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U.S. ASSISTANCE FOR INFRASTRUCTURE DEVELOPMENT FROM 1946 TO 1995: FIFTY YEARS OF ACCOMPLISHMENT

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EXECUTIVE SUMMARY

1. Overview

Since the end of World War II, the United States has provided more than $1 billion to the Philippines for various infrastructure projects. The purpose of this review is to document how this assistance for infrastructure development was used - for what kinds of projects located in which parts of the country - and what this assistance accomplished - what were the development objectives of the projects and what were the results.

This assistance has financed an extremely broad array of infrastructure projects. The types of projects undertaken, particularly their focus and mode of implementation, have changed repeatedly over time as the needs of the country have evolved. This assistance also reflects the changes in U.S. legislative mandates governing to USAID and its predecessor agencies, especially the Foreign Assistance Act of 1961 and its amendment in 1973 (i.e., the "New Directions").

U.S. economic assistance has been instrumental in many areas in helping the Philippines to meet its infrastructure requirements and to establish and strengthen the institutions needed to support infrastructure development. Throughout the country, literally millions of rural people living in rural areas, including the very poor, have benefitted from USAID-funded infrastructure projects. The record on this is unquestionable - the bulk of USAID expenditures for infrastructure development has resulted in important economic and social benefits, especially for rural communities.

The U.S. has played an important role in the development of GOP institutions through its assistance for infrastructure. USAID-funded projects supported the start-up of a number of new GOP agencies responsible for national infrastructure programs. Among the earliest was the National Irrigation Administration established in 1964, which served as the counterpart agency to USAID-funded technical assistance for water resources management from its inception in 1964. Similarly, the National Electrification Administration received assistance through USAID's the Rural Electrification Project from its beginning in 1969. The Local Water Utility Authority was likewise a beneficiary of early USAID assistance through the Provincial Water and Local Water Development Projects. These organizations have subsequently developed into key GOP institutions in their respective sectors.

U.S. assistance for infrastructure also supported some of the first efforts at decentralization of development management responsibilities to local government levels. These activities also helped build capacity in central line Departments of the GOP

to assist and work with local governments. This included the predecessor agencies of the Department of Interior and Local Government. A major beneficiary institution of U.S. assistance for infrastructure since the 1950's has been the Department of Public Works and Highways, including its predecessor agencies.

USAID's leadership is also evident in attracting financing from other donors for infrastructure programs which USAID helped to initiate. Studies and plans funded through USAID infrastructure projects have been used extensively by World Bank, the ADB and other bilateral donors for project preparation. This includes rural roads, provincial water systems, rural electrification, integrated area development, and water resource management for irrigation system development. USAID has more recently been at the forefront of encouraging greater private sector involvement in the development of infrastructure in such key sectors as telecommunications and energy. This includes introduction of financing arrangements creating public/private partnerships and alternative financing approaches for public infrastructure, e.g., Build-Operate-Transfer arrangements.

In many instances, USAID was working with central line Departments and local government agencies on new, pilot programs designed to provide infrastructure in rural areas. Working on new programs in more difficult locations poses considerably higher risk of poor results or failure than sticking to the established, tested modes of assistance. In this respect, USAID's role has often been one of providing "venture capital" for new programs to support infrastructure development more effectively, or address infrastructure requirements which were not being met, particularly in rural areas. Most of these efforts produced acceptable or better results, some were run-away successes and while others failed to perform satisfactorily.

Viewed in its entirety, this is a record in which the GOP, local governments and USAID should take considerable pride. It is a record of fifty years of accomplishment that resulted from genuine cooperation between the peoples of the Philippines and the U.S. in a joint effort to promote national development by meeting the country's infrastructure requirements.

2. The Range of Results from Major Infrastructure Projects

U.S. funding for roads and bridges constructed throughout the country produced the most significant results during the first twenty years of assistance. Many of these roadways became part of the current national highway system. The Mindanao Development Roads constructed during the 1950's were highly effective in opening previously isolated areas to settlement and development. Tens of thousands of new settlers from Luzon and the Visayas were part of this influx. However, this often occurred at the expense of existing tribal minorities and Muslin communities which were

pushed to marginal areas. U.S. assistance during this period also started the process of strengthening institutional capabilities needed for road and bridge construction, maintenance and equipment pool operation.

After 1970, rural electrification was the most important investment made by the USAID program. The long-term benefits of rural electrification far outweigh the $80 million or so USAID invested in it. The provision of electricity service probably did more in the shortest amount of time to alter the economic development potential of rural areas than any other infrastructure investment could have done.

On basis of return per dollar invested, rural roads development - including the roads developed through the ESF Infrastructure Program - is probably second only to rural electrification. The economic and social benefits produced by the majority of these roads has contributed significantly to rural development. Similar results from other road projects were achieved throughout the history of U.S. assistance for infrastructure development.

A third important area where sound results were achieved is from the ESF assistance for small and medium-scale infrastructure. The ESF infrastructure projects produced a wide range of economic and social benefits for rural communities throughout the country. However, excessive political pressure distorted project selection in some cases. This resulted in a number of marginally productive projects which diminished the Program's overall accomplishments. The Rural Infrastructure Fund was subject to far less political pressure. The investments made in RIF road and port improvement projects are now paying off for rural communities and for the larger regional economies of which they are part.

At present, the Mindanao Development Project appears likely to become a one of the most successful areas of U.S. assistance for infrastructure development in its history. Road improvement, port facilities and a new airport have considerable potential to accelerate growth in the Southern Mindanao Region. Extending the benefits of this new infrastructure to the residents of the region and promoting the investment potential created by these facilities was effectively supported by the Growth Plan component of MDP.

In the middle of the spectrum is the Bicol River Basin Development Program. Fraught with institutional, organizational and administrative complexities, the grand theory of integrated area development in actual practice failed to deliver. Bicol was and is one of the poorest regions of the country, and some measures suggest it is falling even further behind. The outputs and development impact of the BRBDP appear to have resulted from a collection of discrete project activities rather than from an

integrated development process. Development impact was achieved in project areas. Production increases from irrigation were realized and incomes rose. Roads improved transportation efficiency and gave improved access to rural communities. Health service delivery improved and health status in rural communities improved somewhat. However, these results fell far short of what was promised from integrated rural development.

At the low end of the continuum are irrigation projects, particularly small-scale irrigation, and rural water supply projects. The economic and social return from these projects appears to have been marginal at best. Short-term production gains from improvement of small-scale irrigation systems also increased farmers' debt which became unmanageable during years of crop failures or poor yields due to adverse weather and storms so common in the Philippines. Rural water supply systems which had virtually no chance of being properly operated and maintained produced unsustainable improvements of only the shortest duration. Moreover, water systems "captured" by local elites for their own benefit failed to meet the basic human needs of the rural poor.

Though U.S. economic assistance levels to the Philippines are no longer sufficient to fund the construction of infrastructure, USAID should continue to facilitate infrastructure development through various types of technical assistance which are within its current financial capabilities. When such assistance is no longer needed, or USAID cannot provide it, then serious consideration should be given to the question of whether the Philippines requires further assistance from the U.S.

ACRONYMS

ADB	-	Asian Development Bank
A.I.D.	-	United States Agency for International Development (also USAID)
BHA	-	Barangay Health Aide
BIHNP	-	Bicol Integrated Health, Nutrition and Population Project
BOT	-	Build-Operate-Transfer
BPH	-	Bureau for Public Highways
BRBDP	-	Bicol River Basin Development Program
BWP	-	Barangay Water Project
CCPAP	-	Coordinating Council for the Philippines Assistance Program
DBM	-	Department of Budget and Management
DLGCD	-	Department of Local Government and Community Development
DOTC	-	Department of Transportation and Communication
DPWH	-	Department of Public Works and Highways
ESF	-	Economic Support Funds
EXIM	-	The Export Import Bank of the United States
FARA	-	Fixed Amount Reimbursement Agreement
FSDC	-	Farm Systems Development Corporation
GEM	-	Growth with Equity in Mindanao Project
GOP	-	The Government of the Republic of the Philippines
IAD	-	Integrated Area Development
ICA	-	International Cooperation Agency
ISA	-	Irrigators Service Association
LDP	-	Local Development Project
LGIF	-	Local Government Infrastructure Fund
LRM	-	Local Resource Management Project
LWD	-	Local Water Development Project
LWUA	-	Local Water Utilities Administration
MAI/PAP	-	Multilateral Assistance Initiative/Philippines Assistance Program
MDF	-	Municipal Development Fund
MDP	-	Mindanao Development Project
MLGCD	-	Ministry of Local Government and Community Development
NAPOCOR	-	National Power Corporation
NAVAIDS	-	Air Navigational Equipment
NEA	-	National Electrification Authority
NEC	-	National Economic Council
NEDA	-	National Economic Development Authority
NIA	-	National Irrigation Administration
NRECA	-	National Rural Electric Cooperative Association
OECD	-	Organization for Economic Cooperation and Development
OECF	-	The Overseas Economic Cooperation Fund of Japan
PAPS	-	Philippines Assistance Program Support Project
PCIS	-	Philippine Capital Infrastructure Support Project
PDAP	-	Provincial Development Assistance Program

PL-480	-	Public Law 480 (legislation regulating U.S. food aid programs)
PUSH	-	Panay Unified Support for Health Project
PWD	-	Provincial Water Development Project
RE	-	Rural Electrification Project
REC	-	Rural Electric Cooperative
RIF	-	Rural Infrastructure Fund
RSC	-	Rural Service Center Project
SFS	-	Small Farmer Systems Project
SIP	-	Special Infrastructure Program
SOCSARGEN	-	South Cotabato - Saragani - General Santos City Area
SPREAD	-	Systematic Programming for Rural Economic and Agricultural Development
SSI	-	Small Scale Irrigation Project
TTEM	-	Technology Transfer for Energy Management Project

Preface

"In this vast valley, transportation was by water through the river, its lake and tributaries in native dugouts. Settlements were established only along the banks of the rivers. Houses on log or bamboo pontoons in inundated areas made up the so-called floating villages. There were the muddy foot-trails in the virgin forests through which products and consumer goods were carried on backpacks. Travel was not only slow and inadequate but also tedious and expensive. The area thus remained long underdeveloped. The aboriginal Manobos and Mandayas remained backward or primitive. The few Christian settlers did not make much more progress either."

"To be able to appreciate Cotabato's natural resources and potentialities of luxuriant timberlands and vast and rich agricultural areas, one has only to go across one of its wide valleys and scan the almost endless tracts of fertile land or cut through one of its thick tropical forests and observe the giant trees that abound and wait for exploration and utilization."

(From a Bureau of Public Highways assessment of the need for roads between the capital cities of Davao and Agusan Provinces, and through the Allah Valley of Cotabato Province, written prior to World War II)

"The record of success and failure in infrastructure is largely a story of government's performance."

(From the World Development Report 1994 - Infrastructure for Development. World Bank, 1994)

SECTION 1: INTRODUCTION TO THE REVIEW

1.1 Viewing Infrastructure in its Historical Context

There is probably no measure more defining of the relative development of a contemporary society than its access to the infrastructure necessary for economic and social progress. An overwhelming share of a country's private and public resources are directed to such basic infrastructure; this includes roads and bridges, seaports and airports, housing, power generation and distribution, water supply, sanitation facilities, irrigation systems, communications systems and all the various facilities needed for expanding economic production and improving social well-being. The primacy of infrastructure in the development process is as true for entire countries as it is for small rural communities.

The substantial investment of resources in economic and social infrastructure reflects the values, perceptions and aspirations of the society making those investments analogous to the religious temples and monuments it constructs. In contrast to the assurance of spiritual redemption and salvation in the after life represented by religious structures, economic and social infrastructure stem from the secular objectives of transforming and overcoming prevailing conditions as the means for achieving "salvation" in the here and now.

The objectives and motivations for infrastructure development change over time as the society progresses and its values, goals and future requirements evolve. For example, in the design and construction of USAID-funded roads recently completed in Southern Mindanao, high priority was given to minimizing their environmental impact. These roads are primarily intended to stimulate economic growth in the region, but without imposing unacceptable environmental damage. For these roads to be successful, they had to be as "environmentally friendly" as possible. In contrast, fifty years ago, roads cut through the virgin forests of the same region were constructed for the explicit purpose of expanding the exploitation of natural resources in the region. These roads were designed to encourage new settlement by clearing forested lands for farming and to promote the growth of the local logging industry. Success for these roads would, therefore, be measured by the number of new settlers to the region and the number of board feet of lumber extracted from the forests. Though both roads were intended to stimulate economic growth, the objectives and motivations underlying their construction vary significantly over the fifty years separating them. To judge the success of one by the standards and objectives of the other would be simply wrongheaded.

Recognizing what infrastructure signifies for those who construct it and for those who use it is useful for this review. U.S. financial assistance to the Philippines for infrastructure development since the end of World War II varied as widely as the types of infrastructure the country required - from civil works for flood control, to power lines feeding the national grids, to three-room school buildings and simple water supply systems in remote rural villages. The over-arching motivation guiding the construction of these various projects ultimately centers on promoting the improvement of economic and social conditions in the Philippines. However, the specific objectives and purposes to be served by infrastructure development clearly changed over time.

Changes in the types of infrastructure to be built and the geographic focus of these projects mirror closely the progression of development thinking and corresponding strategies over the past fifty years. Shifting U.S. foreign policy objectives and GOP political interests strongly influenced the objectives behind and decisions about infrastructure investments over this period. A review of this assistance, therefore, is as much a story about what people thought they would accomplish through infrastructure as it is about what was actually accomplished and what contribution those results made to the development of the country.

1.2 The Purpose and Organization of the Review

Since the end of World War II, the United States has provided more than $1 billion to the Philippines for various infrastructure projects. This is an aggregate total which in current dollars, adjusting for inflation over this period, would be equivalent to approximately $3 billion. The purpose of this review is to document how this assistance for infrastructure development was used - for what kinds of projects located in which parts of the country - and what this assistance accomplished - what were the development objectives of the projects and what were the results.

There is a much bigger story to be told about the entire U.S. assistance program to the Philippines and its accomplishments. Though this review focuses on infrastructure development, it is difficult to separate this assistance entirely from the overall program. At times, infrastructure projects have been central to the program; at other times, they have been indicative of the changing nature of U.S. assistance over the past fifty years. Where necessary, this review discusses the general strategy guiding U.S. assistance to clarify the purpose and role infrastructure projects played in the overall development program.

The comprehensiveness of this review is determined by the availability of relevant information about U.S.-funded infrastructure projects. The principal sources of information for this review are project and program documents available from USAID/Philippines' library and from A.I.D.'s central library in Washington. This includes the Mission's financial records, project papers, implementation status reports, Project Assistance Completion Reports and various types of project evaluations. The latter are the most important source of information about the results of this assistance. To be sure, relying on project evaluations provides a very uneven "data base". The amount of information available about the development impact of these projects, therefore, is less than optimal. Interim and final evaluations were not routinely conducted until the late 1970's. Moreover, the quality of these assessments varies enormously from that time forward.[1] In addition to regular project evaluations, A.I.D. supported a very useful impact evaluation series during the 1980's. Four such studies were conducted for infrastructure projects in the Philippines in the early 1980's, covering rural roads, small-scale irrigation, rural electrification and integrated area development.

What became clear during the course of this review is that a systematic record of project accomplishments is simply not available. For too many projects, results-oriented evaluations were either not conducted, or, if they were, the reports are no longer available in Agency archives. This is very unfortunate because, as this review will argue from the documents that are available, the bulk of assistance for infrastructure development has produced meaningful results which contributed to the economic and social development of the country.[2]

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[1] Some reports provide convincing evidence and analyses of project results. Others simply strain credulity in their lack of data, objectivity and seemingly boundless capacity to gloss over what would subsequently prove to be marginal project outcomes.

[2] It appears that A.I.D. has done itself a disservice in this respect. Its strongest and clearest success stories are from those areas where it has provided assistance over the long haul, such as infrastructure development. At a time when A.I.D. is pounded unmercifully to demonstrate its accomplishments, to the point of being threatened with elimination as an independent agency, the very record it now needs most is only partially available. Even from that partial record, the development results of a many projects are convincing and significant impact can be inferred in other cases. Because too little attention was given in the past to the future utility for such documentation, A.I.D. appears to have weakened its own case.

The review is organized as follows. Section Two briefly describes the historical trends in U.S. assistance for infrastructure development from 1946 to the present. Based on the type, focus and magnitude of assistance for infrastructure development, this fifty year period is divided into four major eras. Sections Three through Six review these four periods with respect to the general strategy guiding U.S. assistance at that time, the role infrastructure development played in advancing those strategies and the specific projects that were implemented. The outputs, accomplishments and impact on economic and social development are presented for those projects where documentation is available. The success of projects is assessed where sufficient information is available concerning: a) the accomplishment of planned outputs within the general time frame of the project, b) indications that these outputs produced tangible economic and social benefits, and c) the sustainability of these results and impacts after project completion.

