2013, the IAs will take over not just maintenance of lateral canals (which they already do) but also ISF collections from farmers. The way the contract works is that the more the IAs can collect from the farmers, the higher the share NIA will return to the IAs. However, this particular IA was unsure as to their capability to collect from farmers on top of their other, full-time duties as farmers. As it is, there are problems in maintaining canals due to the low wages set by NIA (P1,500 for 3 km) and sometimes the IA will not have enough money and will have to enlist the neighboring barangay to help. In the Bulacan area one IA had responsibility for maintenance of a canal transferred to it about 6-10 years ago. However the issue of rehabilitating these canals will clearly be too much for the farmers in that IA. The erosion of canal banks is something that the meager financial resources of the IA, regardless of the proportion sent back from NIA from the ISF collections, would not be able to handle. They too expressed a fear that NIA would be privatized and that the ISF would increase.

The Case of the Lupon Irrigation System, Davao Oriental

The Lupon Irrigation System is a national irrigation system located in the province of Davao Oriental in Mindanao and classified as a Core A project under the World Bank PIDP. The total agricultural area covered by the irrigation system is 3,003.27 hectares with the vast majority made up of rice paddies and about 9.5 hectares of banana plantations. More or less the same area in Lupon is covered by CIS schemes giving a total of 5,000 hectares under irrigation projects in the area. The source of the water for the NIS is the Sumlog River which is a watershed for 24,450 hectares across the region. As of June 30, 2010 there were 2,517 farmer beneficiaries from the Lupon IS, spread across 21 barangays in Lupon municipality and 14 in Banaybanay municipality. The provision of water from the irrigation system is 6.9m3 per second. ISF collections are set at P2,250 per hectare in the dry season and P1,500 per hectare in the wet season, with a 10% discount given for early payment.

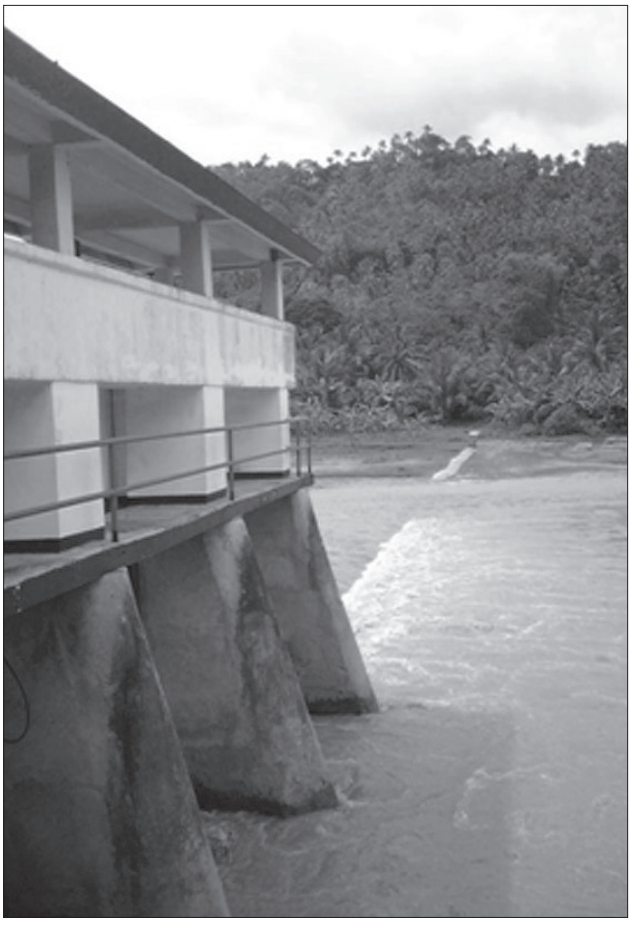


Figure 1 – The existing irrigation system, built in 1972

Figure 2 – A view of the affected settlements

The current system is a river diversion project built in 1972 that diverts water from the Sumlog River into an irrigation canal (see photo). Under the PIDP, works to be done include construction of a protection dike, canal lining, canal structures, and dam improvement and drainage system to select parts of the system. Seven families living along the banks of the river will be affected by the increase in the height of the protection dyke by 1-2 meters and will have to be rehabilitated elsewhere (see photo above). The barangay around the project area, Barangay Tagugpo, will receive 5% of NIA income from the project. Total cost for the entire PIDP project in the Lupon IS, including construction, rehabilitation, and IMT work, will be P48.57 million. Construction will start as soon as funds are allocated, which is expected next year (2011), and the entire project will finish within 5 years. Construction funds are estimated to be P27-28 million with the contract and bidding to be coordinated by the national NIA office in Manila.

The program of works will see money from the institutional fund being released first for training the IAs by the institutional development officers (IDOs) – approximately P1.7 – 2 million for this purpose. The IDOs have already submitted the required documents and training will begin by the end of 2010 although one or two IAs have already had trainings conducted. The pre-engineering and survey has already been conducted and the regional NIA office is awaiting reimbursement for funds spent. This will be followed by the implementation period, which will be in 2011, and finally payment to the dislocated families.

Agro-economic profile of area

The areas in Davao Oriental in which this project was initiated are widely known in the wider region and country for producing a desirable rice variety and in large quantities – enough for Lupon and Banaybanay to be known as the 'rice baskets.' The Banaybanay 7 tonner (IR-64) variety of rice comes from the area and the land is also supportive of one of the Philippines largest coconut economies. Upland areas grow copra which fetches P15-22 per kilo, corn that is sold for P18 per kilo, and bananas which are sold for P250 per kilo. There are generally 2 croppings of rice per year in the area with the average yield about 90 kabans per hectare (in this case, where 1 kaban is equal to 45 kilos). The reasons for the high agricultural production potential in the area are the well drained, flat land, good soil, and placement away from the main typhoon belt which means there are few problems with flooding and water-logging. Despite all this, as of 2007 the entire province of Davao Oriental suffered a 44% rice deficiency with a 28,555 MT deficit in the supply of rice.[10] The provincial government aims to achieve a 68% sufficiency level in rice by the end of the year, although this is a far cry from decades past when the area was able to supply not just its own needs but other parts of the country as well.

A significant and, to some, disturbing new trend in the region is the growing prominence of vast hybrid seed farms set up by local and foreign private sector companies that take advantage of the high agricultural potential of the region. The Invest in Davao Oriental website set up by the provincial government states that the region "supplies the whole country with the highest volume of hybrid rice seeds" and much is also exported to other countries in Southeast Asia. Many farmers in the area, in private interviews, said they refused to use the hybrid seeds produced by the companies due to the larger fertilizer and pesticide requirements as well as higher up-front cost, which is why much of the produce is exported. Interviews with activists and employees of some of these private companies revealed that there are six major companies operating in Davao Oriental: Sterling, Pioneer, Davao Oriental Seed Production Cooperative (DASEPCO), Development Genetics (DevGen), High-Rice, and Bayer Crop Science.

- Sterling is a Taiwanese company that has been operating in the Lupon area since 2000 with a 10-year license from the municipal government (that has since been renewed). They operate a land-lease scheme in which they rent land from farmers for P26,000 – P30,000 per hectare, per cropping to grow hybrid seeds. They currently contract about 400 hectares in the area. The contract type will depend on the farmer but the company has signed as much as 18-year land

10. Rice Industry Background/Situationer, Davao Oriental Invest website http://davaoorientalinvest.com/main/?page_id=115

lease contracts. The seeds and technology are provided by the company, which also pays the farmers' ISF on their behalf. The post-harvest activities such as drying and milling are all done in field before the seeds are exported to Taiwan.

- Pioneer operates a similar land-lease scheme and will pay farmers P23,000 – P25,000 per cropping per hectare. The higher amount is for farms with road access. The owner of the land is the grower of the produce and Pioneer will buy the produce at P150 per kilo.
- DASEPCO is a cooperative seed production company that only recently began operations. It has taken on about 300 hectares and will also buy produce at P150 per kilo.
- DevGen is an Indian company that also produces hybrid seeds for exports
- High-Rice is on its first cropping and has about 130 hectares. It also operates a land-lease scheme.
- Bayer Crop Science, a division of the German multinational chemical company, has been in the region for the last 16 years producing hybrid seeds using in-house technology. They operate a growers scheme in which they provide financing to growers, around P35,000 per hectare for all farming expenditures from land preparation to harvest. This amount is deducted from the farmer's earnings after harvest. Bayer achieves yields of about 1,000 kilos per hectare.

The figures given by local activists suggest that about 40-50% of the total agricultural area in the region is now given over to seed production. Farmers in most cases choose to enter into contracts with the companies because they lack the capital to profitably and sustainably produce rice for consumption. From a food security standpoint, these developments should be viewed with some trepidation and the claims of the local government in increasing the food self-sufficiency rate to 68% must take these developments into consideration. While the local governor has expressed support for regulating seed production in Davao Oriental, attracting agricultural investment has been stated as a national priority. An abdication of the government's duty to support small-scale farmers in producing food has led many to seek these private, for-export arrangements.

An environmental dimension to the Lupon Irrigation System has to do with the upstream conditions around the Sumlog River. Significant deforestation and mining has taken place around the watershed and siltation is becoming a major problem for the irrigation system. Farmers complain of having to undertake dredging around the canals every cropping and whenever there is a large quantity of rain due to the build-up of earth that is flooding down the river.

A local NGO, Save Sumlog River Alliance (Sasura), was formed two years ago and filed petitions with local authorities requesting them to stop mining operations in the forests upstream and conduct investigations into the damages. The chemical wastes from mining operations are being dumped into the river and pose a major threat to farming operations downstream as well. NIA has also played a major role in calling for action to halt the degradation of the watershed. A proposal was put forward to the World Bank to include within the PIDP work a constriction of the river 200-400m both upstream and downstream to raise the water levels and increase water pressure to flush out the silt. This proposal is pending environmental clearance.

In much the same way as Bulacan province, the farmers that were interviewed as benefitting from the Lupon IS were all over the age of 50 – signifying perhaps a general trend in agriculture in the country. The average yield from rice farming is around 105 cavans per hectare. Buffalos, cows, and pigs are kept by some of the more prosperous farmers for consumption and work around the farms while less wealthy farmers will have poultry to supplement their diets and incomes. The price per kilo of unmilled palay in the area is around P17 while fully processed rice will fetch P1,600 per cavan at 50 kgs per cavan . The buyers of palay are usually traders who come to farms individually or buy from central processing stations.

In terms of expenditures, tenants generally give the landowners about 25 kabans per hectare per cropping. As with other parts of the country, there is a skewed land holding pattern with some farmers interviewed with 200 ha under their management while others will be tenants alone on less than 2 hectares. Casual farm workers are taken on by the management of these large farms during planting and harvesting; they will pay P2,600 per hectare for planting that is supposed to be split by as much as

25 people, while harvesting (pulling) will see an expenditure of P1,700 for as many as 6 people. Expenditure on fertilizers and pesticides will be between P20,000 – P30,000 per hectare and these are bought from distributors in the municipalities. According to some farmers, seeds are subsidized by 50% thanks to an initiative of the provincial government, although not all farmers were accessing this. Generally the large-scale farmers were able to self-finance their next harvest. But many small-scale farmers had to access loans from institutions such as the Land Bank at rates of approximately 2% per month for 4 month duration loans, though of course these terms will vary. There was some flexibility reported in ISF payments where the local NIA office would exempt farmers during calamities, however, as previously stated typhoons are infrequent in the area.

Impacts of PIDP Project

NIA

The Rationalization Plan (RP) of NIA has already been implemented to a large extent in the Lupon regional office. The expenditure on rationalization of staff will be taken from the P48 million allocated from the entire WB provided funding. The final judgment on cost allocation for the entire project was done by technical personnel from the WB (the initial request was for P67 million but that was downsized). The RP involved amalgamating the Provincial Irrigation Office that was previously in Mati with the Lupon NIS office. The staff from the Mati office were 16, which is now down to 12, while numbers in Lupon fell from 21 to 13. A total of 25 includes 6 on a contractual basis. There were plans for the Davao Oriental and Cumbal offices to be merged but these have been shelved for the time being.