Section Seven considers which infrastructure projects appear to have had the greatest economic and social impact and identifies some of the implications or lessons suggested by this review.

SECTION 2: HISTORICAL PERIODS IN U.S. ASSISTANCE FOR INFRASTRUCTURE DEVELOPMENT - 1946 TO 1995

Since the end of World War II, the United States has provided financial assistance to the Philippines for an extremely broad array of infrastructure projects. This assistance and the types of projects undertaken, particularly their focus and mode of implementation, have changed repeatedly over time as the needs of the country have evolved. This assistance also reflects the changes in U.S. legislative mandates governing USAID and its predecessor agencies, especially the Foreign Assistance Act of 1961 and its amendment in 1973 (i.e., the "New Directions").[3]

Equally important are the changes in U.S. foreign policy and the use of economic assistance each U.S. Administration introduces. The appointment of a new A.I.D. Administrator typically results in new priorities for USAID which re-direct economic assistance in accordance with the current Administration's policies. How much real change in projects, operations and, most importantly, development results this produces is debatable. But it is fair to say that legislative and administrative directives significantly influence the justification for the selection, focus or mode of assistance for future projects. Similar GOP political processes have influenced the nature of U.S. assistance the country has received. However, this influence has generally been overshadowed by USAID's Congressional and Administration priorities.[4] USAID's own internal management requirements have

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[3] USAID was established under the Foreign Assistance Act of 1961. Agencies responsible for economic assistance administration preceding USAID include the Mutual Security Agency, the Foreign Operations Administration, Foreign Operations Missions and the International Cooperation Administration.

[4] This does not mean that USAID is unresponsive or uninterested in the objectives of its counterparts. USAID makes considerable, sometimes heroic, efforts to respond to host country interests. As a U.S. Government agency, however, USAID must give priority to U.S. legislative and administrative directives while accommodating host country objectives. This is not always an easy or simple task. U.S. directives are most strongly reflected in the overall strategic plans and objectives of USAID programs which Washington screens closely and takes seriously. Host countries are usually less interested in USAID's strategic program plans, viewing it as an internal USAID exercise; overall assistance levels and funding for their priority projects count most.

also taken precedence in this process.[5] In short, U.S. assistance for infrastructure development has been shaped by various changes in legislative mandates, directives and foreign policy objectives over the past fifty years.

Changes in infrastructure assistance also reflect prevailing views about what types of projects or modes of assistance are most effective for achieving development objectives. Support for infrastructure development rises and falls as these intellectual fashions change. When in favor, infrastructure is argued to be essential for stimulating economic and social development, promoting equity and numerous other benefits. When out of favor, infrastructure projects are viewed almost with disdain, as though these projects are an anathema to the development process.[6]

Based on existing financial records, listings of projects funded since 1951 and program strategy documents, this forty-five year period can be divided into four major "program eras", as follows:

1. 1951 - 1961: National Rehabilitation and Basic Infrastructure

2. 1962 - 1973: The Transition to a Rural Development Program

3. 1974 - 1986: Implementing the "New Directions": Rural Development and Local Capacity Building

4. 1987 - 1994: Re-starting National Growth: Support for Democracy and Private Sector Development

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[5] USAID/Philippines program after 1986 clearly illustrates how internal management requirements largely determined the mode of assistance to be used. Funding levels shot up to as much as $400 million annually while security concerns and budget limitations set a tight ceiling on USAID staffing levels. Less staff-intensive modes of assistance, such as balance of payments and policy-based sector assistance programs, had to be used. Given the financial difficulties the Philippines faced at this time, such programming of assistance presented no conflict with GOP priorities.

[6] This is illustrated perfectly by the contrast between the 1980's private sector focus versus current Agency direction. The private sector advocates viewed infrastructure as critical to stimulating private investment - the "engine" of growth - which drives economic expansion and job creation, leading to an improved standard of living. In sharp contrast, the return of the PVO/NGO philosophy currently in vogue argues small scale, community-level, grass roots, bottom-up, etc. approaches are more effective in bringing improvements to those who need assistance most. Obviously, there are strong political overlays to such development philosophies.

These four periods reflect major changes in the strategy, focus and funding levels of U.S. assistance. Other divisions are certainly possible, and infrastructure projects started near the end of one period carry over into the next. Nonetheless, these periods help to summarize assistance for infrastructure development; the basis for these divisions is as follows.

The 1951 - 1961 era covers a period beginning with the first bilateral agreement between the U.S. and the Philippines - the Foster-Quirino Agreement - and ending with the 1961 Foreign Assistance Act and the establishment of A.I.D. as the agency responsible for administering U.S. economic assistance. The general strategy guiding assistance during this period centered on developing a wide range of basic institutions and national services the country required. Urban-based, industrial development was the predominant economic objective of the program and infrastructure projects played a major role in this.

The 1962 -1973 period is a transitional period during which the USAID moves toward a rural development focus. During the early years of this period, the USAID program generally followed a problem-by-problem approach, much like the preceding period, and without what today would be considered a well-defined strategic plan. By the latter part of the 1960's and into the 1970's, the program increasingly focused on rural development as a key to stimulating economic growth. The major transition to a "full-blown" rural development program, and an accompanying rapid increase in funding levels, occurred as the period ends. The 1962-73 period is also a predominately PL-480 funded program combined with Development Assistance levels considerably below those of the previous and subsequent periods.

The amendment to the Foreign Assistance Act in 1973 directed A.I.D. to focus assistance on the poor majority of aid-recipient countries. The "New Directions", as this legislation was labelled, resulted in a major change in USAID programs, clearly illustrated by USAID/Philippines' portfolio after 1974. A new set of projects were under development prior to the 1973 legislation and were subsequently introduced in quick succession beginning in 1974. Program levels increased substantially for economic development as well as for political reasons through the 1970's. From 1974 and well into the 1980's, the program strategy increasingly directed assistance to meeting the basic human needs of the very poorest segments of the rural population. Running parallel to this "poorest of the poor" targeting was the development and strengthening of local government planning and implementation capabilities to advance decentralization of government functions. These two elements run throughout the period.

The next marked transition in infrastructure assistance and the overall program begins in 1987 with new and expanded support for the Aquino Administration. The preceding years witnessed a gradual slowing of the pace of project implementation due to the worsening financial situation of the GOP during the 1980's. Capital flight after the assassination of Benigno Aquino in 1983, the eroding credibility of the Marcos Administration, and years of disastrous mismanagement of the national economy combined to mark the nadir in the country's contemporary economic history.

Starting in 1986 with the end of the Marcos regime, the U.S. moved decisively to bolster the Aquino Administration and to help re-invigorate the national economy and development programs with the infusion of cash. Economic Support Fund (ESF) levels increased while additional funding was provided through the Multilateral Assistance Initiative (MAI), or locally called the Philippines Assistance Program (PAP). USAID's program levels reached roughly $400 million annually with a significant increase in funding for infrastructure projects. The program strategy concentrated on achieving economic stability and growth through improved macro-economic management, encouraging domestic and international private sector development, and alleviating sector-specific constraints to growth through policy-based sector assistance programming. Improved health and more sustainable population growth were also important program objectives.

Fundamental to USAID's program was bolstering the credibility of the Aquino Administration as the first democratically elected government since the start of Martial Law under Marcos. Infrastructure played an important role in the process by addressing constraints to increased investment and productivity, especially in the rural economy, as well as providing tangible evidence of the Aquino Administrations efforts to improve conditions for the rural poor.

A major turning point within the 1986-94 period occurred when the overall program levels declined rapidly after 1991, ending new funding for infrastructure development. Following the GOP's decision to terminate the U.S. Military Bases Agreement in 1991, and combined with new priorities for U.S. foreign assistance - specifically Eastern Europe and the Former Soviet Republics stretching from the Baltics to Central Asia - funding levels were rapidly cut for the Philippines.[7]

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[7] The timing could not have been worse - or better depending on your perspective - with respect to the GOP's rejection of a new Bases Agreement and the events occurring in Eastern Europe and the former Soviet Bloc. The latter provided an excellent justification for cutting assistance to the Philippines without explicitly linking these reductions to the rejection of the Bases Agreement.

Infrastructure project funding was cut to accommodate the rapid decline in program levels and subsequent rescission, but remaining obligations were sufficient to carry existing projects to completion without undue adverse effects. The major change in assistance for infrastructure was that with roughly $40 million in annual program funding, financing of even small-scale infrastructure projects would no longer be possible. Given the new budget realities, USAID's future support for infrastructure would have to consist largely of technical assistance and training focusing on alternative financing approaches (i.e., Build-Operate-Transfer), investment promotion linked to new infrastructure financed by other donors or the private sector, and policy formulation and implementation affecting future infrastructure development.

SECTION 3: 1951-1961: NATIONAL REHABILITATION AND BASIC INFRASTRUCTURE

3.1 Infrastructure Development in the 1950's

Table 1 presents the annual obligations of funding for infrastructure projects during the 1951 - 1961 period.[8]

(see Table 1)

In the aftermath of World War II, the U.S. provided in excess of $1 billion in war reparations to the Philippines, most of this in the form of payments to Filipino veterans. A part of this assistance was directed toward the rehabilitation or total reconstruction of public infrastructure damaged during the war. One needs to keep in mind that the damage to Manila alone was horrific. The city suffered extensive destruction as a result of its liberation during which the Japanese deliberately caused massive loss of life and property. Some sources estimated that Manila was the second most severely damaged Allied city at the end of World War II.[9]

In 1946, after fighting what had been the most expensive war in its history, the U.S. provided $40 million under the authority of the "Philippine Rehabilitation Act of 1946" to repair or construct roads and bridges throughout the country. This initial assistance marks the beginning of some fifty years of support for infrastructure development throughout the country. The program received technical assistance from the U.S. Bureau of Public Roads, Department of Commerce. At the conclusion of the program in 1950, 257 major bridges, 239 minor bridges and 605 kilometers of roads and streets had been constructed. This assistance also helped to organize and train personnel for the newly established Division of Highways in Philippine Bureau of Public Works.

Following the Marshall Plan in 1947, the first bilateral agreement between the United States and Philippines was signed in 1950, which was one of the first bilateral agreements the U.S. established with a developing country after World War II. The timing of this agreement also corresponds to the peak of the Huk

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[8] Historical records regarding project funding and implementation for USAID and its predecessor agencies are very limited. The sources used for this review are genuinely a "make-do" effort using what was readily available. See Annex 1 for a discussion of the financial data source used for this review.

[9] To put this in perspective, in a listing of all war-damaged cities in Asia, Manila might only rank behind Hiroshima and Nagasaki on the basis of the severity of war damage.

TABLE 1: NATIONAL REHABILITATION AND BASIC INFRASTRUCTURE
('000 DOLLARS)

	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	After 1961	PROJECT TOTAL
Pump Irrigation	606	35	12		305	269	240						1,467
Gravity Irrigation & Irr. Services		1,322	833	1,130	880	1,052	898	627	389	62	47		7,240
Irrigation Rehabilitation					958	511							1,469
IRRIGATION TOTAL	606	1,357	845	1,130	2,143	1,832	1,138						9,051
Highway Improvement	5,986	6,008	4,570	3,787	2,405	3,413	1,555	518	110				28,352
Highway & Equipment. Maint.										78	5		83
Roads & Bridges								15,500					15,500
River Dredging	477	707	5										1,189
Flood Control		8		710	82								800
Port Facilities/Harbor				1,156	1,423	3,204	594	44	144				6,565
Navigational Aids		4		9	220								233
TRANSPORTATION TOTAL	6,463	6,727	4,575	5,662	4,130	6,617	2,149	16,062	254	78	5		52,722
Water Supply	1,032	552	506	820	1,866	734	338	146	484	13			6,491
Rural Health Units	217	297	465	35	521	419	789						2,743
Hospital Rehab.	1,451	533	37										2,021
Environmental Sanitation									118	26	5		149
HEALTH INFRASTRUCTURE	2,700	1,382	1,008	855	2,387	1,153	1,127	146	602	39	5		11,404
University of the Philippines	44	381	926	813	27	127	172	132	268	697	373	318	4,278
College of Agriculture	299	452	140	644	15	33	404	268	67	38		46	2,406
Teachers College			343	70								3,324	3,737
Institute of Public Advsr.		266	5	241	23								535
College of Vet. Med.				9	7								16
College of Forestry										247	211		458
PUBLIC FACILITIES	343	1,099	1,414	1,777	72	160	576	400	335	982	584	3,688	11,430
Cement Plant					2,605				3,800				6,405
Cotton Mill					614	156	779						1,549
Pulp & Paper Mill									5,300				5,300
PLANTS TOTAL					3,219	156	779		9,100				13,254

rebellion in 1949/1950. Improving the conditions of rural Filipinos was seen as an important means for undercutting the insurgency.

Total program funding from 1951 through 1961 was approximately $560 million consisting of roughly $200 million in Export Import Bank Credits, $68 million in project loans, $30 million in Food for Peace $118 million in PL-480 Title I assistance and $143 million in grant funding for commodities, technical assistance and training.[10] Total program levels ranged from a low of $8 million in 1951 to a high of $54 million in 1957, with an annual average of approximately $32 million. These levels constitute significant amounts of assistance for that time.

The content of the program during this period indicates that U.S. assistance was directed toward developing a broad array of basic institutions and national services that the country required. In some cases, this development was in the literal sense of constructing the buildings while training the staff for the institutions. Viewed collectively, these programs provide a fascinating record of the development of the country from its post-colonial years to the beginning of a modern state.

The programs during this period consisted of dozens of relatively small projects funded annually which covered the spectrum of public services and facilities; agricultural services, inputs and commodity development; industry and mining development, including industrial machinery and materials; education and manpower development; basic health services; and infrastructure. In 1952, for example, $21.3 million was obligated to fifty-six separate projects, plus $9.1 million in non-project assistance. This means an average obligation of $38,000 per project annually.

As Table 1 shows, the types of infrastructure projects undertaken focused on a few key areas: rehabilitation and upgrading of irrigation systems; roads, bridges and port facilities; and health facilities. Major infrastructure projects were national in scope and constituted the largest projects in the portfolio.

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[10] Other sources report that the total program administered through the ICA during this period was $238.9 million which is far below a 1970 Program Report containing data on annual assistance between 1951 and 1970. The figures cited above are from USAID/Philippines records of obligations adjusted as described in Annex 1. Other sources report $40 million in project loans while the 1970 Program report cites $62 million in dollar denominated loans between 1956 and 1968. The above figures should be viewed as indicative of whatever the true levels were.

Unfortunately, very little information exists about the specific activities of these projects. What is available (i.e., from brief descriptions in program documents, photographs and an excellent report on the Highway Project) indicates that these projects were largely civil engineering activities designed to upgrade existing public works (e.g., rehabilitation of irrigation canals and installation of gravity irrigation pumps). Training of counterparts in operations and maintenance of facilities and equipment was an important element of these projects. A number of these projects also provided necessary equipment, such as bulldozers, road graders, medical equipment, industrial machinery and various other materials (e.g., forty-seven light houses were upgraded through the Navigational Aids Project).

Two major road constructions projects were funded during this period. The Highway Improvement Project provided a $28.4 million grant that continued the assistance started under the 1946 Rehabilitation Act. The Highway Project financed the construction of 709 kilometers of main roads, which included the following: the Davao City-Butuan Road, the Zamboanga City-Pagadian Road, the Cotabato-Allah Valley-Marbel Road and the Malabang-Maranding Road (in Lanao del Norte and Lanao del Sur). Fifty-nine kilometers of feeder roads connecting with these main roads were constructed. The project also procured heavy earth-moving equipment needed for road construction. The project supported the design and implementation of programs for proper road and bridge maintenance; replacement of temporary wooden bridges; construction of new bridges at existing fords and ferries; construction of barrio roads (farm to market roads) and the operation of road construction equipment maintenance shops.

The Roads and Bridges Project provided $15.5 million in funding for rural roads located throughout the country. The project continued the assistance started under the previous roads projects for strengthening institutional capacity for road and bridge construction and maintenance. No documentation about its specific accomplishments is available.

In the health sector, U.S. assistance supported construction of rural health units, hospital facilities and water supply and sanitation systems. Beginning in 1956, the Community Development project financed some 34,482 small-scale, self-help projects throughout the country. This included thousands of kilometers of barrio roads and thousands of small-scale water supply systems using donated local labor.

The construction of public institutions included substantial funding for facilities and equipment at the University of the Philippines (totaling $4.3 million by 1964), and construction of facilities for a national College of Agriculture, Teachers College, Institute of Public Administration, College of Veterinary Medicine and College of Forestry. Between 1955 and

1959, $13.3 million was lent to the Development Bank of the Philippines to finance a cement plant, a pulp and paper mill constructed by the Bataan Pulp and Paper Mills, and a cotton mill (borrower unknown).