Some of the major issues that emerged from discussions with NIA staff had less to do with the actual RP than with the implications of IMT on irrigation in the region. The staff, many of whom had been with NIA for decades, were concerned with the small amount of funding that was given by the World Bank for lining the canal systems. The demands of the NIA staff were for the whole system to be lined with concrete (about 25 km) but the PIDP project calls only for 3 km to be lined (10% of the requirement). For this reason many NIA staff don't see the possibility of the IAS taking over the maintenance of over 75% of the system due to the financial and operational constraints they operate under.

IAs

Farmers generally join IAs either through compulsion, since that is one of the only ways to access NIA irrigation services and not be declared an illegal user, or because they see it as a useful way to manage the water rights and access in their communities. The IAs also manage conflicts between farmers that can sometimes flare up due to accusations of excess water usage in its monthly meetings. As has been demonstrated, NIA encourages greater financial responsibility by the IAs by increasing the rates at which it redistributes funds to the IAs for every 5% increase in collection ratios. 100% collection ratio of ISFs will see the IA receive back 20% of the total figure. These funds are then supposed to be used for the O&M activities. Cleaning of canals will garner a worker a mere 50 centavos per meter, which the IAs referred to as 'snack money.' Some IAs had

requested from NIA larger machines such as dump trucks that could be used to help de-silt the canals, a problem that can only be expected to grow unless the logging and mining activities along the Sumlog are not contained.

The IAs that were interviewed expressed optimism that, after the required training, they would have the capacity to undertake even more activities, as seen in model 4 contracts. The system as it is in the area seems to be working well enough. However there is very little knowledge among the IA members as to what exactly the next steps under the PIDP are and what sort of activities their IAs will have to take on.

Conclusion and Recommendations

The irrigation reforms currently being pursued across the country must be placed within the wider ecosystem of farming in the Philippines and the very real need for meaningful agrarian reform. This paper is an effort to address that need and counter the overly technical prescriptions from the World Bank that operate in a vacuum from the wider agricultural society. A process in which irrigation users and the already-existing irrigator's associations self-organized and agitated for changes in existing regulations to better gain control over irrigation systems – a so-called bottom-up approach – would signify an actual necessity for these reforms. What has transpired, however, has been the usual prescriptive, top-down approach favored by the Bank and government agencies. A need for IAs to take over operations and maintenance has been manufactured in the name of participation in order to relieve a government agency of its responsibilities and debts and perhaps prime it for eventual full privatization. This top-down approach is particularly inappropriate given the lack of a comprehensive and holistic approach towards tackling the entire range of problems being faced by farmers in the country, as highlighted throughout this report using the example of just two regions. A prescriptive policy approach for irrigation reform can work if two conditions are met: one is a strong government and administration with competent leadership and legitimacy towards citizens are needed. Second, policies that contain strong incentives for irrigators to participate are also necessary.[11] It can be seen that these conditions are not fully realized in the Philippines and will therefore hamper the efforts of the PIDP going forward unless a greater legitimacy is met.

The wider issues that have been brought up include: pressures from urbanization and an inadequate land conversion law, the advancing age of most farmers, insufficient government support for farm inputs, predatory lending practices, the threat of climate change, deforestation and other environmental issues, the growing trend towards big agribusiness that threatens a food security perspective, and the corruption within government bureaucracies. While it may be out of the scope of the project to address all of these issues, there should at least be greater consideration for them.

The financial viability of NIA is driving a large part of these reforms and it is undeniable that the agency is facing a funds crisis. However this begs the question: as a government owned and controlled corporation (GOCC) that was set up in the public interest, can we expect it to be profitable? Especially when the benefits and agency staff skills that have been built up over the decades contribute to efforts in achieving food security? The PIDP project has few elements that seek to reform NIA, as opposed to merely downsize it, and reduce the corruption and mismanagement that afflicts it and farmers' interactions with it.

Until the Bank and its partners in government start thinking about participation for whom and under what circumstances, projects that play lip service to empowering farmers will remain half complete and unable to truly transform the rural economy of the Philippines.

11. The Policy Process in Irrigation Reform: Technology, Mollinga, Peter, Rural Development and Politics, International Network on

Roxas-Kuya River Irrigation System Maramag, Bukidnon

A Case Study on World Bank - PIDP

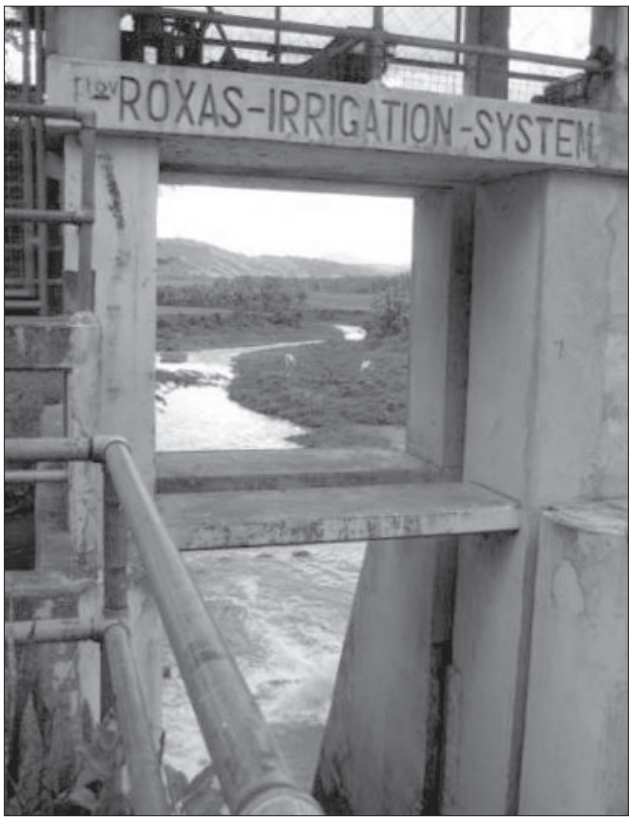
Ananiza Aban

Rationale:

The World Bank has recognized a number of challenges that the Phlippine government faces in the irrigation sector. Among them are deteriorating irrigation systems, inadequate attention to operation and maintenance (O&M), lack of routine rehabilitation, and improper management of available irrigation water. It observed that for the past two decades, the National Irrigation Administration (NIA) has been unable to provide sufficient technical and institutional support for irrigation service management and as a result, has been unable to provide efficient irrigation services in many of its national irrigation systems (NISs). Such failure has affected revenue collection, generated operating losses and depleted financial resources. (The World Bank, 2009)

The Bank also observed the gap between the irrigable service area and the actual irrigated area. The aggregated area that is actually irrigated by NIS has been stagnant and even declining despite the considerable investments that NIA receives yearly from both foreign loans and national government budget. Under its Country Water Resources Assistance Strategy prepared in 2003, the goal is to close this gap through a transition into irrigation management transfer (IMT). (The World Bank, 2009)

Key emphasis of the IMT scheme will be the turning over of NIA's responsibility to IAs in the areas of irrigation water management, systems operation and maintenance (O&M) and financial management



systems. Under the O&M system is a formula for the sharing of ISF (irrigation service fee) collections so that funds will be readily available for minor repairs and maintenance . (The World Bank, 2009)

The focus of IMT under the Participatory Irrigation Development Project (PIDP) will be on: (The World Bank, 2009)

a. Formation and development and capacity building of IAs on the IMT process, report requirements, scheduling of water delivery, financial management, billing and collection, maintenance work
b. Traning of NIA personnel their new roles in operating and maintaining the NISs
c. Establishing effective monitoring and evaluation procedures of transferred irrigation facilities
d. Dissemination of information and advocacy for the IMT Program

This corporate strategy form part of the government Rationalization Plan under Executive Order No. 366 where functions of NIA personnel will be transferred to irrigators' associations (IAs) which will then be considered as O&M partners or contractors. NIA then has to reorganize and downscale its operating units.Through PIDP, government made a special request to WB to include a component to support the NIA staff separation package who will be affected by the Rationalization Plan . (The World Bank, 2009)

Objectives of PIDP

1. To improve irrigation service delivery on a financially and technically sustainable basis that will contribute to increased agricultural production and productivity among beneficiary farmers in irrigated areas that will enhance food security
   a. Assist government in introducing policy and institutional reforms to improve the corporate viability of NIA as part of reforming the bureaucracy in the irrigation sector
   b. Improve the investment climate
   c. Promote better governance in the irrigation sector

Project Description

The Philippine Government opted for an Adaptable Program Loan (APL) that will be implemented in three phases over a period of five (5) years each. It has entered into a contract with WB by signing on August 7, 2009 the first phase of this 15-year loan amounting to US $70.36-Million (Php 3.166-Billion) to finance the PIDP. (The World Bank, 2009)

The first phase (APL Phase 1) will be the implementation of the irrigation sector restructuring and reform through the Rationalization Plan, infrastructure development and project coordination and management. Under this phase, water measurement and volumetric pricing policies will be introduced that would give the basis for key policy decisions. Project indicators are: improved financial viability of NIA, increased O&M responsibility of IA in NISs and increased irrigation efficiency and promotion of reliable access to water. (The World Bank, 2009)

The focus of the second phase (APL Phase 2) is the support to the expansion of coverage of IMT

schemes, NISs modernization to improve their efficiency, performance and financial viability, and scaling up best practices and strategies. The pilot testing of a volumetric pricing system on selected sites will be under this stage. (The World Bank, 2009)

The third phase (APL Phase 3) is the completion of over-all PIDP program development, and modernization of O&M based on NIA-IA partnership. This phase would also cover additional areas and consolidated support for routine rehabilitation and adaptive improvement of irrigation systems. The last part of the institutional and policy reforms under this phase is the consolidation of a new private-public partnership in the sector in accordance with national policy decisions of the Philippine government. (The World Bank, 2009)

Project Implementers

In behalf of the Philippine Government, NIA is the executing agency for project implementation of PIDP. The overall management of the project shall be with the Engineering and Operations Sector (EOS) of NIA, headed by a Deputy Administrator. An inter-agency called PIDP Project Steering Committee (PSC) is established as the highest decision-making body for the project that will review the progress of implementation.

NIA will establish a Project Management Office as a secretariat to the PSC composed of a small group of full-time specialists whose main task is to coordinate the overall planning, implementation, fund disbursement and supervision of PIDP activities in accordance with the approved operational plan.

Irrigation system profile:

The Roxas-Kuya River Irrigation System (RIS), is considered the oldest irrigation system in Mindanao, with a run off the river type irrigation located in the Municipality of Maramag in the Province of Bukidnon. It was constructed in January 1958 during the time of the late President Manuel Roxas. The system draws water from Kuya River, with a target service area of 1,011 hectares. Its present irrigated area is 790 hectares. (Andilab, et. al., 2007)

River discharge of Kuya River is augmented by the water diverted from Muleta River Diversion Dam considering that it has a common intake for the service area of Main Canal Extension and Kalagutay/

Coroña area. The discharge of Maramag River diverted by the Roxas Dam is substantially increased by the irrigation waste water from the mid service area of Muleta RIS draining to the river. (Andilab, et. al., 2007)

Total project cost for the Roxas-Kuya RIS is P11-Million, according to IA and NIA staff interviewed. The funding counterpart under PIDP is Php 4.2-Million which is target for completion on December 2013. The proposed appropriation for year 2010 is P2.5-Million, target to be finished by January 2011. (NIA Bukidnon, 2010)

This irrigation system is under Core B Systems of PIDP which was selected on the basis that it is previously rehabilitated and improved originally funded under WB's previous Water Resources Development Project (WRDP). The main reason for assisting the

Roxas-Kuya Dam which gets water from Maramag River, located in Brgy. Base Camp

Core B systems is to reduce the gap in irrigation service areas and the original irrigation design areas through specific investments and capacity building of IAs to sustain the gains. The Bank's investment is on improvement of water measurement, control and equitable water distribution, and minor repairs of irrigation facilities and structures. (The World Bank, 2009)

Research Methodology

This is a one-shot case study using the non-experimental technique. Sampling used was a combination of purposive and snowball technique.

Data was obtained through documents review, interview of key informants and field investigation. One-on-one interview was done with NIA personnel and members and officials of irrigators associations. A semi-structured interview was done with officials of the Bukidnon provincial planning office.

Main canal of the Roxas-Kuya RIS

Scope and Limitation

Field interviews and ocular visit were conducted on September 17-21.

The interview with key informants was dependent on their availability during the field work schedule. The study had a chance to get the side of all project implementers through their key representatives.

Assessment will be focused on current socio-economic condition of farmers as irrigation beneficiaries as they enter another phase of transition under PIDP which has just started in 2009.