In addition to development loans and grants, local currency generations from the PL-480 Title I and Food for Peace (Title III) Programs became a substantial resource. PL-480 assistance constituted roughly 30 to 50 percent of total program levels between 1955 and 1960; in 1961, 93 percent of total assistance was provided through PL-480 programs. Local currency was programmed for a wide range of agricultural and rural development activities, including rural infrastructure development. Unfortunately, no record is available on how much of this local currency was used for infrastructure-related activities.

By the end of 1961, the following infrastructure outputs had been produced:

1) In Northern Luzon:

- construction of 380 water supply system
- rehabilitation of six out 10 major national irrigation systems
- rehabilitation of 119 small-scale irrigation projects
- construction of 90 foot-bridges
- construction of 26 feeder roads
- improvements to "scores" of public barrio markets from self-help projects
- construction of several major bridges
- upgrading 132 rural health units

2) In Central Luzon:

- construction of 532 water supply projects
- construction of 129 small scale irrigation systems
- construction of 42 foot-bridges
- construction of 48 feeder roads
- construction of the Pampanga and Agno River Irrigation systems affecting approximately 31,000 hectares of irrigated farm land
- rehabilitation of 11 small scale irrigation systems
- installation of 163 irrigation pumps
- construction of 27 potable water supply systems
- drilling of 3,409 wells
- rehabilitation of hospitals, rural health units and malaria control units
- construction of schools and teacher training centers

3) In the National Capital Region:

- construction of a new pier for the Manila port
- modernization of Manila port facilities
- development of factory sites and facilities in the port area
- construction of new facilities at the University of the Philippines in Manila and Los Banos
- construction of 301 water supply systems
- rehabilitation of 49 irrigation systems
- construction of 142 foot-bridges
- upgrading 43 feeder roads
- drilling of 4,106 wells
- development of 106 springs as community water sources
- upgrading of sixteen hospitals in the Manila area, including Philippine General Hospital, the U.P College of Medicine and the School of Nursing
- in Manila, construction of a public health training center, a disease intelligence center, a laboratory training center, a rural health demonstration center and a refuse composting plant

4) In Bicol:

- rehabilitation and construction of 18 irrigation systems affecting 5,260 hectares of irrigated farm land
- provision of 31 irrigation pumps
- construction of 62 foot-bridges
- construction of 12 feeder roads
- construction of 2 malaria control stations
- rehabilitation of 5 hospitals
- construction of 645 water supply systems

5) In Visayas:

- construction of a soils testing laboratory and agricultural experimentation center
- rehabilitation of 6 irrigation and construction of 4 new systems affecting 18,500 hectares of irrigated farm land
- upgrading of 8 trade/vocational education schools
- construction of 11 agricultural schools
- upgrading of 12 elementary schools
- upgrading 13 hospitals
- construction of 1,900 water systems
- construction of 170 foot-bridges
- upgrading of 145 small-scale irrigation systems
- construction of 104 feeder roads

6) In Mindanao:

- expansion of a major irrigation system covering 3,000 hectares of irrigated farm land
- provision of 13 irrigation pumps
- rehabilitation of 10 hospitals

- construction of 1,990 water systems
- rehabilitation of 145 small-scale irrigation systems
- construction of 170 foot-bridges
- construction of 86 feeder roads
- construction of 542 "multi-purpose pavements" (i.e., for rice drying)
- upgrading of 226 barrio markets
- upgrading of 13 agricultural schools
- construction of facilities for the Mindanao Agricultural college, Mindanao Institute of Teacher Training and the University of Mindanao [11]

In addition to these outputs, a more detailed accounting of the results of the Mindanao Development Roads Component of the Highways Project provides the following information. (See Map 1 for the location of the roads improved and constructed.)

The development objective of the Mindanao Roads was to open up sparsely populated areas of Mindanao which had substantial natural resources and high potential for agricultural development. In particular, the roads would give new settlers access to these previously isolated areas, stimulating the growth of the region. Encouraging the expansion of the logging industry was an important objective of the project.

The main roads constructed under the project constituted the first major linkages between important population centers of Mindanao. (See Map 1.) The Zamboanga - Pagadian Road was the first major linkage between these two cities. Prior to the road, Zamboanga City had no highway connection with other cities in Mindanao. Access was largely by sea. Of the 268 kilometers

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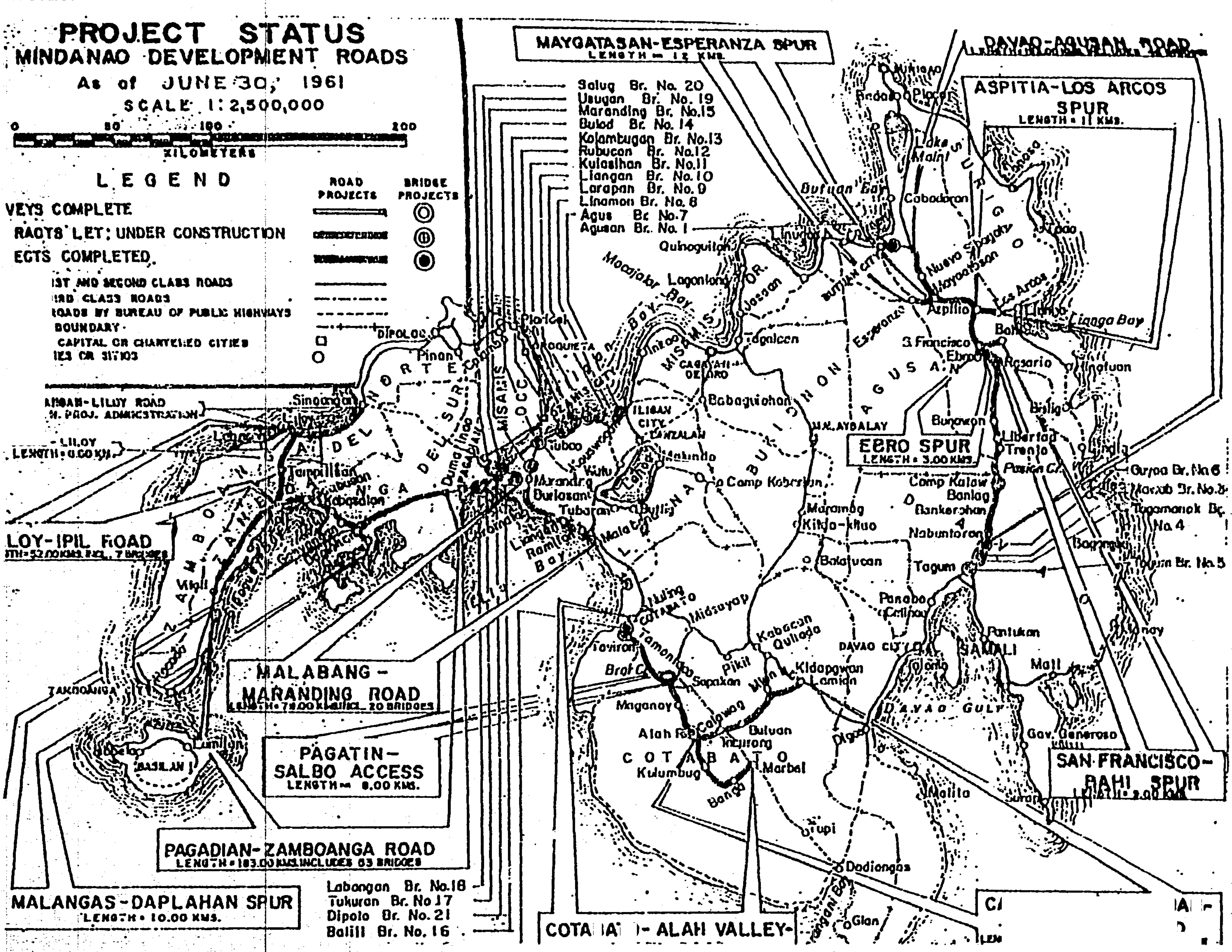
[11] The sources for these outputs are not very precise. For example, the exact locations of most of these outputs are forever lost; the number of kilometers of feeder roads are not stated; it is not clear whether entirely new roads were constructed or existing roads were upgraded; and exactly what rehabilitation of major and minor irrigation systems included is not stated. Clearly, the days of specificity about project accomplishments and evaluation of the impact of such outputs had not yet arrived. The thoughtful reader should begin to recognize the possibilities that current technology could have made possible if more careful documentation of the results of assistance for infrastructure had been kept. For example, a GIS data base of the total outputs of the program could generate mapping of project accomplishments, say, in five year intervals, or by the four periods of U.S. Overlaying the accomplishments of each period on the preceding period(s) could show the cumulative results of infrastructure assistance over the fifty years under review. By 1995, the map of the Philippines would probably be shaded from one end to the other.


PROJECT STATUS
MINDANAO DEVELOPMENT ROADS
As of JUNE 30, 1961
SCALE 1:2,500,000
0 50 100 200
KILOMETERS
LEGEND
ROAD PROJECTS
BRIDGE PROJECTS
VEYS COMPLETE
RACTS LET; UNDER CONSTRUCTION
ECTS COMPLETED
IST AND SECOND CLASS ROADS
IRD CLASS ROADS
ROADS BY BUREAU OF PUBLIC HIGHWAYS
BOUNDARY
CAPITAL OR CHARTERED CITIES
MAYGATASAN-ESPERANZA SPUR
DAVAO-AGUSAN ROAD
ASPITIA-LOS ARCOS SPUR
LENGTH = 11 KMS.
Salug Br. No. 20
Usugan Br. No. 19
Maranding Br. No.15
Bulod Br. No. 14
Kolambugan Br. No.13
Rubucan Br. No.12
Kulasihan Br. No.11
Liangan Br. No.10
Larapan Br. No. 9
Linamon Br. No. 8
Agus Br. No.7
Agusan Br. No. 1
EBRO SPUR
LENGTH = 3.00 KMS.
Guyoa Br. No.6
Tagamanok Br. No.4
Tagum Br. No.5
LOY-IPIL ROAD
MALABANG-MARANDING ROAD
PAGATIN-SALBO ACCESS
LENGTH = 8.00 KMS.
PAGADIAN-ZAMBOANGA ROAD
LENGTH = 183.00 KMS. INCLUDES 63 BRIDGES
MALANGAS-DAPLAHAN SPUR
LENGTH = 10.00 KMS.
Labangan Br. No.18
Tukuran Br. No.17
Dipolo Br. No. 21
Balili Br. No. 16
COTABATO-ALAH VALLEY
SAN FRANCISCO-BAHI SPUR
Butuan Bay
Lake Mainit
Cabadaran
Nuevo Sibagat
Esperanza
Aspitio
Los Arcos
Lianga Bay
S. Francisco
Ebro
Rosario
Bunawan
Libertad
Trento
Camp Kalaw
Nabuntoran
Tagum
Panabo
DAVAO CITY
Pantukan
Mati
DAVAO GULF
Gov. Generoso
Malita
Digos
Dadiangas
Glan
Tupi
Marbel
Koronadal
Banga
Buluan
COTABATO
Kidapawan
Kabacan
Pikit
Midsayap
Tamontaka
Cotabato
Parang
Malabang
Illana Bay
Iligan City
Cagayan de Oro
Macajalar Bay
Iligan Bay
Tagoloan
Babaguiohan
Camp Kabrahan
Malaybalay
Dipolog
Oroquieta
Ozamis City
Tubod
Dumalinao
Pagadian
Kabasalan
Tampilisan
Sindangan
Liloy
Vitali
Zamboanga City
Isabela
BASILAN
Lamitan
ZAMBOANGA DEL NORTE
ZAMBOANGA DEL SUR
MISAMIS OCC.
MISAMIS OR.
BUKIDNON
AGUSAN
SURIGAO
LANAO

separating Zamboanga City from Pagadian, roughly 150 kilometers of the previous route between them consisted of narrow forest trails.

Similarly, the Davao City - Butuan Road upgraded a transportation route consisting of roughly 106 kilometers of road way constructed in the 1930's interspersed with foot-trails and passage by small boat along the Agusan River and its lakes. 183 kilometers of new road were constructed by the project, plus 35 kilometers of feeder roads.

The Cotabato-Allah Valley-Marbel Road provided the first main road into the Allah Valley (a predominantly Muslim area) which had previously been cut-off from the northern and central roads of Cotabato. The most important accomplishment of the road was to give farmers in the region access to outside markets, thereby stimulating agricultural growth in this fertile area. 213 kilometers of roadway was constructed by the project. The Malabang-Maranding Road was still under construction at the time of project close-out; 23 kilometers of the overall length of 78 kilometers were completed, with the balance to be completed under GOP supervision.

As of June 1951, Mindanao had 1066 kilometers of first class roads and 71 bridges with a total span of 2.0 kilometers. By the end of the Highway Project in 1961, 709 kilometers of new first class roads and 156 new permanent bridges with a span of 6.4 kilometers had been added to the total.

The Highway Project also introduced new, superior bridge construction techniques throughout the country. This included the longest steel span bridge in the country (the Magsaysay Bridge in Butuan City), reinforced concrete box girders, precast concrete slab spans and the application of soil mechanics to embankment settlements. 142 bridges constituting 7.1 kilometers were constructed. Various road and bridge engineering design manuals, as well as maintenance procedure manuals, were developed and distributed by the project to local engineering offices nationwide. Legislation was enacted establishing funding for the construction and maintenance for public highways which bolstered U.S. assistance to strengthen the Bureau of Public Highways (BPH) capabilities for road and bridge construction and maintenance, including equipment maintenance. By 1960, BPH was one of the largest and well-funded agencies within the government. Ninety-four equipment maintenance and repair shops were equipped and staff were trained through the project to support the national road system.

3.2 Conclusions About Project Impact

The basic strategy of U.S. assistance during this period was to develop basic institutions, manpower, national services and infrastructure the country needed to recover from the war and become a modern economy. The Philippines indeed moved in this direction during the 1950's and many expected the Philippines to become the first country to "graduate" from developing country status in the 1960's.[12]

Evaluating the results of these early infrastructure projects was apparently considered unnecessary because of the self-evident nature of the problems they addressed (nor was it a requirement yet). Though unacceptable by current standards, there is a certain common-sense appeal to this view. These were simpler times and development problems were much more basic.[13]

It is reasonable to conclude that building or upgrading agricultural schools, small-scale irrigation systems, farm to market roads, foot-bridges, water systems and the like, which were woefully inadequate or absent prior to the project, were largely beneficial to those served by such facilities and

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[12] In comparison to its neighbors, there was good reason at the time to have high expectations for the Philippines. Malaysia had only recently obtained independence in 1957. South Korea was an exceedingly poor country and many thought would it remain so for the foreseeable future. Large portions of the populations of Indonesia and Thailand lived in extreme poverty.

[13] It would be another twenty to twenty-five years before USAID began to evaluate the economic and social impact of its projects, though even now such evaluations are still not routinely or systematically conducted. The following is just a sampling of the issues and questions that now tie projects in endless knots which the projects of the 1950's blissfully escaped. What percentage of those thousands of community water systems and thousands of kilometers of rural roads are being properly maintained? How long did those irrigations pump operate and were they repaired when they broke? At what cost, paid for by whom? How many students attended those agricultural schools and do they have adequate numbers of qualified teachers, teaching materials and budget to be operated effectively? How did they use that training? What are the farm-level micro-economics of the small-farms benefiting from the upgrading of small-scale irrigation systems? What are the increases in productivity of farms using the improved major irrigation systems? How many small-farmers actually benefitted from these improvements versus large landowners? Who benefitted most and who least? How did women benefit? Were these projects environmentally destructive? To what extent are these projects financially sustainable?

infrastructure. For example, it was estimated in that only 10 percent of some 21,000 barrios in the country were accessible by road. Funding the construction of penetration and short barric roads which gave access to nearby roadways using donated local labor was very likely to be economically and socially beneficial to isolated rural communities. Studies have repeatedly found that penetration roads of this sort produce much greater returns than upgrading existing roads.

The preceding list of infrastructure outputs of the program during this period (and this is only a partial listing at that) is impressive. Moreover, the bulk of these outputs are the types of infrastructure that people living in rural areas need to improve their basic standard of living. How many actually benefitted directly or indirectly from these projects in not known. However, by 1960, the Philippines had a total population of approximately 24 million. Given the magnitude of the outputs, it is conceivable that several million people could have benefitted directly or indirectly during the useful life of the infrastructure these projects produced.

There are, of course, exceptions to this, such as, the cement plant and cotton and paper mills funded between 1955-59; hospital upgrading is largely urban focused. This reflects the prevailing development strategy emphasizing urban-based industrial development to modernize the national economy. That only makes the amount of U.S. infrastructure assistance directed to rural areas and the rural poor all the more impressive.

One important exception to the lack of impact data during this period is a report on the accomplishments of the Mindanao Development Roads project. By 1961, economic and social impact data showed that the Mindanao Roads were highly successful in achieving their intended objectives, as presented in Table 2.