The research will be problem-oriented wherein problems will be discussed in the study as raised by the key informants. The purpose of such discussion is to enlighten key agencies on how PIDP impact on the ground as it moves towards its 15-year implementation.

Ricefields at the upstream of irrigation channel

Data Presentation

Economic direction of Bukidnon

Bukidnon is dubbed the food basket of Mindanao and the pineapple capital of the world, having the biggest plantation in the Far East. But aside from that it is also the country's major producer of rice, corn, sugar, coffee, rubber, tomato, cassava, other fruits and vegetables. It is also a major producer of hogs, cattles and poultry. (PPDO, 2008-2013)

As of year 2008, corn is the major crop planted to 197,177 hectares (has.) with a total yield of 740,869 metric tons (MT). This was followed by palay which is planted to 72,934 hectares with a total yield of 297,296 MT. Total irrigated areas is 67,501 has., producing 279,399 MT while rainfed is 5,433 has. producing 17,897 MT. (BAS, 2009) The province boasts of being the top rice producer in Northern Mindanao (Region 10) with a rice sufficiency level of 172 percent. Local rice consumption is only 5,172 MT/ month or 62,064 MT/ year. (Balane, 2008)

Among the commercial crops, sugarcane has the highest production of 3,421,408 MT planted to 57,170 has., followed by rubber with 9,815 MT planted to 4,365 has., then coffee with 4,890 MT planted to 10,472 has. (BAS, 2009)

One of the major agribusiness that thrive in Bukidnon is Del Monte Philippines, Inc. which was established since 1928 engaged in pineapple production and cattle fattening. The Bukidnon Sugar Milling Corp. and Crystal Sugar Milling Company also operate here contributing 18 percent of the country's sugarcane production. Big corporations that have invested in fruits including the Cavendish banana variety and high value vegetables are the Lapanday Diversified Products Corporation, Bukidnon Highland Farms, Mt. Kitanglad Agri-Development Corporation, Dole Philippines, and Mt. Kitanglad Agri-Ventures, Incorporated. (PPDO, 2008-2013)

Bananas and pineapples top the province's major fruits production. Total banana production in year 2008 is 1,133,255 MT from 19,439 has. of area planted with the fruit. Among the banana varieties, the Cavendish variety which is largely for export, is way ahead with 1,076,000 MT from 15,500 has. of area planted with such variety. Pineapple posed the second with 1,000,895 MT from 18,610 has. of plantation area. (BAS, 2009)

With its high investment climate, the province also accommodated food manufacturing giants like San Miguel Corporation, Monterey Farms Corporation, Swift Foods, Incorporated and Tyson Agro-Ventures, Incorporated that have intensified their contract breeding and growing operations here. (PPDO, 2008-2013)

While the province projects a comparative advantage in terms of economic investment, its residents whose majority are agriculture-based, are at the margin of development. Low family income is largely caused by low agricultural productivity and lack of productive endeavors especially in the rural areas where farmers have no other source of livelihood to augment the meager income from farming. Reluctance of farmers to expand production is attributed to lack of capital and poor access to credit for production purposes, lack of post harvest support facilities particularly in the far-flung barangays, the low adoption of modern production and value adding technologies and the high cost of production. (PPDO, 2008-2013)

Profile of farmers

This community is largely composed of smallholder farmers with an average landholding of 1.73 hectares/ farmer (Andilab, et.al., 2007), distributed in Brgy. Base Camp, Kalagutay and Kampo Uno and Sitio Patag of the Poblacion in the Municipality of Maramag. To augment the family income, some have a smaller portion of land planted to corn and other staple food crops. The economically better among them are also into small entrepreneurship by operating eateries, sari-sari stores or as neighborhood rice retailers.

But many are still solely dependent on rice farming. Among the Patag-Coroña IA, 20 percent of them are not landowners but work as farmers-maintenance of another landowner's ricefield. The landowner

A farmer harvests palay in Sitio Patag, Poblacion

A field of golden palay awaits harvest

usually shoulders the farming expenses and gets 80 percent of gross income. For every 100 sacks of harvested palay, 20 sacks go to the farmer-maintenance, at 50 kilos/ sack. For the land renters, they usually pay Php7,500.00 per cropping per hectare.

Self-financing is their usual scheme obtained from personal income and savings or from other sources of livelihood. They have also patronized rural cooperatives operating in the province.

In-bred and hybrid varieties are the rice seeds used which are generally sourced from the Department of Agriculture (DA) and rice research institutions such as Philrice.

QTA program:

Some farmers here are also beneficiaries of the Quick Turn Around (QTA) Program of DA through NIA and the local government. This is a government food security measure by increasing rice production to augment the production performance of the rice program in the second semester of 2009. Areas qualified for the QTA are irrigated rice areas that can still be planted twice within the wet season. Certified seeds were distributed to farmers on full subsidy on a 1 bag per hectare scheme but is limited to 3 bags maximum for those having more than 3 hectares. The distribution was through the office of the municipal or city agriculture based on a validated listing of farmers from NIA, DA, and LGU. (DA Regional Field Unit 10, 2009)

However, productivity was unexpectedly low after they have altogether planted rice of different varieties. In the absence of or minimal technical advice from government agencies that distributed the seeds, half of those in Roxas-Kuya who availed this program experienced cropping failure. NIA said that around 165 hectares in the area can avail of the QTA based on the criteria of ISF efficiency, attendance in IA meetings and active involvement in the *pahina* system.

Project planning and implementation

There are two strategies of management transfer for the Roxas-Kuya using the PIDP framework:

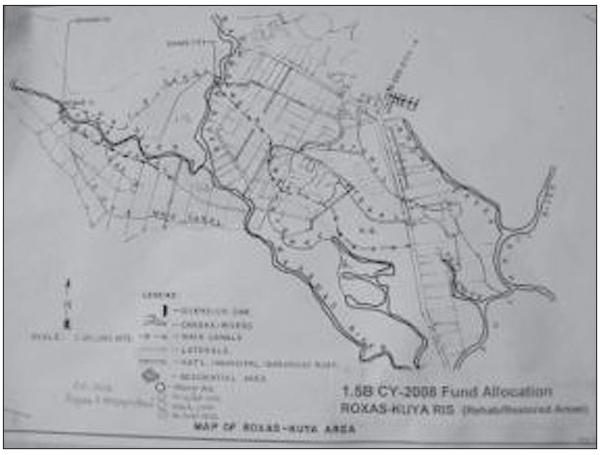
The Kalagutay IA will be taking the Model 3.