Table 2: Increases in Settlement Along Roads

ROAD	No. of Settlers	No. New Barrios	No. New Schools	No. New Farms	Additional Ha. Farmed
Davao-Butuan	88,412	71	101	41,381	201,268
Cotabato Marbel	109,466	116	88	9,980	40,380
Zambo. - Pagadian	86,240	106	117	12,936	132,707
Total	284,118	293	306	64,297	374,355

The new roads clearly opened up new areas to settlement as intended. The average size new farms varied from 10.3 ha. along the Zamboanga-Pagadian Road to 4.0 ha. along the Cotabato-Marbel Road. The overall average of new farms was 5.8 ha. All of these averages are considerably larger than the 1-2 ha. farms common throughout Luzon. This means that new settlers had the opportunity to establish farms much larger than in the areas from which they came. However, it is also important to recognize that this new settlement constituted a massive influx of Christian settlers from Luzon and the Visayas and frequently occurred at the expense of tribal minorities and Muslim communities who were pushed to more marginal lands.

Data on transportation costs and travel time show significant improvements due to the roads, presented in Table 3.

Table 3: Percentage Decrease in Travel Costs and Time

ROAD	Passenger Cost (1)	Commodity Cost (2)	Travel Time (3)
Davao - Butuan	69%	60%	58%
Cotabato - Marbel	47%	67%	50%
Zambo. - Pagadian	63%	50%	50%

Note: Columns are average percentage decreases
(1) Along selected sections of the road
(2) Cost per bag of rice or corn along selected road sections
(3) Travel time to the provincial capital for selected roads

The percentage reductions presented in Table 3 reflect the substantial benefits produced as a result of the road improvements. Studies of road projects have shown repeatedly that such decreases in transportation costs facilitate the new economic activities and growth in the region. Increased agricultural production and improved farm gate prices for farmers lead to higher farm incomes. In areas with better access to population centers, farming often diversifies into higher value, perishable crops once reliable and inexpensive transportation becomes available. With increased production, demand for farm labor increases. Commercial activity typically intensifies with the increase in new businesses which, in turn, generates non-farm employment. Cheaper, faster transportation encourages more frequent travel from remote areas to urban areas, resulting in improved access to various social services. These measures, therefore, suggest that these roadways produced significant benefits for the rural poor, but it is very unlikely that Christian and Muslim farm families benefitted equally.

SECTION 4: 1962 - 1973: THE TRANSITION TO A RURAL DEVELOPMENT PROGRAM

4.1 The New USAID Program

With the creation of the United States Agency for International Development (A.I.D. or USAID) by the Foreign Assistance Act of 1961, the U.S. assistance program to the Philippines and support for infrastructure development changed markedly. In contrast to the urban-based, industrial development strategy of the 1950's, A.I.D. was instructed to focus on agricultural development, social services and community development.

Despite these new instructions, USAID funding levels declined sharply after 1960, from $52.8 in 1959 to $24.9 in 1960 and $19.2 in 1961. Total program levels moved irregularly downward, while grant assistance steadily declined through 1965 and then increased slightly until 1969. Beginning in 1970, total program levels suddenly rose to $24.1 million in 1970, $35.4 million in 1971 and $51.6 million in 1972, with 1973 funding falling to $19.2 million. Particularly pronounced was the sharp funding decline in the Development Assistance (D.A.) account. Between 1960 and 1961, Development Assistance levels fell from by almost fifty percent. Between 1951 and 1960, annual Development Assistance grants averaged $12.2 million, while for the 1962-73 period, the average was only $5.2 million.

While D.A. levels remained low in comparison to the preceding period, PL-480 funding increased as a percentage of total annual assistance. After an unusual year in 1961 where food aid constituted 93 percent of the total program, it fell to 67 percent in 1962, increasing to 88 percent by 1966. No Title I assistance was provided between 1967 and 1969, reducing food aid as a percentage of the program. Title I assistance recommenced in 1970 along with a significantly expanded Title II program. PL-480 assistance constituted 62 percent of total assistance provided in 1970 and rose to 80 percent 1972. These PL-480 programs generated substantial local currency that was programmed for various agricultural and rural development projects, many of which involved infrastructure development. Again, there is no record of how much generated local currency was spent on infrastructure-related activities. In short, PL-480 programs composed a major portion of USAID's program assistance in the 1962-73 period.

The number of grant and loan funded projects in the portfolio declined as funding levels decreased. Instead of fifty of more small projects characteristic of the 1951-1961 period, the number of projects fell to twenty to twenty-five projects. Most of these projects were small-scale activities, consisting largely of technical assistance and training, and were funded annually. In 1965, for example, the portfolio had twenty-four D.A. funded

projects with an average annual obligated level of $123,800 per project. These projects tended to focus on very discrete problems or requirements addressed through comparatively short-term assistance. Given the budget levels of the overall program during this period, combined with this short-term, problem-specific approach, assistance for infrastructure development fell sharply in comparison to the 1951-1961 period. However, as discussed below, the 1962-1973 period also contains the foundation of what would become perhaps the most interesting period in USAID's program in the Philippines, including very strong and effective support for infrastructure development, beginning in 1974.

4.2 Infrastructure Projects in the 1962-1973 Period.

Table 4 presents annual obligations for infrastructure projects made during the 1962-1973 period.

(see Table 4)

Table 4 shows the precipitous decline in assistance for infrastructure projects that occurred during the early part of this period. The last major obligation to the Community Development Project of $2.9 million was made in 1962; obligations declined sharply in the following years. This was a self-help project implemented by the Presidential Assistant for Community Development which supported the construction of various small-scale infrastructure projects nationwide from 1956 to 1966.[14]

Assistance for irrigation systems development was continued through the Water Resource Survey, the Agricultural Productivity - Irrigation and the Water Resources Development Projects. These projects focused primarily on planning and water resources management as opposed to upgrading or construction of new systems. Studies and analyses concerning flood control, irrigation and hydro-power development focused initially on the Central Luzon area, but then was expanded to six additional river basins. Funding was provided for construction work on the Angat River Irrigation System in 1967. Further studies and analyses focused on the Magat River Basin beginning in 1971. The results of this work were used by the World Bank to prepare major loans. The National Irrigation Administration (NIA) was established in 1964 and served as the counterpart organization for these

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[14] The Community Development Project combined Development Assistance grants and non-project assistance to fund an assortment of self-help activities. Small-scale infrastructure was an important part of this; exact funding for which is not known. Other activities included community organization, leadership training, trade union development, farm organizations and civic groups.

TABLE 4: THE TRANSITION TO A RURAL DEVELOPMENT PROGRAM
('000 DOLLARS)

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	TOTAL
ELECTRIFICATION													
Power Survey			249	5									254
Rural Electrification						160	3,750				20,000	2,300	26,210
Tiwi Geothermal Plants												4,700	4,700
WATER RESOURCES													
Water Resources Survey		516	345	379		72	52						1,364
Ag. Productivity – Irrigation			43	108	95	7	27						375
Water Res. Dev.								140	24	139	143	179	625
Angat River Irrigation System						1,685							1,685
LOCAL GOVERNMENT ASSISTANCE													
Community Development	2,934	131	84	99	76								3,400
Rural Development					117	121	332						687
Provincial Development								295	461	375	615	606	2,352
OTHER INFRASTRUCTURE													
Air Traffic		115	90	32	102	227							668
Disaster Recovery												40,000[1]	40,000

[1] Approximately $40 million of a $50 million Special Grant made in FY 73 for Disaster Assistance was used for rehabilitation of roads, bridges, small irrigation systems schools and flood control measures damaged by the 1972 floods.

projects, resulting in better technology transfer to NIA. GOP support for water resource planning and development increased measurably after 1971 which aided the institutional development of NIA.

USAID support for infrastructure during this period was, in fact, not as constricted as this picture suggests. First, as mentioned above, PL-480 assistance generated considerable amounts of local currency which was programmed to fund various national GOP agricultural and rural development programs. Programs receiving this funding, such as Agrarian Reform, involved rural infrastructure development, such as construction of farm to market roads, bridges, flood control measures, and small-scale irrigation systems. No records of the exact amounts spent on these activities are available.

Second, under the Title I program, local currency could be lent to U.S. and local manufacturers for projects which would increase the importation of U.S. agricultural products. Cooley Loans, as they were called, typically financed construction of plant facilities. Between 1962 and 1966 alone, more than $4 million in local currency was used for such loans.

Third, participation in the U.S. Excess Property Program began in 1963. For the cost of rehabilitation and/or shipping (if coming from outside of the Philippines), the GOP obtained excess U.S. military equipment needed for roads, bridges and irrigation maintenance and construction. Most of this equipment came from Clark AFB, Subic Naval Base and Sangley Naval Air Station; other equipment was shipped in from the U.S., Germany and Japan (Viet Nam would become a major source in the 1970's).

By the end of FY 1970, equipment valued at $19 million had been provided to fifteen provinces, four chartered cities and the National Irrigation Administration. Technical assistance and training on the use and maintenance of this equipment, as well as the operation of equipment pools, was provided through the Equipment Pool Improvement Project. Participation in this program continued into the 1970's. Through the Local Development Project, provinces received some 800 pieces of equipment for their road maintenance and construction equipment pools. Over $6 million worth of electrical equipment had been obtained for the National Electrification Administration. Schools, hospitals, clinics, civic organizations and government agencies were also major recipients of the program. By 1973, $28 million worth of equipment had been obtained through the program.

This period also constitutes an important transition in USAID's program, in general, and assistance for infrastructure development, in particular. Two very important developments which would become central features of future USAID programs occurred during this period.

Beginning in 1964, USAID funded a national study of the power industry in the Philippines. The main recommendation of the study was that national electrification based on the U.S. rural electric cooperative model was feasible and should be supported. By the late 1960's, the GOP had declared total electrification of the country a national goal. It established the National Electrification Authority (NEA) in 1969 as the lead agency for the rural electrification effort.

The results of the 1965 Power Industry study and subsequent work in 1966 and 1967 by the National Rural Electric Cooperative Association (NRECA) led to USAID financing the development of two pilot rural electric cooperatives (REC) in Cagayan de Oro and Negros Oriental in 1968. An additional $350,000 was provided for further feasibility studies by NRECA to develop a national system of RECs. The two pilot RECs became operational in 1971 and proved to be highly successful in delivering service to rural communities which previously lacked electricity.

During the pilot phase, USAID began planning a major program in rural electrification with the objective of establishing at least one REC in every province. NEA's mandate was expanded in 1973 to make it a more effective organization in the electrification effort. NEA was given responsibility for development and regulation of the electric utility industry. Equally important, new, dynamic leadership was appointed to NEA to implement its expanded responsibilities, which contributed significantly to the rapid expansion of the rural electrification program.

USAID approved its first Rural Electrification loan for $19.4 in FY 1972 to support the National Electrification Program of the GOP initiated in 1969. The goal of national program was to establish at least one "backbone" REC capable of subsequent expansion in all 72 provinces. The development goal of the USAID loan was to "improve the economic and social conditions of inhabitants of rural areas by providing them with continuous, dependable and economical electric service on a self-supporting basis". The loan funded the procurement of commodities needed for the development of RECs, additional technical assistance and training to NEA and the newly formed RECs and continuation of engineering services. In preparation for subsequent loans to the rural electrification program, NRECA's services to NEA for institutional strengthening were extended through FY 1976 with an $2.3 million grant in 1973. (The results of this major USAID program are discussed in Section 5.6.)

USAID also provided $4.7 million in loan funds for construction and grant funds for engineering and technical assistance for the first phase of the Tiwi Geothermal Plant in Albay. This was followed by a series of loans from OECF for subsequent development of the facility.

A second major development in the USAID program was new support for decentralization of government functions. This assistance would evolve into a major program element, continuing in one form or another to the present. It would also significantly affect how assistance for infrastructure development would henceforth be provided by USAID.

By the mid-1960's the GOP and USAID had ten years of experience with the Community Development Program. Though numerous activities had been undertaken, the results were not as effective as they might have been. Assistance was planned and managed from Manila by the office of the Presidential Assistant for Community Development. The program suffered from the standard problems of overly-centralized government programs - Manila planned and decided which activities to implement. In general, the program lacked sufficient local involvement in the identification of which problems to address and where these activities should be undertaken. Moreover, without genuine local participation in the project, local capability to assume greater responsibility for development activities was not being strengthened.

Through the Rural Development Project, using Tarlac and Laguna Provinces as pilot cases, USAID and the GOP explored how local capacities for administration of development activities could be established and strengthened at the local level. This effort resulted from an earlier request for assistance from these two provinces to meet local infrastructure needs, i.e., roads, bridges and small-scale irrigation. USAID and the GOP agreed to provide financial and technical assistance directly to the pilot provinces in an activity known as Operation SPREAD (Systematic Programming of Rural Economic and Agricultural Development). To support this effort, the GOP created the Provincial Development Assistance Program (PDAP) under the National Economic Council (the predecessor of the National Economic Development Authority).

PDAP's responsibilities for strengthening local capacity to undertake development projects were made national in scope in 1968. USAID supported this effort through a series of projects first focusing on provincial capabilities - the Provincial Development Project (FY 68-73), followed by the Local Development Project - and then at the chartered city level - the Rural Service Center Project. These projects provided an array of technical assistance and training to local government staff, as well as to PDAP so that it could better provide support services to local government. Participating provinces - i.e., PDAP Provinces - were assisted in preparing provincial development plans, including road network plans; strengthening their Engineering Office and Equipment Pool operations; and preparing annual budgets to support implementation of the plans.

A key turning point in this assistance which would link local capacity building more directly to infrastructure development occurred in 1972. Central Luzon, the most densely populated and most developed portion of the country at that time, suffered extensive damage from a severe typhoon in 1972. In response to the GOP's request for special assistance, the U.S. Congress approved a $50 million Special Grant for Disaster Assistance in 1973. Roughly $40 million were used for infrastructure-related activities. $13.27 million were directed to the Provincial Infrastructure Program for the rehabilitation of roads, bridges and irrigation systems in eleven severely affected provinces. Eight of these were already PDAP Provinces, three were not.

Construction funds were channelled to the provinces via PDAP from USAID on the basis of a Fixed Amount Reimbursement Agreement (FARA). This innovative arrangement required the province to develop engineering plans and budget estimates of proposed civil works which were reviewed by PDAP and USAID. On approval of these plans and agreement on an established project cost, the province proceeded using its own funds. On completing key stages of the project (or completion of the entire project), the province submitted requests for reimbursement to PDAP. Using independent engineering services, construction would be inspected. If construction was in accordance to the original plans, PDAP would agree to reimburse the province and USAID, after conducting its own review, would reimburse PDAP. Because this was a fixed amount agreement, it was the province's responsibility to assure projects costs did not exceed the fixed reimbursement price while meeting construction standards.[15]

The Provincial Infrastructure Program ended in mid-1975 after roughly two years of implementation. Through the Program, 460 kilometers of roads were reconstructed, 4200 meters of bridges were repaired and numerous small irrigation systems were rehabilitating affecting approximately 1,100 ha. of farm land. Perhaps most important, the approach used for the Provincial Infrastructure Program proved to be a highly effective mechanism for bringing together key elements of local administration of development activities.

By focusing the process on infrastructure development, very strong incentives were created to make the process work, particularly at the local provincial level. Needless to say, infrastructure projects have extremely high priority due to their political, as well as their economic importance. The ability of

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[15] In principle, provinces stood to gain from projects they completed under the established reimbursement cost while meeting construction standards. They also bore responsibility for cost overruns. In short, it was in everyone's best interest - the province, PDAP and USAID - to assure the FARA was accurate.

local politicians to deliver such projects to their constituencies, especially in poor rural areas, was viewed as a sure vote-getter in the next election. The FARA financing mechanism encouraged local governments to assure that the planning, budgeting and implementation requirements for these projects meshed. Responsibility for assuring this occurred was placed where it belonged - on the local government. In turn, this gave added importance and utility to the technical assistance and training PDAP and the Provincial Development Project were providing.

3.3 Conclusions about the 1961-73 Period

The 1961-73 period was a time when USAID's program in the Philippines began to take shape. It took several years for USAID to re-cast the type of assistance that had been provided in the preceeding years. Up until the mid1960's, there was little change in the type of projects being funded. However, this began to change after 1965. In contrast to the urban - industrial focus of the 1950's, USAID increasingly recognized that rural development was the key to stimulating national economic growth. By the 1970's, rural development had become the central objective of the USAID program.

There is very little information about the economic and social impact of infrastructure projects during the 1961-73 period. However, it is fair to conclude that the construction of roads, bridges, irrigation systems and other small-scale projects helped meet local infrastructure requirements. This assistance initiated what would become a key USAID program component in the following years. More importantly, in the latter half of this period, the foundations for future assistance - in terms of types of projects and funding mechanisms - were established for promoting decentralization through the management of infrastructure projects.