> Model 3- NIA manages the headworks and portion of the main canal up to the junction of the first lateral canal and transfers to the IA the management of the rest of the system downstream of the specific junction (The World Bank, 2009, p.55)

At this point, the Patag- Coroña IA, being a pilot organization under PIDP, will execute the Model 4. To realize this, three (3) of its officials, including their president, are working for an on-the-job training in the NIA office in preparation for full transfer of the system to their association.

> Model 4- NIA completely transfers to the IA the management of the entire system including the headworks and stops all its activities on directly managing the system except on monitoring and evaluating the IA performance, collecting seasonal or annual payments from the IA, and periodic technical assistance to the IA by its Irrigation Management Office that has jurisdiction on the system. (The World Bank, 2009, p.55)

The PIDP, being only approved in 2009 for its first



Maps of the Roxas-Kuya Area

phase, is still in the early stage of its implementation. NIA claimed to be in the process of giving orientation to supposed farmer beneficiaries through their TSA (turn out service) level concerning IMT which they started in mid-2008. Although they admitted to be lacking in workforce as the Rationalization Plan is now slowly taking effect as some of their colleagues are about to leave the service and the office is currently doing staff reorganization.

On the ground, a gap can still be observed as ordinary farmer- beneficiaries who are the actual payers of the loan, cannot yet explain the transition process of IMT under PIDP, the content of the proposed project and its corresponding loan from the WB. In terms of financial management, what they are rather more conscious of is the ISF they need to pay every cropping being users of the irrigation facilities.

There are lessons to be learned somehow under WRDP in terms of how farmers have comprehended the banking transaction of government with an international financial institution, especially the details of loan conditionalities. Among the farmers interviewed it was noticed that only the IA president was able to substantially explain the investment plan and the essence of management transfer which was slowly been institutionalized by WB during this period.

The issue of project sustainability was already raised by WB in its project appraisal period where success of this PIDP will depend on active participation of the IAs and supported by the IMT contract, allocation of sufficient funds for O&M, and close interaction with the NIA Field Offices, thus motivating them to exert their best efforts to keep the system running efficiently. (The World Bank, 2009, p.18) In the absence of these components, it will be difficult to measure the extent of success of PIDP at the end of the project period.

Self-reliance of IAs and mitigating measures conducted

The Roxas-Kuya RIS has two IAs which are under the Federation of Muleta Irrigators Associations. Each IA conducts a regular monthly meeting while a federated meeting among IAs is also held monthly at the NIA office.

i. Patag Coroña Irrigators Association (PCIA)

ii. Kalagutay Irrigators Association (KIA)

Cropping scheme:

Farmers in Roxas- Kuya experience an average of 2.5 croppings per year or 5 croppings within 2 years. This is so because they only allot a little time for the land to rest. Their average cropping is 90-100 sacks per hectare per cropping. Average overhead expenses is Php 18,000-20,000 per cropping.

Below is the current ISF payment scheme and is usually based on the current palay pricing of the National Food Authority (NFA). The value of palay during the recent cropping is Php 15.00/ kilo.

Dry season – the value of 150 kilos/ hectare/ cropping

Wet season – the value of 100 kilos/ hectare/ cropping

Collection efficiency:

As of recent ISF payment, collection efficiency rating of PCIA is 95.61 percent. (PCIA, NIA, 2010) The IA president said that they even reached as high as 128 percent efficiency largely due to the 5 croppings/ 2 years strategy. The KIA on the other hand, usually has 50-60 percent efficiency which is attributed to sluggish repayment of some members due to frequent diversion of their personal funds to other much needed priorities such as expenses for health and education. Pest infestation of palay is also a dilemma among IAs which affects their farm productivity and therefore impact on their ISF obligation.

Accountability and transparency of NIA was also raised especially in the previous years when the agency solely manages the ISF collection. There was a comment that NIA will only give them their back account instead of providing them their individual updated statement of account that could have enlightened them how much money they have given as ISF payment. Farmers are hopeful that with this IMT, collection efficiency will be better. On the contrary, NIA personnel interviewed cannot assure that farmers can better manage their irrigation system on their own when PIDP ends.

Under the sharing scheme, 55 percent of the ISF goes to NIA while 45 percent is returned to the IAs for their O&M expenses.

The *pahina* system or popularly called the bayanihan system that is a dominant culture among Filipino farmers that exudes camaraderie among the local folks, is very much alive among Roxas- Kuya farmers. Maintenance of every canal is an obligation of every TSAG (turn-out service group) under the leadership of the TSAG leader who also collects the ISF before the IA shall submit all the payment to NIA.

Current system of access and use of land, water and natural resources

Competing rights of water users:

Water from the Roxas- Kuya- Muleta watersheds has actually been distributed for use to rice farming, sugarcane and banana plantations. Farmers/ water users are aware of this competing water use.

Farmers within the Roxas-Kuya irrigation system share water usage with a banana plantation which operates at the upland areas where the water is sourced. They know that the company is paying NIA a water service fee.

Since 2006, NIA said that Dole Philippines has been paying them P3,750 per hectare per year for water use in the Muleta River. The fee estimated now to be P5-Million in total is said to be turned-over to higher offices of the NIA. The Roxas-Kuya personnel however cannot determine where this fee was allocated or saved.

As of 2007, Dole Philippines, Inc. operates 250 hectares of banana plantation in the Brgy. Dagumbaan area, an upland barangay in Maramag. It has also established an initial plantation area of about 110 hectares in Pangantucan, a municipality adjacent Maramag. This eventually increased and sourced out its water requirements from Muleta river and its tributaries which has affected the irrigation water requirements during dry months. (Andilab, et.al., 2007)

Farmers maintain their own canals through the culture of pahina as part of the O&M

Sugarcane plantations surrounded by ricefields, are also part of the target service area

NIA has already seen the impact of this competing atmosphere. Big multinational corporations such as Dole Philippines, Inc., Davao Musatech Corporation, Mt. Kitanglad Ventures, and Del Monte Philippines which planted high value crops such as bananas and pineapples, have applied water permits and granted water rights which compete for water usage with national irrigation systems. In utilizing important river systems such as that of Muleta River and its tributaries, they have affected water distribution for irrigation especially during summer when riverflow is minimal. (Andilab, et.al., 2007)

Aside from a competing relation with banana companies, farmers also see a possible threat of chemical run off from banana plantations to the irrigation waters that can contaminate, if not destory their farms as these plantations are geographically operating in areas above their ricefields.