SECTION 5: 1974 - 1986: IMPLEMENTING THE "NEW DIRECTIONS" - RURAL DEVELOPMENT AND LOCAL GOVERNMENT CAPACITY BUILDING

5.1 Program Description

The 1973 amendment to the U.S. Foreign Assistance Act directed A.I.D. to target economic assistance on the poor majority of people in aid-recipient countries. The "New Directions", as this legislation was called, led to greater emphasis of increasing food production, improving nutrition, providing adequate health and family planning services and meeting other basic human needs through projects working directly with the rural poor. Though not explicitly stated as such, the poor majority focus led to programs and projects designed to reach "the poorest of the poor". This emphasis had major implications on the types of projects to undertake, where they would be located and how they would implemented and by whom, as well as on the standards by which they would be evaluated.

The 1974 - 1986 period includes a diverse array of infrastructure projects making it perhaps the most interesting period in USAID/Philippines' history. The period itself is not homogeneous; it contains major increases in overall program levels, changes in categories of assistance funding the program and major shifts in program strategy. Local government capacity building, a key program element during this period, broadens from the provincial level to support institutional strengthening at the municipal and community levels. These factors led to the expansion of assistance for infrastructure across a wide range of sectors, geographic locations, modes of implementation and levels of intervention. One could easily sub-divide this period in several different ways; however, the underlying strategy guiding USAID's support for infrastructure development has sufficient continuity during this period to define it as a distinct period in the program's history.[16]

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[16] Program strategy could be divided between a general rural development/rural poverty focus, versus reaching the abject poor in upland and lowland agricultural and coastal communities. Funding and implementation approaches divide the period between Development Assistance loan funded projects versus Economic Support Fund (ESF) grant projects. The pace of implementation due to economic and political conditions divides the period. Implementation moved at a reasonable pace from 1974 to the early 1980's despite insurgency problems. Inadequate counterpart funding in the 1980's slowed implementation to a crawl as conditions degenerated. 1986 is unique in marking a major transition between the Marcos and Aquino Administrations and does not fit easily in either period. USAID's conversion of loans to grants and substantial de-obligations from project accounts for a special cash transfer makes 1986 a very unusual program year.

A major turning point in USAID/Philippines' program occurred in 1974 when its project portfolio underwent a major expansion accompanied by significantly increased program levels. Total program assistance reached $55.7 million in 1974 and continued to rise to $185.9 million 1985 due to increased Development Assistance levels and ESF funding. The annual average level during the 1974-85 period was $90.4 million, considerably above preceding period averages. Infrastructure financing during the 1974-86 period consisted of large development loans prior to 1980 and ESF grants after 1980.[17]

Program levels increased substantially throughout this period for political as well as developmental reasons. The Philippines was viewed by the U.S. as a staunch defender against the spread of communism at a time when the U.S. was extricating itself from the war in Viet Nam. As a result of the Military Bases Agreement of 1979, the country became a major recipient of Economic Support Funds beginning in 1980. ESF assistance was to be provided in addition to current funding. In fact, levels fell with the start of ESF funding. Development Assistance averaged $45 million between 1974-79 and decreased somewhat to $37 million annually between 1980-86. PL-480 assistance was also reduced. The Title II program averaged $15 million annually over the period, while Title I assistance was terminated between 1980 and 1986.

The program strategies of the 1974-86 period began to take shape as early as 1970. By the late 1960's, it was apparent that inordinately high rates of population growth, little expansion of the rural economy, growing rural-urban income disparities and extremely inadequate social services in rural areas were critical problems the country needed to address. Large families and low agricultural productivity were accompanied by a serious malnutrition problem in rural areas. In response, the USAID program had begun to focus on two key areas - rural development and health/population in 1970. A new generation of projects were under development that were wholly consistent with the "New Directions" even before the legislation was passed. From 1974 onwards, these projects were introduced in quick succession.

From 1974 until 1980, the program strategy increasingly directed assistance to the rural poor. In 1980, the Mission intensified its previous efforts by adopting a "poorest of the poor" strategy designed to reach the most abjectly poor segments of the rural population. Running in parallel to (or in support of) the poverty alleviation focus was the objective of developing local government planning and implementation capabilities to advance decentralization of government functions and make development more responsive to local development requirements. It was within

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[17] The last Development Assistance loans were made in 1985. In 1986, existing loans were converted to grants by USAID.

this context that major new infrastructure investments were made, most notably, in rural electrification, rural roads, irrigation, and water supply and sanitation systems.

Table 5 presents data on the financial obligations made to infrastructure projects during this period

(see Table 5)

As Table 5 shows, six major components of the USAID program during this period supported infrastructure development: a) Decentralization/Local Capacity Building, b) the Bicol Integrated Development Program, c) Rural Infrastructure, d) Water Systems, e) Energy and f) ESF Infrastructure Projects. The following sections summarizes the activities undertaken in each of these areas, the outputs produced and their impact on economic and social development

5.2 Decentralization and Local Capacity Building

USAID funded three projects during the 1974-86 period in support of local capacity building; they were: Local Development, Rural Service Centers and Local Resource Management. Though these projects did not finance construction, they were directly tied to USAID-funded infrastructure projects (particularly rural roads and water systems). The planning and implementation capacities that these projects strengthened were used by provincial and chartered city governments to address local infrastructure requirements. Infrastructure projects provided the resources and opportunities for local government put in practice the staff training and technical assistance they were receiving, thereby gaining actual experience with the project planning and implementation.[18]

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[18] This description is more accurate for the Provincial Development, Local Development and Rural Service Centers Projects than for Local Resource Management (LRM). LRM shifted the focus of project identification and planning to the local community level in an attempt to reach the very poor in rural areas. Nonetheless, the same general characterization applies to LRM even though principal "clients" were not exclusively local government units. The focus on infrastructure development in these projects was more overt in LDP than RSC and LRM. LRM emphasized government decentralization through empowerment of local community groups, with all the attendant benefits this was expected to produce. However, this review is concerned with the production of infrastructure which improves the lives of intended beneficiaries, whether implemented by provincial governments, cities or local community groups.

TABLE 5: IMPLEMENTING THE "NEW DIRECTIONS"
('000 DOLLARS)

	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	TOTAL[1] DE-OB	PROJECT TOTAL
Local Development	1,103	1,269	1,450	1,147	810			(2)				(192)		(194)	5,585
Rural Service Centers					488	417	791								1,696
Local Resources Management									4,937	563	7,400	100	9,000	(2,462)	19,538
DECENTRALIZATION TOTAL															26,819
Bicol River Basin	387	599	305	868							(275)	(59)		(334)	1,825
Bicol IRD					897	680	760	15							2,352
Bicol IAD I	3,500														3,500
Bicol IAD II				2,250	750						(675)	(84)		(759)	2,241
Bicol IAD III						3,500	1,500					(1,499)		(1,499)	3,501
Bicol Roads			10,000							(709)	(391)			(1,100)	8,191
Bicol Health						3,250						(1,450)		(1,450)	3,250
TOTAL BICOL															24,860
Rural Roads I & II		15,000			7,000	10,617	16,500	1,000			(570)	(27)		(597)	49,520
Upland Access											3,000				3,000
Small Scale Irrg.			309	6,950	365			(10)			(15)		(121)	(146)	7,468
Small Farmers Systems I & II					5,155	5,350	7,600								18,105
TOTAL RURAL INFRASTRUCTURE		15,000	309	6,950	7,365	10,617	16,500	990	0	0	2,415	(27)	(121)	(743)	59,988
Provincial Water Dev.	15,500											(5,030)		(5,030)	10,470
Local Water Dev.				4,500	500	500									5,500
Barangay Water I					3,184	3,000						(646)		(646)	5,538
Barangay Water II							8,387	9,200	4,550			(5,500)		(5,500)	16,637
Panay Health					5,716										5,716
WATER SYSTEMS TOTAL	15,500	0	0	4,500	9,400	3,500	8,387	9,200	4,550	0	0	(11,176)		(11,176)	43,861
Rural Electrification	18,648	20,575	20,300	100	8,400			(10)						(10)	68,013
Non-Con. Energy					8,650				(1,500)					(1,997)	6,653
Rural Energy Dev.									11,000	7,000		(12,000)	(2,501)	(16,277)	1,723
TTEM												3,367	1,533	(857)	4,043
ENERGY TOTAL															80,432
Schools							18,000							(478)	17,522
Clark Access Road								5,000						(1,505)	3,495
Municipal Development Fund								22,000	13,000	20,000			(19,000)	(24,552)	30,448
Markets									4,000	8,000		9,000	(11,799)	(13,117)	7,883
Regional Development Fund									20,000	15,000	50,000	36,500	(34,575)	(34,575)	
ESF TOTAL															59,348

[1] Total includes de-obligations made after 1986

A direct linkage between local government capacity building and infrastructure development was made in Rural Roads I and II, Barangay Water I and II, and to a lesser extent, in the Bicol Integrated Health and Nutrition and the Panay Unified Support for Health Projects. The same principles applied to the Bicol Integrated Area Development Program, though integration of various central government, line agency functions and services to meet local area development needs was the overriding concern. Organization of local user associations, such as rural electric cooperatives, irrigators associations, local water authorities and community water associations, was an important form of local capacity building in these projects. Organization and capacity building at these levels were, in fact, central to Rural Electrification, Small Scale Irrigation, all of the water supply and sanitation systems projects and the BICOL IAD projects.

Continuing the assistance started under the Provincial Development Project, the Local Development Project extended assistance to PDAP (then within the Ministry of Local Government and Community Development - MLGCD) and to provincial governments. Training and technical assistance was provided to strengthen the planning and implementation capacities of participating provinces. This took the form of a series of planning and budgeting exercises: the Comprehensive Development Plan - a long-term development plan, a five-year Capital Improvement Program plan, annual, Annual Action Budgets, a Provincial Road Network Development Plan, and a management plan for equipment pool maintenance. To carry out this planning, provinces established a Provincial Development Staff. The Provincial Engineering Office was a key element in this capacity building effort.

In addition to planning assistance, PDAP provinces received rehabilitated road equipment and spare parts through the U.S. Excess Property Program and assistance with organizing and operating an equipment pool. The equipment served as the basis for training mechanics, construction engineers and road crews, and for teaching cheaper road construction methods and improved maintenance techniques. LDP advisors and PDAP staff also produced a number of road construction and maintenance manuals on such topics as provincial highway design standards and cost standards by type of road. A 1975 evaluation of LDP found this component to be highly effective, particularly for building new feeder and penetration roads for rural communities.

Expected outputs of LDP included construction or repair of at least 50 kilometers of provincial roads annually, provision of a feeder road to all barrios with a population greater 1,000 residents, and adequate maintenance of the provincial road network. Planning and implementation activities were accompanied by assistance to increase the assessment and collection of local real property taxes to generate revenues for local government projects.

In support of these objectives, LDP funded a Special Infrastructure Program (SIP) using P34 million in PL-480 local currency proceeds which replicated the preceding Provincial Infrastructure Project under the Disaster Recovery Grant of 1973. The same model was followed: PDAP provinces planned and implemented infrastructure projects and were reimbursed by PDAP using the Fixed Amount Reimbursement Agreement (FARA). Assistance was extended to provinces in the Visayas and Mindanao under the SIP. This funded construction of 200 kilometers of new/provincial roads and 2000 meters of bridge works, and rehabilitation of small-scale irrigation systems affecting approximately 1,000 hectares of farmland. It was estimated that some 10,000 small farm families benefitted from these civil works.

By 1974, twenty provinces were in the PDAP program and some 670 kilometers of feeder roads were constructed, estimated to benefit more than 13,000 rural families. By 1975, twenty-five provinces were participating in PDAP; this increased to twenty-eight provinces by 1977. The goal was to ultimately reach all seventy-two provinces of the country.

Evaluations of the Local Development Project and PDAP commended this effort as the most successful of its kind at the time. Planning and implementation capacities improved markedly during the project and resulted in the construction or repair of thousands of kilometers of rural roads, bridges and small-scale irrigation systems. However, the sustainability of these improvements were questionable in light of continued staff turnover among Provincial Development Staff. Evaluators found that in 12 out of 28 PDAP provinces, new inexperienced staff filled the majority of key positions. Provinces were also having considerable difficulty preparing long-term Provincial Comprehensive Plans which covered a twenty year period. Real Property Tax Plans were prepared, but collections were very low, undermining the financial capability of provincial governments to sustain their development efforts without external project funding. Moreover, as the 1970's progressed and economic conditions in rural areas degenerated yet further, cash flow problems restricted the ability of provinces to advance-fund construction activities under the FARA provisions.[19]

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[19] PDAP was originally under the direction of the National Economic Council. It was moved to the Executive Office of the President in 1970 and then to DLGCD in 1974. PDAP's financial intermediary role vis-a-vis local governments made it an attractive "profit center", creating a convenient mechanism for abuse by certain persons which was a persistent problem.

The Rural Service Center Project essentially replicated the LDP/PDAP effort for selected chartered cities. Comparable types of technical assistance and training were provide to fifteen chartered cities. Participating chartered cities were assisted in planning and implementing projects focused on poverty alleviation for the poorest segments of their communities. Various small scale employment generation projects as well as civil works were supported through RSC. PDAP also gained experience in working with chartered cities. At least six of the participating cities developed the planning and implementation capabilities to the degree required to obtain funding from the Rural Roads II project for feeder road construction.

The Local Resource Management Project (LRM) reflects the Mission's new 1980 program strategy that focused assistance on the "poorest of the poor", e.g., upland and lowland tenant farm families, artisanal fishermen and landless agricultural workers. LRM was representative of a generation of USAID projects designed to engage the poorest, most disenfranchised segments of rural society directly in the project process. To accomplish this, substantial technical assistance and extensive engagement of local PVOs was used to facilitate a highly participatory process involving the selected poverty groups in project identification, planning and implementation. These poverty groups would first be identified and then trained and organized into community associations by local PVOs to participate in LRM. Local governments and regional line agencies would also be re-oriented to giving priority to the needs of their poorest residents.

Such projects were viewed as providing more effective assistance to the very poor by enabling these people to participate in the development process. More importantly, they would gain the ability to influence local government to address their development needs - i.e., they would become "empowered". Regional, provincial and local government agencies would better understand the needs of its poorest residents and become more responsive to those needs in their future development activities.

Needless to say, LRM was a very complicated project involving multiple actors engaged in new and very different approaches to project implementation. It consisted of three main components: a) real property tax administration, b) projects designed to generate income and employment and c) community development projects consisting largely of small-scale infrastructure development. Only the latter are of interest here, i.e., that LRM's participatory process would ultimately benefit poor communities through various small-scale infrastructure improvements, such as barrio roads, bridges, culverts and irrigation works.

LRM's funding for infrastructure projects was provided to provincial governments through the Municipal Development Fund, a ESF-funded project which financed the construction of various local infrastructure projects. (MDF is discussed later in conjunction with other ESF infrastructure projects.) After identifying and developing projects at the local level consistent with LRM's objectives, approval was obtained from the Regional Development Council. Funding was then provided to the provincial government on a cost-reimbursement basis via a MDF-GOP budgetary allocation process.

As laudable as the goals of LRM were, the project was not one of USAID's success stories. The strength of LRM was its ambitious nature, e.g., taking the decentralization process to the point of engaging the poorest of the rural poor directly in the project process, re-orienting bureaucratic systems to give priority to poverty group needs, but this was also its undoing.[20]

Implementation moved very slowly, especially as economic and political conditions deteriorated in the mid-1980's. After obligating another $9 million to the project in 1986, a 1987 interim evaluation of LRM (five years after project approval) essentially described a project so bound up in its complex process-orientation that tangible outputs - small roads, bridges, irrigation works - were not being produced at an acceptable pace. Subsequently, project management arrangements and procedures were simplified, project focus shifted from learning to doing, and targeted beneficiaries were expanded to include households in poor areas (as opposed to specific employment categories) to accelerate project implementation.

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[20] This was the era in USAID of "rolling design" projects which were allegedly more effective than traditional project designs (too structured - bad) in providing rural development assistance and, in particular, assistance to "the poorest of the poor". If the poor were to benefit from project assistance, they needed to be organized and empowered to participate in the development process. The outcomes of these processes were too uncertain to predict prior to implementation. Rather, rural development projects must be process-oriented, social learning experiments which evolved over time, i.e., the "learning-process" approach. Despite such fervent convictions and good intentions, experience would show that this approach was an administrative nightmare for USAID, that the contrast of traditional versus process design approaches was a canard and that "process" projects generated much paper and consumed considerable time "facilitating", but produced precious few tangible results that benefitted the poor. Using the production of infrastructure beneficial for poor rural communities as the measure of LRM's success, as this review does, is a perspective most likely not shared by those who advocate a process approach.