The sugarcane plantations estimated to be more than 200 hectares located adjacent to ricefields within the Roxas-Kuya RIS uses irrigation water during the planting season.

NIA personnel had conflicting admission though regarding payment of sugarcane plantatation owners. Some said that these owners do not pay and NIA cannot compel them to pay for water services since they are technically not part of the irrigators association. Another version was that owners pay an annual water service fee equivalent to 150 kilos per hectare during the dry season. But payment however, was reportedly irregular because they are the last priority in terms of water usage.

Andilab, et.al further explained that the actual streamflow situation in the river and tributaries that supply irrigation water discharges minimum flow during summer months (March to June) and gradually lessens over time. They attributed the periodic deterioration of streamflow to bald forest cover in the headwaters.

This observation does not stand alone because the provincial planning office has likewise seen this problem on a provincial-wide scale. Bukidnon PPDO discussed that as of 2007, barely 41.14 percent or only 33,402 hectares of the total potential irrigable area of 81,189 hectares were developed. Most of the existing irrigation canals are still not concreted which caused high percolation of water along the canal contributing to water shortage usually experienced during dry season. Compounding the problem is the issuance of water permits to multi-national corporations allowing them to extract water upstreams for their plantation crops thereby reducing the water discharge for the irrigation service areas. (PPDO, 2008-2013)

Status of resources:

The status of the Muleta River Watershed is alarming, according to the NIA study. Muleta area has more or less 4,000 hectares to be reforested. Main tributaries of this important river which is the Lantay creek has dried up while the Baguic-ican River has minimal flow of about 114.7 lps. What was envisioned in the reforestation program was not realized. (Andilab, et.al., 2007)

Analysis

Impact of the irrigation project

Target vs. actual irrigated areas:

Out of the total target service area which is 1,011 hectares, there are 802 hectares actually irrigated. There is a gap of around 209 hectares (20.67 percent) which is actually inherited from WRDP.

Patag-Coroña area	588.65 hectares
Kalagutay area	213.58 hectares
Total	802.23 hectares

(Source: PCIA and NIA 2010)

Even if WB's objective for PIDP would like to bridge the gap between irrigable service areas and actual irrigated areas, this will be very difficult to implement within the Roxas-Kuya system where the areas identified as backlog are actually planted to sugarcane plantation. It will be a test of political will of the executive branch of government and the local government units to convince landowners to convert these sugarcane plantations into ricefields, for the sake of the WB-PIDP program. Moreso is the complex task to ask these landowners to subject their landholdings to agrarian reform so that landless rice farmers could benefit from the government's land distribution program and avail of the irrigation facilities.

Quality of implementing IMT:

Given that farmers in the past project of WB have not substantially internalized the concept of their participation in irrigation and their eventual project ownership, it is a question of capability and quality how NIA can guarantee a systematic process of IMT in national irrigation systems in the event that its staff are currently worrying about their security of tenure as an effect of the Rationalization Plan.

The future of food security amid expansion of corporate farming

Such attempt to regulate crop conversion will require a paradigm shift for government because it has been extensively promoted in a provincial and national scope, the fact that sugarcane and pineapple plantations have already thrive here for many decades past. The banana industry is also fast expanding as this business is one of the demands in the global market.

Statistics revealed that the Philippine banana production area is ranked third largest in the world accounting for 8.5 percent of the total world area and second among exporting countries. Mindanao, occupies 50 percent of this production area. In support, government is set to increase the export of the Cavendish variety by 6 percent annually, from US$333-million in year 2003 to US$490-million by 2010. (NEDA, 2004-2010)

The impact of this corporate type of agriculture to the future of food security is not a fresh discourse in the province as even the provincial planning office has already raised this alarm in their development plan.

> Food security is threatened by the utilization of prime agricultural lands into other crops like sugarcane, bananas, and pineapples especially in irrigated areas putting to waste the huge investment by the government in irrigation facilities. Other concerns for palay production are on the multiple issuance of water rights to industrial users which competes water usage for irrigation and domestic use, post harvest facilities, bad condition of farm to market roads, access to credit, marketing and price support. (PPDO, 2008-2013)

> Although the province is still on a surplus production, if utilization of irrigated lands and prime agricultural areas into corporate farming continue, the production of rice and corn will definitely decrease and Bukidnon will no longer maintain its status as the food basket of Region 10. (PPDO, 2008-2013)

With this current trend in agriculture, more and more farmers are discouraged to produce more. The PPDO has enumerated reasons for the farmers' shift in the utilization of land:

1.) Insufficient credit support facilities to farmers;

2.) inadequate marketing supporting support to ensure price stability;

3.) lack of processing and post harvest facilities;

4.) poor farm to market roads coupled with the constant rising of farm inputs;

5.) insufficient water supply for irrigation purposes.

Farmers are oftentimes become victims of unscrupulous middlemen, who dictate the prices of their commodities and charge exorbitant interest rates for the production cash advances. (PPDO, 2008-2013) Bukidnon has a possible surplus production but only a small portion is left for the local demand. At one point, the provincial NFA agrees that there is no rice crisis but only price crisis as traders or profiteers take advantage of the situation. (Balane, 2008)

Such scenario provides an opportunity for big business and multi-national corporations to entice farmers to lease their properties which are more lucrative than continue farming.

The prevailing land rental ranges from Php 10,000-15,000 per hectare per year with a condition in the MOA that the farmers can advance the rental for 5 years and avail of a package deal that members of their family are the priority workers within these corporations. In reality, farmers actually became seasonal laborers with meager income. (PPDO, 2008-2013)

However, there is no clear-cut policy yet to stop the prevailing expansion of agribusiness plantations in the province that threatens not only the irrigation systems of government but more importantly food sufficiency. Moreso, measures of the local governments is not clear how they push for corporate social accountability of these corporations for its reported contribution in the depletion of water resources.

The politics of water privatization

While the World Bank has good intentions to increase farmers' agricultural productivity in order to enhance food security, its strategy through PIDP do not necessarily guarantee successful outcomes in the long run. A significant case in point is that the Bank is actually grooming the country's irrigation system towards privatization, given the inability of government to improve service delivery of these irrigation systems and the perennial problem of cost recovery. During project design, WB is contemplating whether NIA functions should be transferred to the private sector, at this stage when the sector has not yet demonstrated interest in owning and/or managing large-scale gravity irrigation systems for rice production. (The World Bank, 2009, p.15)

There is likewise no guarantee that the IAs will be able to manage their systems when NIA shall turn-over the responsibility of O&M to them. The Bank recognizes that IAs in the Philippines have not yet developed into groups that can manage a large NIA with headworks, high dams and reservoirs. (The World Bank, 2009, p.15)

But instead of maximizing public funds to improve social services, curb corruption in the implementation of irrigation projects and respond to the needs of intended farmer-beneficiaries, government chooses no other option but to take the road to privatization.

Further, participation of the private sector in irrigation becomes a strategy as mentioned in the Long-term Investments and Institutional Reform Agenda. Under the Supporting Policy Reform Work, the APL Phase 2 calls for a review study on ways to increase private sector participation in irrigation sector. (The World Bank, 2009, p.38)

WB as a proponent of privatization, has in fact, used improving water management as one of its main campaign across countries. Its water privatization policy has already been articulated in a 1992 paper entitled "Improving Water Resources Management" stressing that water availability at low or no cost is uneconomical and inefficient and that even the poor

should pay. The World Development Report 1992 explained that the poor need a wider range of options where they can choose the level of water services for which they are willing to pay, thereby giving suppliers a financial stake in meeting their needs. (Shiva, 2001 and Siregar, 2004) Targetting the poor here, is essentially excluding the poor. (Shiva, 2001)

Behind these pro-poor avowals however, is the standard policy advice of the International Monetary Fund and the WB which remains largely anchored on prioritizing debt payments by cutting government subsidies, increasing revenues, and shrinking the public sector by means of selling public enterprises such as water to private corporations. (Siregar, 2004)

The logic of WB's water privatization that is converting water into a tradeable commodity rather than a life support base, is actually reducing the universal fundamental rights such as the right to water. (Shiva, 2001) WB is forcing many countries to commodify their water resources and put them on sale to the highest bidder thereby sacrificing a basic human right and an essential public service. (Barlow & Clarke, 2004)

Under this scheme where access to water is determined by market instead of the limits of renewability, also lies the threat of overexploitation of an already scarce resource that will rather aggregate the water crisis because the demands of the economically powerful will therefore override the needs of the poor and the limits of nature. (Shiva, 2001)

In a 2003 water policy workshop, amidst public skepticisim over private sector involvement, the WB together with the Asian Development Bank (ADB) emphasized the need for the privatization of private firms, public-private partnerships and autonomous and accountable service providers to improve and expand the delivery of water services, including tap water, irrigation and drainage. (Kurniawan, 2003)

Learning from Asian neighbors' water privatization policy

Before the privatization scheme shall take effect in the irrigation sector of the Philippines, lessons from a number of Asian countries should be seriously considered. Siregar (2004) provided brief information:

Indonesia

In 1998, World Bank approved a US$ 300 million loan to the Indonesia Government to support a structural adjustment program of policy, institutional, regulatory, legal, and organizational reforms in the management of the water resources and irrigation sector.

Part of the loan is a formulation of a new irrigation policy requiring the decentralization of irrigation management to farmers' organization wherein farmers will shoulder the cost of management and maintenance.

The New Water Management Bill invited widespread protest from various sectors including the farmers on the premise that the Bill lacks protection of water rights of the communities. Instead of clearly recognizing and protecting water for people, it gives more access to private investment to have concessions over a whole range of water resources, from groundwater to surface water.

Thailand

As a loan condition for the $600 million, ADB demanded the Thai government to reform water management structures through formulation of the National Water Resources Policy, enactment of a Water Law and an application of policy on cost recovery in irrigation, an increase in the National Water Resource Committee's authority in managing water resources nationwide, and an appointment of river basin organizations in three pilot river basins. It also required privatization of an irrigation system by having a private company take care of the operation system while farmers share the cost of water management. ADB also required the Thai government to adopt a free market paradigm.

In effect, farmers who do not produce much value added products are given the lowest priority in terms of water allocation. The Thai Royal Irrigation Department would prioritize water allocation to urban and industrialized sectors than the agricultural sector.

Sri Lanka

The government received a $10.7 million ADB loan to improve water resources management. In April 2000, the cabinet of Ministers approved

the National Water Resources Policy. The major content of the policy is recommending that all the water resources shall vest with the government. Once implemented, every water user has to obtain water entitlement for a price.

Historically, water has always been regarded as a common property of the Sri Lankans. The State therefore, is only a custodian with no authority to intervene or change the course of nature. But with such policy, it becomes a step closer to transferring the ownership of water resources to international companies where 12 of them have already entered the country to explore business ventures in the water sector.

The World Bank, in a document 'Non-plantation Sector Alternatives' published in 1996, advised the government that paddy cultivation in Sri Lanka is a non-profitable venture and recommended the diversification of agriculture into cash crops instead of paddy cultivation.

Transforming water as a commodity will seriously affect paddy cultivation. Farmers who have their own water rights will be forced to sell these rights to the sectors that export food crops, industries or modern economic sectors in urban areas.

The abovementioned arguments and country experiences on privatization are of global relevance enough to give light on the future of the Philippines' irrigation sector. If the international finance institutions and the government have been successful in privatizing public water services for drinking water supply in Metro Manila, it will not be long before the private sector shall take over the irrigation sector given that the country is working towards its modernization under the PIDP.

Invoking an interest-based and rights-based approach to help analyze the local situation, the very interest of the private sector is clearly making profits rather than expanding services for the people, especially the poor who are incapable of paying higher irrigation service rates in exchange of better service delivery. The customary, traditional and universal rights of Filipino farmers, of communities over water will be highly put at stake amid entrance of economically and politically powerful private companies that will be tapped to provide irrigation water in the coming days.

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