The 1990 impact evaluation of LRM reported that the project had a beneficial impact on the rural poor, especially those who were members of community associations. However, impact appeared to be less than anticipated, though prevailing political and economic conditions were far from conducive to project success. The evaluators found estimates of the number of beneficiaries highly inconsistent, though it appears that more than 100,000 people benefitted from all of LRM's sub-projects, including some fifty infrastructure sub-projects. The vast majority of these beneficiaries were indeed very poor people earning between P300 to P1000 per month and living in some extremely remote communities. However, the evaluation found a number of sub-projects selected by provincial officials without local beneficiary participation.

Approximately fifty infrastructure projects had completed or were underway by April 1990. Approximately 48 percent of funds available for infrastructure development (₱48 million in 1990) were used for road projects, roughly 18 percent for water supply systems and 9 percent for community multi-purpose training centers. The balance of these funds were used for agriculture, fishing or other various sub-projects (e.g., low cost housing, dam construction, livelihood).

The roads sub-projects involved either repair of existing roads or new construction to improve access to markets for remote communities. Road construction often generated temporary employment for community members in many cases and involved local contractors. The roads appear to have been the most successful of LRM-funded infrastructure projects.

The evaluation found that water supply projects provided immediate social benefits; however, the impact on health conditions could not be estimated because these projects had only been recently completed.[21] Multi-purpose centers seemed to have been of questionable benefit to the community and appeared to be politically motivated projects emanating from the provincial level. The evaluation justifiably questioned the sustainability of these sub-projects with respect to maintenance and repair

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[21] It is unlikely that the impact of water supply on health status could ever be statistically demonstrated. Considerable time and money has been devoted to measuring this connection as a basis for determining the impact of water supply projects. Demonstrating a statistical association between water supply and health status appears to be a futile exercise. These studies show that income and nutrition have a far more powerful influence on health status than does water supply. However, anyone who doubts the association between clean water and good health can easily test its validity themselves by drinking from irrigation canals or other non-potable water sources.

requirements, particularly for the roads and water systems. In short, the infrastructure results of LRM were disappointing, consistent with the overall outcome of the project.[22]

LRM reached its completion in August 1991, ending a quarter of a century of direct assistance from USAID to build local government capacity, much of which was directed to planning and implementing infrastructure projects. USAID continued assistance for local government administration of development projects, but shifted to policy-based program assistance (i.e., non-project assistance) or more indirect approaches.

For the purposes of this review, the importance of these decentralization projects is their complementary efforts for institutional capacity building in support of infrastructure development. For the most part, these projects helped to develop local institutional capacities which, in turn, contributed to more effective participation in USAID-funded infrastructure projects and, in many cases, more effective results.

5.3 Bicol Integrated Rural Development

5.3.1 Program Objectives and Project Descriptions

The Bicol Integrated Area Development Program was central to USAID's rural development strategy of the 1970's. The region had the potential to become an important agricultural zone due to its climatic and natural resources, including fertile lands and abundant water supply. However, geophysical factors (i.e., severe typhoons causing frequent damage and regular flooding); physical isolation due to a lack of roads and communications; inadequate agricultural infrastructure and technology for production, storage and marketing; poor agricultural support services; insufficient agricultural credit; inequitable land tenure arrangements; inadequate government social services and high population growth rates combined to make the Bicol one of the poorest regions in the country. This relative poverty, on the one hand, and potential for improvement, on the other, presented a prime location for USAID rural development efforts.

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[22] Despite all of the effort devoted to LRM's participatory approach to rural development, in the final analysis, the project's outputs faced the same questions of sustainability as more traditionally implemented infrastructure projects - i.e., how long will this stuff last. Despite being a seriously deficient project in several important ways, the 1990 impact evaluation interestingly notes that many of the basic principles of LRM were adopted by the GOP after 1986. This includes the legislation on devolution, the focus on rural poverty alleviation, the use of participatory approaches and local PVOs to reach poverty groups.

The general belief guiding this integrated development program can be summarized as follows. Through the integration of various government programs and services, combined with USAID and donor-funded projects, the development of the Bicol region would be advanced and accelerated beyond what these activities would otherwise accomplish in the aggregate. Great optimism accompanied the integrated area development (IAD) approach, as exemplified by the following USAID statement concerning the Bicol River Basin Development Program:

> "It will benefit from virtually the full range of AID-assisted projects...Its unique feature is the attempt to integrate all development activities of the area into a vertically and horizontally integrated package extending from groups of farmers on compact farms to large-scale public works to control and regulate the Bicol River and its tributaries."

The Bicol was a major test case for maximizing the effectiveness of government services and donor assistance for rural development. Through the integration of services and projects in a region which was one of the poorest in the country, the IAD effort was expected to achieve the following:

> "The goal of the Bicol River Basin Development Program (BRBDP) is to raise the socioeconomic level of the region's people to the national level by 1990 and to sustain at that level thereafter."

The major objective of the BRBDP was to increase the per capita income of rural families. Additional objectives included: a) increase agricultural productivity, b) increase employment opportunities, c) create a more equitable distribution of wealth, and d) promote agro-industrial and industrial development.

USAID funded an array of infrastructure inputs through its projects in the Bicol: secondary and feeder road construction, procurement of road construction and maintenance equipment, salt water intrusion protection, flood control, irrigation system rehabilitation and new systems construction and water supply and sanitation systems. Other USAID infrastructure projects operating on a nationwide scale - Rural Electrification, Rural Roads I and II, Barangay Water I & II - gave priority to the Bicol as a location for their activities.

USAID's Bicol projects provided various agricultural support services, health services, institutional development support and substantial technical assistance,and training. Complementary inputs were also provided by other agricultural and rural development projects in the USAID portfolio, including Provincial Development, Local Development, Rural Service Centers, Agrarian Reform, Agricultural Research, Agricultural Education Outreach,

Cooperative Marketing, Integrated Agricultural Production and Marketing, Small Farmer Systems, Real Property Tax Administration, and health, population and nutrition projects. This assistance augmented existing GOP services and programs operating in the Bicol.

USAID initiated studies of the feasibility of undertaking this major program in 1972. The New Directions of 1973 gave added impetus to move ahead with the program. Beginning in 1974, USAID funded the Bicol River Basin Project which supported research and planning activities. The project strengthened the Bicol River Basin Development Program Office so that it could effectively coordinate and integrate various GOP services and programs, and USAID and other donor projects. A 1977 evaluation concluded this initial project had achieved its objectives of supporting the institutional mechanisms needed for integrated development efforts in the region.

A second institutional support project - Bicol Integrated Rural Development Support - continued and expanded institutional assistance from 1978 through 1983. This included substantial survey work and data base development, research and assistance to package and facilitate new activities for external assistance, promotion of private sector investment in the region, and continuation of the earlier momentum of the program as it confronted "second generation" problems.[23]

Libmanan IAD I funded the construction of a 4,000 hectares irrigation and drainage system in the lower Bicol River Basin, including flood control, salt water intrusion protection facilities, farm access roads and agricultural and institutional support activities. The National Irrigation Administration (NIA) was the lead implementation agency. NIA and the International Rice Research Institute (IRRI) conducted water management and training activities, in conjunction with efforts to organize irrigators' associations. Extension services, credit, post-harvest handling, marketing and related services were also provided. Some 2,500 small-farm households were estimated to have benefitted from this project.

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[23] BRBDP experienced problems common to other IAD programs, not the least of which was achieving integration of program activities involving multiple government agencies. Sustaining such integration even when achieved was never successfully addressed. The effectiveness of its Program Office suffered from staff turnovers and uncertain future direction. In effect, the Bicol administrative system created yet one more bureaucratic entity among existing agencies in addition to local government offices. The Program Office's functions were absorbed into the Regional NEDA Office in 1990.

Bula-Minalabac IAD II supported land consolidation and irrigation systems development covering 2,300 hectares in the middle Bicol Basin. With the Ministry of Agrarian Reform as the lead agency, IAD II included construction of community buildings, improved water supply facilities, organization of farmer associations and cooperatives and training in agriculture and health for area residents. Six other line agencies were involved in institutional, agricultural and community support activities. An estimated 1,230 small farm families benefitted from the project.

Rinconada IAD III supported the construction of new facilities to increase use of water from Lake Buhi covering 8,000 hectares. NIA was the lead agency for rehabilitation and new construction of irrigation systems. The project constructed irrigation service roads along irrigation canals linked to secondary roads improved by the Bicol Roads Project. Irrigation system maintenance equipment was procured for the project area. IAD III offered improved water management training, farmer organization and farm family training. The project area served as a pilot for NIA's participatory approaches to irrigation development, as well as for environmental management activities designed to protect the watershed and irrigation water sources.

The Bicol Secondary and Feeder Roads Project, completed in 1982, funded the construction/upgrading of 191 kilometers of secondary road and 241 kilometers of feeder roads in the Bicol River Basin. The Ministry of Public Highways was the lead agency. $3.2 million was used to procure road maintenance equipment and technical services. Using the FARA, $6.8 million funded engineering design and construction costs. The roads were located within the project areas of IAD I, II and III and connected with farm access roads on main canals and laterals constructed by these projects. The project significantly increased road density in the region which produced substantial reductions in transportation costs and travel time.

The Bicol Integrated Health, Nutrition and Population Project trained 469 Barangay Health Aides (BHAs) who were deployed throughout the Bicol River Basin to improve health service delivery. 400 barangay drug stores and community organizations to assist with community development activities were also established. The project funded the construction of 320 water supply systems, 29,578 water-sealed toilets and 400 barangay school toilets. Nine health stations and 24 municipal health center extensions were constructed; two provincial hospital laboratories and a regional public health laboratory were upgraded. Health, nutrition and population services and community water supply and sanitation systems were also improved.

5.3.2 Program and Project Impact

Much to the credit of GOP and USAID managers of the Bicol program, evaluations were conducted frequently. The overall BRBDP was evaluated every two years from 1975 to the conclusion of USAID assistance in 1985. Project specific evaluations were also conducted as needed. Given that construction of irrigation works, roads and other infrastructure were still under way, the earlier evaluations focused on management issues, providing recommendations on resolving implementation and organizational problems, and about the future direction and activities of the specific program elements. Documenting the various experiences and insights being gained about the organization and management of BRBDP was important. The Bicol Program was expected to serve as a potential model for replication elsewhere in the country.[24]

An impact evaluation of the Bicol Program was conducted in July, 1981 as part of A.I.D.'s Project Impact Evaluation Series. This timing was premature given that so much remained to be done on the main BRBDP projects. However, the evaluation does raise important cautionary flags regarding the fundamental economics of BRBDP. The central question was whether the impacts on production and economic growth would be sufficient to justify the magnitude of investments that were made in the BRBDP.[25]

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[24] This was the heyday of Integrated Area/Rural Development Projects which were viewed by many as the emerging model for future rural development assistance. Donors and host countries were strongly committed to the approach. The GOP established a National Council for Integrated Area Development. Though A.I.D. abandoned the approach a decade ago, the Asian Development Bank still supports an IAD program in Palawan.

[25] None of the Bicol projects were completed at the time of the impact evaluation. All projects suffered from implementation delays, in part due to cumbersome contracting procedures and financial management, and in part due to the new organizational arrangements the BRBDP involved. Libmanan-Cabusao IAD I and Bicol Roads were the most advanced of the Bicol projects at the time, estimated as 93 percent and 80 percent completed respectively. Despite Libmanan's construction progress, this system did not operate acceptably. Serious design and construction deficiencies significantly undermined its operating efficiency. Such problems continued to plague the system and the unfortunate farmers who were expected to pay for this deficient system. IAD II and III still had a long way to go, as did Bicol Integrated Health. Therefore, only the Bicol Roads were sufficiently advanced (just barely) to allow assessing their impact. Unsurprisingly, this 1981 evaluation says little about actual impact.

The evaluation re-examined the cost-effectiveness of the improvements and expansion of the three irrigation projects on the basis of realistic cost estimates, service efficiency and area served. It concluded that the cost-effectiveness of these projects was very low, i.e., very high cost of investment in infrastructure per hectare. The evaluation noted that the physical infrastructure must be viewed as a long-term investment. With continued population growth and increased land pressure, cost-effectiveness should improve over time. However, final cost overruns (85 percent over initial estimates for IAD I and 65 percent for IAD II) and subsequent construction delays actually lowered the cost-effectiveness even further than the evaluation had estimated.[26]

In contrast to the long-term perspectives of economists, small farmers operate in the here and now. Achieving impact from these irrigation projects depended on increasing rice production in the near-term. Yields had to increase sufficiently, increasing farmers' net income, for farmers to assume greater responsibility for system operations and maintenance, as well as amortization of the system. The evaluation reached an ominous conclusion that given prevailing price structures for inputs and sales of rice, current productivity levels and irrigation systems costs, farmers might not have sufficient incentives to risk extra capital on inputs and farm management improvements needed to raise yields further. Adding to this uncertainty was the unsettled issue of what percentage of irrigation system costs would be borne by the farmers in the form of irrigation fees. Many farmers did not clearly understand what these costs/fees were until construction was well underway or nearing completion.

The issues raised by the 1981 impact evaluation were revisited in the 1982 interim evaluation of the Bula-Minalabac IAD II. The percentage of system amortization to be borne by farmers remained unanswered. It was increasingly clear, however, that farmers could not bear the full burden, i.e., 100 percent of costs. The GOP would also have to assume responsibility for much of the

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[26] Construction delays resulted in part from poor contractor performance, causing delays and, in some cases, cancellation of contracts. Evaluations note that the structure of the FARA also slowed reimbursements, delaying subsequent construction work. Toward the end of USAID assistance, more facilitative approaches were used. Centralized contracting and slow financial releases from Manila caused major delays. Under the 1973 Constitution, all GOP contracts above P3 million, approximately $400,000, had to be approved by the Executive Office. Abuse under this system was standard practice. Contracts would inexplicably disappear until a certain person received her payment equivalent to roughly twenty percent of the contract costs.

future operating costs of IAD II. Central to the irrigation costs issue was the efficiency with which the systems would be operated. This, in turn, depended on the effectiveness of irrigators associations and the training farmers received on system operations and maintenance. Estimates showed that inefficient operation greatly increased operating costs.

A 1983 comparative analysis of the three irrigation projects offered an insightful and disturbing assessment of the sustainability of benefits generated by the systems. The weakest aspect in achieving sustained benefits was the integration of institutional development with the physical irrigation systems necessary for efficient, sustainable operation. Farmer participation in the decision-making processes of system development, from planning through to completion and turnover, was seen as critical to developing the institutional mechanisms needed for sustained benefits. Such participation varied from an unacceptable low in IAD I, with better participation in IAD II, to reasonably effective levels of participation in IAD III.

As of 1983, only IAD II appeared to be progressing to a point where productivity gains would enable farmers to assume operation and maintenance costs as well as some percentage of system amortization. (IAD III was still under construction.) Mean rice yields achieved by 1983 were lagging appreciably behind expected increases, particularly for IAD I (35 percent lower) and III (24 percent lower). This reiterated earlier concerns about the economic and financial returns of these projects raised in the 1981 evaluation.

Reflecting the poor operational performance of IAD I, the most problematic of the three systems, only 30 percent of the 12 cavans/per ha./year irrigation fee was being collected from users. In contrast, IAD II, with a collection fee of 24 cavans/year, was collecting 94 percent of its fees.[27] Correcting technical deficiencies in IAD I required additional construction work, increasing costs yet further. These deficiencies - technical and institutional - caused the area in production under IAD I to fall fifty percent short of projections. Similarly, IAD I delivered only fifty percent of the quantity of water projected in design specifications. Poor management of IAD I, reflecting weak institutional development, also resulted in high water losses and system inefficiency.

With USAID assistance scheduled to end in 1985, the evaluation noted various technical and institutional problems which did not bode well for BRBDP. Second generation problems, such as limited credit availability and inadequate crop storage, processing and marketing facilities, were emerging constraints. Credit was

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[27] 1 cavan = 50 kilograms

essential for adoption of improved technology packages of high yield rice varieties. Without credit, farmers could not purchase adequate amounts of fertilizers, pesticides and herbicides, causing actual yields to fall short of potential gains.

With the exception of IAD II, irrigators associations lacked the capacity - organization, skills and membership support - for effective management of the systems. Such procedures as reviewing system operations and developing plans to improve system efficiency were lacking. Institutional strengthening was particularly important with respect to expected turnover of systems to the associations. With only two years of USAID involvement remaining, and no additional assistance planned, these various issues posed serious warnings about BRBDP achieving sustainable impact.

An impact evaluation of the overall BRBDP was conducted in 1985, coinciding with the end of USAID's active involvement in the program.[28] The evaluation emphasized that a long-term perspective was needed to assess the impact of BRBDP and major infrastructure projects fairly. Nonetheless, the results of the program with respect to its original objectives were mixed at best. Key conclusions of the evaluation were as follows:

- Agricultural production in project areas increased as a result of irrigation but not on a scale large enough to influence agricultural performance at the regional level.

- Production increases due to irrigation resulted from increased area in production and the production of a second crop during the dry season in some areas.

- Productivity increases were not achieved as expected (falling short of targets by approximately 33 percent). These results jeopardized achieving an adequate economic and financial return from these projects. At the farm level, lower than expected yields implied a lack of incentives for farmers to risk additional capital on inputs needed to increase yields further. It also suggested a lack of access to credit necessary to obtain such inputs for those farmers willing to do so.

- IAD I failed to even approximate expected production and productivity targets because of technical and institutional weaknesses. In flood-prone locations, high input rice technology was a risky venture for IAD I farmers.

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[28] In addition to USAID-funded projects, the ADB and EEC provided loans for additional irrigation systems improvement. As of 1985, the GOP and donors had committed approximately P1.5 billion to the BRBDP over a ten year period.

- IAD II was most successful in achieving production and productivity increases.

- IAD III improved the reliability of water supply, while modest production and productivity gains were achieved.

- There was little, if any, change in production of food versus commercial crops.

- These results were very uneven within the IAD areas, i.e., some farmers were considerably more successful than others.

- Household incomes increased throughout the program area, they increased more than in areas outside of the program, and increased most where BRBDP projects were most heavily concentrated.[29]

- Income increases were greatest for wealthier households than for the poor. Income inequality increased during the program.

- A greater percentage of women entered the labor force between 1978 and 1983. Though significant increases in labor force participation occurred in the program area, serious underemployment persisted, with increased participation apparently resulting from very short-term employment. Continued high levels of employment of children suggested households were too poor to afford investment in education.

- At the regional level, little improvement had occurred; in 1982 and 1983 negative growth was experienced by the region. The same factors that contributed to Bicol's poverty in the past persisted. Bicol continued to be among the poorest regions in the country. The assumption that concentrating successful development efforts in an area of high growth potential would set in motion economic relationships which would result in economic growth for the region was not supported by these results.

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[29] The Bicol Multi-Purpose Survey collected a staggering amount of household-level data. As is typical with such surveys, data processing along proved to be a monumental task. Survey data collected in 1978 were still not fully processed at the time of the 1983 round. As noted in evaluations from 1981 through 1985, basic data needed to assess impact were not available. The 1983 evaluation presented very practical, cogent recommendations about obtaining impact data which, inexplicably, went unheeded. The 1985 impact evaluation was handicapped by this lack of data. For example, only the gross direction or trends in income could be established, estimating percentage increases was impossible.

- The impact of road construction was evident in greater mobility, travel time savings, improved access to markets, improved access to social services (medical treatment, education, basic personal and household needs, recreation), and increased trade activities.

- Increased investment in agri-business and rural industries did not occur; in fact, the number of agri-businesses decreased over the course of the program. The worsening recession of the 1980's certainly contributed to this; however, BRBDP's efforts to stimulate investment in the region were largely unsuccessful. Rice milling and warehousing establishments declined in number as unprocessed rice was shipped directly out of the region to more efficient processing and distribution centers. The implication was that non-farm employment opportunities did not expand measurably.

- Aggregate health statistics for the region suggested that the Bicol Integrated Health, Nutrition and Population Project contributed to improved health status and reduced malnutrition; however, birth rates continued to rise. Though no data on water-borne diseases were presented, it was assumed water supply and sanitation systems provided by the project contributed to improved environmental sanitation in rural barangays. However, sustainability of these systems was highly questionable, in large part, due to inadequate local participation and to the failure to establish community water associations for operations and maintenance. Initial plans for communities to amortize the cost of facilities was abandoned.

These results, and those from earlier evaluations, contain several important implications about the impact of BRBDP and USAID's infrastructure projects. First, BRBDP was successful in only limited ways. Incomes in the project area did increase in the short-term more than those in non-project areas. Road improvements had a demonstrable impact at the farm, program area and regional levels. However, the basic premise that the IAD approach would produce something greater than its constituent elements was simply unfounded. The outcome suggested discrete results from discrete projects benefitting their immediate project areas.

At the project level, incomes increased as area under production increased and as irrigated farming replaced rainfed agriculture. But income inequality increased; wealthier individuals were simply able to benefit from the projects to a greater degree than the poor. Unless wealthier people are specifically excluded from a project, that outcome is a virtual certainty. Given the area development focus of BRBDP, that was not possible, nor, in retrospect, even desirable for regional development.

BRBDP did not induce increased investment in agri-business and industry in the area. It probably increased farm labor opportunities, but it did not generate even modest non-farm employment opportunities. In fact, the evidence suggested capital flight from the region - i.e., disinvestment as businesses closed.

Second, consider the persistent poverty of the region and the program area, the mixed effects of irrigation on production and productivity, and the unchanged nature of cropping patterns. Certainly, those who shifted from rainfed to irrigated farming benefitted from being able to produce a second crop. Increased reliability of water supply also benefitted those using improved irrigation systems.

The failure to achieve significant productivity gains, however, implies that the pre-existing low income, semi-subsistence agricultural system of the region had not been extensively changed outside of the immediate project area and even there, only partially. The persistent poverty of the area was, and is, largely due to its high dependence on rice and corn production, crops of low profitability. The 1985 impact evaluation observed that the despite the greater concentration of BRBDP projects in Camarines Sur than in Albay, incomes in both provinces appeared to increase by a comparable amount because of Albay's comparatively larger agri-business and manufacturing sector. This suggests that developing alternatives to low profitability rice and corn production could have increased the income of small farmers perhaps more than concentrating on expansion of rice and corn production.

Farmers on their own were learning this. By 1983, livestock production and other business activities accounted for roughly 45 percent of household income. Rice production accounted for roughly 11 percent, reflecting its marginal profitability and its subsistence, rather than commercial, function in poor farm households.

Third, the lack of credit was a serious constraint to achieving increased productivity. The area was suffering the fallout of the Masagana 99 Program (i.e., 99 cavans of rice per hectare). Between 1973 to 1983, institutional credit was made available to small farmers to encourage increased production. However, credit dried up as arrearages and non-payment rates climbed. From a peak of 66 percent of farmers obtaining credit from the program, only 13 percent had access by the early 1980's. Cut off from formal lending, farmers had only traditional sources whose charges were high to exorbitant. This virtually assured less than adequate use of inputs necessary to derive the full benefits from irrigation. In short, actual yields and productivity fell considerably short of potential gains; increases achieved in productivity between 1973 and 1983 were unimpressive.

Finally, economic conditions and price policies worked against the success of BRBDP. The worldwide recession of the early 1980's resulted in a further worsening of the economic situation in the Philippines. Conditions degenerated rapidly after 1983. The depressed economic condition of Bicol, combined with agrarian reform (enabling landowners to free up their capital), resulted in capital flows out of the region.[30] During the BRBDP, rice prices had been set low to assure urban consumers of inexpensive rice supplies, making rice production a marginally profitable enterprise for small farmers. None of this worked in favor of BRBDP's success.

The final capstone to this program is the goal of "...raising the socioeconomic level of the region's people to the national level by 1990 and to sustain at that level thereafter." Unfortunately, nothing of the sort was achieved; in fact, recent data suggest an even grimmer reality. Between 1985 and 1990, consumption per capita data, a reliable measure of individual well-being, show that compared to other regions, Bicol actually fell from fourth from the bottom in 1985 to the very bottom by 1990.

5.4 Rural Infrastructure

In addition to the Bicol program, USAID supported two national rural infrastructure programs during the 1974-1986 period: Small Scale Irrigation and Rural Roads. This section reviews the outcomes of those two programs.

5.4.1 Small Scale Irrigation

USAID supported the development of small scale irrigation systems through three projects: Small Scale Irrigation (SSI) which concentrated on physical development of the systems, and Small Farmer Systems I and II (SFS) which focused on developing farmers' capacity to use the systems, but continued the engineering emphasis of the preceding project.

During the early 1970's, the Philippines was forced to import substantial amounts of rice to meet local demand. To close this gap, the GOP attempted to increase domestic production by small rice farmers through various programs, such as the Masagana 99 credit program. Small scale irrigation development was part of this effort to increase rice production by the country's large number of small farmers (typically farming less than 2 hectares) in lowland areas. The majority of these people were tenants and

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[30] Agrarian reform advocates argued that land sales would lead to reinvest in more profitable activities in the area as large landowners "cashed out" their holdings. That was only half the story, they not only cashed out, but moved out as well.

sharecroppers living below the national poverty level, and largely engaged in subsistence farming. The general strategy was to improve and expand small scale irrigation systems (covering from a few hectares to as much as 200) and organize small farmers into Irrigators Service Associations (ISA). The ISAs would be responsible for proper operation and maintenance of the systems, including the collection of irrigation fees, and farmers would be taught proper irrigation practices and the use of modern rice technology packages.

In 1975, the Farm Systems Development Corporation (FSDC) was established by the GOP to support the development of small scale irrigation systems.[31] USAID supported the new national program and FSDC through SSI and SFS I & II in line with its rural development, poverty alleviation strategy focus. The projects were heavily oriented to the engineering aspects of irrigation system improvement, procurement and installation or diesel and electric pumps and other physical system requirements. Their goals were to: a) increase small farmer income, b) at least double employment opportunities and c) decrease the national rice deficit by 50%.

These projects provided useful assistance in constructing small scale irrigation systems throughout the country. Small farmer incomes did increase in the short-term during the course of these projects, but not as much as expected. By 1980, the country had become self-sufficient in rice production and it is fair to conclude that these projects contributed to that accomplishment. USAID assistance also contributed to the geographic expansion of the FSDC small scale irrigation program; however, support for agricultural and farming systems development was far less effective than desirable.

A 1980 impact evaluation of these projects offered a penetrating analysis of the shortcomings of this effort. In general, while some farmers clearly benefitted from the development of irrigation systems, their costs increased substantially which jeopardized the longer-term sustainability of these short-term gains. Most farmers were unprepared for the situation they faced. System development costs were on a loan basis to be re-paid by irrigators to FSDC. Farmers were unaware of what their re-payment costs would be for these loans (averaging $30,000 per system at 6 percent interest). Nor had they anticipated rising electricity costs and rapidly escalating fertilizer costs.

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[31] The National Irrigation Administration was responsible for large scale systems development, though the two organizations soon developed duplicative and competing functions and services.

A common pattern soon emerged: rising machinery and fertilizer costs, frequent breakdown of pumps, unreliability and rising costs for electricity, inadequate access to credit, high post-harvest losses, inadequate marketing systems and persistently low rice prices. Pumps experienced frequent breakdowns due to flooding from typhoons and power fluctuations. Repairs were often slow and expensive for the farmers. Rising international oil prices translated into rising electricity and fertilizer prices passed on to farmers, while rice prices remained controlled at untenably low levels.

Production gains from irrigation and the ability to produce two instead of one crop per year were offset by these rising production costs combined with low rice prices. While national production levels rose, many small farmers found themselves in a precarious break-even position.[32] Given the regularity of poor production years due to adverse weather and typhoons, losing years would be common and loan defaults virtually assured.

By 1980, the economic impact of the projects were negligible at best. The evaluation concluded that the actual internal rate of return for the projects was zero or negative.[33] While production did increase and gross income rose, production costs tended to increase even more rapidly. Farmers with less than one hectare of land were unable to cover production costs and still have enough rice for home consumption. A majority of farmers in the program were already behind in loan re-payments for pumps and system development. Most "beneficiaries" were simply treading water faster than before. The real beneficiaries of the project were large landowners who benefitted substantially from production increases, receiving 20-25 percent of crop production while paying nothing for irrigation system improvements.

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[32] One farmer accurately expressed the situation of tens of thousands of other small farmers when he reported to the evaluation team the following: "Right now after making my contribution to the FSDC loan for the pump and paying for fertilizer and insecticides, I have one peso a cavan left." Reasonably good farmers with irrigation produced around 80 cavans per hectare, most only farmed one hectare or so, meaning a net profit of roughly 80 pesos at the end of the day.

[33] The project paper for Small Farmer Systems claimed an internal rate of return of 51 percent which the evaluation described as "unreal". Absurdly inflated returns were a persistent and seriously misleading failure in USAID's irrigation projects during this period. Subsequent analyses showed that the Bicol IADs I, II and III were also based on grossly inaccurate estimates of internal rates of return.

As with small farmers in the Bicol, many had been cut from institutional credit as a result of debts under the Masagana 99 program. Loans from traditional sources carried high to exorbitant interest rates. High costs of credit resulted in reduced use of inputs needed to achieve productivity gains possible with irrigation. Because farmers carried large debt burdens and faced exorbitant interest rates from traditional lenders, many sold their crop immediately after harvest when prices were lowest to cover their debts and reduce interest payments. Furthermore, high quality standards set by the National Grain Authority (which required post-harvest machinery to be met) and its reduction of payments to farmers for their past debts under the Masagana 99 program, led many farmers to sell to other sources at lower prices.

While double cropping increased total production and gross earnings, it also consumed additional time taken away from off-farm employment. With costs equalling or outstripping net earnings, total household earnings had decreased in most project areas. Government policies affecting rice and fertilizer prices, access to credit and marketing were critical to reversing the small farmer's plight, all of which were outside of the purview of USAID's projects.

The bottom line is that at least in the short-term, these projects did little to improve the situation of subsistence farmers. They were marginally profitable before the project, and they were marginally profitable after the project, only now they carried an even larger debt burden from the irrigation system improvements. USAID had paid entirely too much attention to needed engineering and equipment improvements without providing sufficient assistance for improving farming systems necessary to realize the potential gains from irrigation.

5.4.2 Rural Roads

The second largest investment in infrastructure development made by USAID during this period was in rural roads improvement.[34] Rural Roads I and II provided $49.5 million, plus $8.2 million for the Bicol Secondary and Feeder Roads, giving a total USAID expenditure of $57.7 million in Development Assistance for roads improvement. These investments were linked closely to the Mission's strategy of poverty alleviation through rural development and to its support for decentralization and local capacity building.

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[34] For convenience, the term improvement will be used to cover both construction of new roads or the rehabilitation and upgrading of existing roads.

The goal of the Rural Roads Projects was to "stimulate development of the rural areas of the Philippines which have the self-help capacity to administer rural road construction". The purpose of the projects was "... to increase the income of small farmers by increasing his agricultural outputs and to improve his living conditions by making him more accessible to governmental and private sector institutions and facilities." To participate in the Rural Roads Projects, provinces had to meet the following criteria:

a) particiapted in the PDAP program for at least two years;

b) have a Provincial Develop Staff capable to conducting economic studies for project planning, selection and evaluation;

c) have a Capital Improvement Program;

d) have a Road Network Program, including a road maintenance program;

e) have a Materials Testing Laboratory;

f) have a Provincial Engineer's Office capable of handling construction, including design, contracting and implementation;

g) have a functional Provincial Equipment Pool with a deadline rate of less than 25 percent; and

h) have prepared a Provincial Socio-Economic Profile which includes the agriculture sector.

To be financed under the project, a road segment had to meet the following conditions:

a) be economically viable;

b) contribute to agricultural production in its area of influence;

c) serve areas which are predominantly agricultural and/or support small and medium business, agri-business and commerce;

d) assure that the main beneficiaries are small farmers;

e) not lead to dead ends or impassable roads;

f) connect to a road network which leads to a population center or market;

g) link to at least one road of equal or higher quality which leads to a population center or nearest market town; and

h) not be of higher quality than the road linking the project site to the nearest population center or market town.

These criteria were to assure that rural roads would be selected which were most beneficial to small producers, principally small farmers. The Department of Local Government and Community Development (DLGCD) was the lead implementing agency. Within DLGCD, the Rural Roads Program had implementation responsibilities. USAID funding for construction costs was provided through a Fixed Amount Reimbursement Agreement (FARA). Provinces received a 15 percent advance once project funding was approved. They were reimbursed for a maximum of 75 percent of total project costs to assure that the province committed a meaningful amount to the road sub-project. The Rural Roads Projects provided technical assistance and training to strengthen the Provincial Engineer's Office in engineering management, road maintenance and the operation and maintenance of equipment. The projects also funded acquisition of road equipment through the U.S. Excess Property Program.[35]

Rural Roads I improved 406 kilometers of roadway and 4,233 linear meters of bridges. Most of the roads improved were gravel surfaced, though some were asphalt or concrete. (In some cases, after the gravel roads were improved, the province subsequently paved the surface at its own expense.)

Rural Roads II continued support for the program, expanding participation to fifty provinces and 5 chartered cities. By 1980, all funds under Rural Roads II had been committed for some 575 kilometers of roads and 4,300 linear meters of bridge improvements. The project was revised in 1980, adding $10 million. High inflation due to rapid oil price increases resulted in full commitment of initial project funds much earlier than expected. The project was making good progress and the World Bank and ADB were planning additional support for the Rural Roads Program. Provinces in the Bicol and Western and Eastern Visayas received priority, and a pilot effort using labor intensive construction methods was introduced under the revised project. Rural Roads II was completed in 1982; USAID assistance for roads then shifted to the ESF program.

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[35] Under Rural Roads I, USAID reimbursed the GOP in dollars deposited to a Special Line of Credit used to purchase additional U.S. road equipment. This equipment was provided to provinces which paid for the equipment in pesos which were to be deposited in a revolving account for funding additional road work under the FARA. Experience with this approach led USAID to decide to reimbursement the GOP directly in pesos under Rural Roads II.

An impact evaluation was conducted in 1978 for a sample of roads improved under Rural Roads I. The report provides convincing evidence that the roads were producing significant economic and social benefits for rural communities. Key findings of the evaluation for the sample roads (conditions before and after road improvement) include the following:

- Road improvement led to significant reduction in travel costs for passengers and cargo: on average, a 54 percent reduction during a time when legal transport prices set by the Board of Transportation increased by 87 percent.

- Transportation became more reliable, leading to an increase in number of vehicles operated (248%) and the frequency of trips (114%).

- Agricultural production in the areas served by the roads increased, e.g., rice by 20%, corn by 30%, mongo by 70%, tomatoes by 53%, fruits by 46%

- Farm gate prices improved substantially, e.g., corn by 43%, mongo by 34%, tomatoes by 53%, mangoes by 30%.

- Production costs increased by only 12 percent.

- The percentage of farmers selling at the market increased from 31 percent to 59 percent.

- Household incomes increased by 28 percent.

- The number of commercial enterprises increased by 113 percent.

- The roads improved access to educational, health and government services and new public facilities were constructed as roads were completed.

- Visits by farm management technicians to farmers in the road areas increased by over 200 percent.

- Social and recreational functions increased by 100 percent or more.

- The number of publications reaching the areas served by the roads increased dramatically - by more than 200 percent.

A 1981 evaluation, part of A.I.D.'s Project Impact Evaluation Series, re-affirmed that the roads had a generally positive impact on economic and social conditions, but also noted these results tended to vary widely. Key findings from the 1981 impact evaluation include the following:

- The greatest impact resulted from all-weather gravel penetration roads which replaced narrow tracks or trails to remote communities. These roads greatly increased access to external markets and services.

- Paving previously existing roads, typically motivated by local political pressure, produced the least impact.

- The majority of rural residents benefitted from the simple fact that road improvements greatly improved access to places visited for personal, business or social purposes and transportation became much more reliable.

- The ability to market produce year round, unhindered by the rainy season, was a major improvement for small farmers. However, the evaluation team found little evidence of changes in production toward higher value perishable items.

- Competition between transportation providers increased, but the evaluation team found little evidence of charges decreasing.

- The evaluation team encountered few negative environmental effects of the road improvements, other than the standard complaint that traffic now moved faster on the road.

- There appeared to be little effect on access to education or increases in school enrollment due to the road improvements.

- Road improvements facilitated visits by doctors and nurses, but not local midwives. The quality of health care did not appear to improve markedly due to road improvements; however, more immediate access to emergency medical services was a significant benefit to rural residents.

- While the quality of road construction work was sound, the evaluation concluded that construction standards were excessive in light of the traffic using them. Concrete and asphalt surfacing could not be justified.

- The evaluation team found the data and rigor of feasibility studies conducted for the road sub-projects to be weak or unreliable, undermining the intention of giving priority to economic returns and equity concerns in road selection.

- Road selection was heavily influenced by local political interests, especially by the governor, though selection criteria and feasibility studies helped to contain this pressure.

- Some improved roads were highly beneficial to sugar plantations and other operations inconsistent with project objectives. Selection criteria to give priority to roads principally beneficial to the rural poor were circumvented. Better targeting

of road selection with greater emphasis on equity concerns was needed to meet the original "rural poverty" objectives.

- Staff turnover was a serious problem in provincial planning and engineering offices which undermined institutional strengthening.

Road maintenance was systematically inadequate; maintenance funding provided by the central government based on provincial plans is often used for other purposes by the local government.

- Equipment maintenance shops and soils laboratories, required for participation in the projects, were under-utilized; over-staffing and/or underemployment of staff was common; major equipment repairs were contracted out; and spare parts for equipment obtained under the U.S. Excess Property Program had become difficult to obtain, with older non-functioning equipment awaiting disposal.

- The evaluation was critical of the Rural Roads Projects for not using more labor intensive construction methods and that the FARA appeared to eliminate poorer provinces from the program.

- Greater community participation in road planning, construction and maintenance was also needed.

The picture presented by the 1981 evaluation suggested a far more qualified success than earlier results. The lack of change found in transportation costs, educational access and health services, which other evaluations of road projects in the Philippines have regularly reported could stem from which roads were visited or the limited amount of time for field work. A number of problems the evaluation identified had been recognized by USAID and were addressed in the revision of Rural Roads II, e.g., use of labor intensive methods, adjustment to the FARA to permit poorer provinces to participate.[36] Other problems, such as political

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[36] Upland Access Component was added to the Rainfed Resources Development Project in 1984. Upland Access provide $3 million for community based, labor intensive construction of small barrio access roads, trails and footbridges for remote, upland communities. The project encountered implementation delays due to the newness of labor-based construction introduced to the Provincial Engineering Offices. Though the Component fell short of fully achieving its projected outputs, it demonstrated that this approach was cost-effective compared to equipment based construction and generated considerable employment for rural residents. The activity was completed in 1989. The Department of Public Works and Highways had little interest in promoting labor-based construction. USAID provided no further funding as it shifted to less staff intensive, faster disbursing modes of assistance after 1988.

influence over road selection, were simply a part of the reality in which the projects operated. Additional technical assistance or ever more complex criteria were unlikely to prevent this.

Despite years of assistance to strengthen planning and engineering capabilities, institution building efforts achieved very limited success. The major cause for this was high staff turnover; government simply paid too little to retain qualified staff. Similarly, efforts to institutionalize road maintenance and equipment pool operations achieved little success. Road maintenance was, and continues to be, seriously inadequate.

It is not surprising that all of the roads improved under Rural Roads I & II did not satisfy the prevailing ideological purity of the times. Being just poor was not good enough, people had to be the "poorest of the poor" to be a bona fide target for USAID projects. But even if the roads ran directly to the doorstep of rich sugar cane plantation owners (which they did not), it is difficult to believe that the rural poor along the way did not also benefit. The basic fact given short-shrift by the 1981 evaluation is that the large majority of people who benefitted from these road improvements were the rural poor.

The fact that those who are better off, or even wealthy by rural standards, benefitted, and probably benefitted to a comparatively greater extent than the most abject poor, is a function of the economic and social structure of rural society. It is not a failure of the Rural Road projects. What needs to be recognized is that in years following the construction of these roads, hundreds of thousands of rural poor people benefitted economically and socially from these projects, including tens of thousands of extremely poor people living in rural communities previously cut-off from even marginal transportation services. These are numbers which precious few other projects can claim.

5.5 Water Supply and Sanitation Systems

A fourth infrastructure component of USAID's rural development portfolio during the 1974-86 period was support for construction water supply and sanitation systems. Six projects constituted this effort: Provincial Water Development (PWD), Local Water Development (LWD), Barangay Water I & II (BWP I& II), Panay Unified Support for Health (PUSH) and the Bicol Integrated Health, Nutrition and Population (BIHNP) is discussed earlier in Section 5.2). These projects and their accomplishments are described in the following sections.

5.5.1 Provincial Water Supply

By the 1970's, the Philippines' urban population was growing rapidly. Approximately half of the country's population outside of Manila lived in some 300 urban areas - provincial towns and cities - with populations of 30,000 residents or greater. As a result of this growth, the need for improved urban water systems became increasingly acute. Most urban areas had water systems which pre-dated World War II. The vast majority of these provided only partial service within the urban area. Most were unreliable and virtually all were inadequate to meet the growing demand for safe water.

USAID funded feasibility studies for provincial water systems development. These studies recommended establishing a national institution that provided financing, training, standards and regulations to local independent water districts. In response, the GOP established the Local Water Utilities Administration (LWUA) in 1973 to serve as the conduit for external and GOP funding for the development of provincial water systems. LWUA also helped to establish Local Water Districts responsible for the operation and maintenance of water systems, including proper financial management, i.e., the collection of water charges/fees from users. Systems were funded on a loan basis with the expectation that water charges would be sufficient for the Local Water District to amortize construction costs.

The Provincial Water Development Project (PWD) initiated assistance to LWUA to help it carry out its mandate. Five major provincial water systems were selected for development under PWD: Cagayan de Oro, Bacolod, Davao. San Pablo and Tacloban. The overall goal of PWD was improved public health. These systems were to deliver safe water on an economically self-sustaining, reliable basis. Slightly less than half of the population in these five cities would be connected directly to the system. The balance of the population would have reliable access to safe water from public pipe stands. In addition to financing construction and commodities, technical assistance and training were provided to LWUA to strengthen its institutional capacities to develop comparable systems in other cities. PWD also financed a major survey to assess its goal achievement of improving public health. An important result of PWD was to attract funding from the ADB for five more major systems and from the Danish for two additional systems.

USAID assisted LWUA to undertake a survey of 110 urban water systems throughout the country. These were smaller urban areas covering relatively poorer communities. Eighty-one of these systems were selected as potential "high impact" locations where the correction of major deficiencies in the system (as opposed to construction of an entirely new system) could achieve significant improvements in water supply safety, reliability and operating

efficiency. Local Water Development (LWD) provided financing for 25 to 35 "high impact" water systems projects in urban areas with approximately 30,000 residents. LWD's purpose was to increase the use of safe, reliable and economic supply of water in the selected provincial cities reaching lower income groups. In addition to expected health improvements, these water systems were also expected to stimulate economic development resulting from the expansion of water-using enterprises, e.g., hog raising, backyard gardening.

LWD continued assistance to LWUA and attracted additional financing from ADB and the World Bank which were using USAID-funded survey results for their project development.

PWD and LWD used the FARA mechanism for financing construction costs via LWUA. Cities financed initial construction and were reimbursed when construction was completed, meeting pre-agreed standards. This approach worked satisfactorily without encountering major financing problems.

PWD and LWD were successfully implemented and produced their expected outputs. USAID's assistance for provincial water systems proved highly successful in strengthening an important national institution - LWUA - which supported the development of essential infrastructure for urban areas. Equally important, these projects quickly attracted additional assistance from the ADB, World Bank and other donors for development of provincial water systems throughout the country.

A concerted effort was made to assess the impact of improved water systems on health status. The U.S. Bureau of the Census was contracted to conduct the surveys and data analyses needed for this impact evaluation. Cagayan de Oro and Bacolod were selected as the study locations.[37] The major conclusion of the evaluation was that improved water systems had no measurable impact on health status. Household income and diet were far more important determinants of health status in both cities. The analysis showed that there were significant differences in health

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[37] Data on household characteristics, water sources and uses, sanitation practices and facilities, health status (measured by nutritional level of children age 0-4 years) and household economic activities were collected. The sampled households included an experimental group which used the improved city water system and a control group of households not using the system. Data were collected prior to systems improvement, shortly after construction completion and again approximately five years after completion of construction. Bivariate and multivariate analyses were conducted to examine the relationships among health status and various determinants income health status, e.g., income, diet, sanitary practices, water source.

status between user and non-user households, i.e., those using the improved system and those not using the system. These results were consistent with other similar evaluations.

The evaluation pointed out, however, that this does not mean that safe water supply is unimportant to improving health status. Rather, the results of the survey as well as other comparable research suggest that improved water supply should be seen as a necessary element in achieving improved health status comparable to developed countries over the long-term. Where health status lags considerably behind developed country standards, water supply interventions should not be expected to produce a major improvements in health status in the short-term nor in isolation of other key determinants of health status. Moreover, there are many other interventions far less expensive than water supply interventions which can improve health status significantly in the short-term, e.g., child immunizations.

The evaluation also reports on types of changes that occurred in Cagayan de Oro and Bacolod which were indicative of the effects of water supply improvements in other provincial cities. The number of households connected to the city system quadrupled in Cagayan de Oro and tripled in Bacolod between 1978 and 1983. Both systems reduced the amount of water lost due to wastage and pilferage by 50 percent or more. Five years after completion of construction, 90 percent of water samples in both cities met the national safety standard. This was a major improvement for Bacolod. While extending service to previously unserved households, water supply reliability improved significantly. Water availability on a 24 hour basis was reported by more than 90 percent of users in both cities. The improved water systems also resulted in significant decreases in the amount of time spent obtaining water for the households and the distance needed to travel to do so. However, the financial performance of the local water districts lagged behind technical improvements. The evaluation found no evidence of improved water supply contributing to significant increases in household businesses.

Users of the improved systems were generally of higher socio-economic status than non-users. This is tantamount to saying that the very poor cannot afford the costs of water connections and regular service. However, the evaluation found that sharing of water between connected and non-connected household resulted in a significant number of lower income households in both cities gaining access to safe, reliable water supply.

The lack of evidence of a significant improvement in health status as a result of water supply improvements reflects unfounded expectations rather than project failure. The success of these projects is evident from their "market test". The large increase in the number of households that decided to connect to the system demonstrated the value people placed on these

projects. They considered the costs of the service to be worth the improvement this would bring to their standard of living. Of course, the counter argument is that this was due to underpricing of service, but there is no evidence of this, nor of unacceptably high failure rates by cities to repay loans for improved water systems. This suggests that urban water supply projects are more accurately viewed as improving the social well-being of people in the short-term and, over the long-term, are necessary to achieve significant improvements in public health status.

5.5.2 Rural Water Supply and Sanitation

Beginning in 1978, USAID initiated support for construction of improved rural water supply and sanitation systems through two new projects - Barangay Water I (BWP I) and Panay Unified Services for Health (PUSH). These were followed in 1979 by Bicol Integrated Health, Nutrition and Population (BIHNP) and Barangay Water II (BWP II) in 1980. These four projects reflected USAID's rural development strategy to meet the basic human needs of the "poorest of the poor". Water supply and sanitation interventions in rural communities were justified in each of these projects as principally contributing to the improvement of public health.[38]

Barangay Water I funded construction of improved water supply systems in rural communities with 300 to 5,000 residents in approximately PDAP provinces and chartered cities. Barangay Water II expanded the program to barangays with populations up to 10,000 residents in non-PDAP provinces and cities. Surface and ground water sources were developed for water supply systems. Direct household connections were too expensive for rural communities; therefore, public faucets were located so that one pipe stand served approximately ten households.

BWP I&II were implemented through MLG which established the Barangay Water Program (MLG/BWP) responsible for project implementation on the GOP side. Using the FARA mechanism, project funds reimbursed the GOP after MLG/BWP reimbursed

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[38] Additional benefits were also anticipated. For example, Barangay Water I was expected to stimulate local business development, slow rural to urban migration, promote tourism thereby contributing to foreign exchange earnings and introduce new democratic institutions via water users associations. No evidence is available which indicates whether these extra benefits were produced.

provinces for construction costs.[39] Provinces were expected to recoup their expenses from water service fees collected by local water service associations. The associations would be organized, trained and supported by provincial staff and MLG/BWP advisors and were responsible for the operation and maintenance of the system. Substantial technical assistance and training for MLG/BWP, provincial staff and the local water service association managers was to be funded through the projects.

The Bicol and Panay Health projects differed from BWP I&II in that they supported a number of interventions to improve the health care delivery system in rural communities. Water and sanitation systems were only a part of this effort. Both projects funded construction of small water systems with improvement costs far below the P20,000 to P300,000 per system costs of BWP I&II. BIHNP and PUSH also funded the installation of water sealed toilets in households to improve community health conditions. In this respect, BIHNP and PUSH interventions focused on the household level rather than the water system level of BWP I& II.

BIHNP and PUSH used different implementation approaches than BWP I&II. BIHNP was implemented through a special project office that the Ministry of Health established as part of the Bicol River Basin Development Program. PUSH was implemented through NEDA and the Regional Development Council for Panay with NEDA and MOH Regional Offices providing administrative support. A Project Executive Committee consisting of regional department representatives was responsible for project implementation oversight. The Committee was assisted by a Project Support Staff with the appropriate technical skills for project planning, management and monitoring of implementation. Actual project implementation - construction - was the responsibility of the provincial governments of Panay. PUSH also used the FARA, with NEDA reimbursing provinces for construction costs, and USAID subsequently reimbursing the GOP.

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[39] This arrangement and the use of the FARA for project financing had become standard practice. The Ministry of Local Government (previously DLGCD) established a special unit responsible for project implementation for USAID rural development assistance. The Barangay Water Program thus joined the Rural Roads Program and the Provincial Development Assistance Program. For project implementation, participating provinces identified barangays for water system improvements in their annual planning processes established under PDAP. After receiving MLG/BWP approval, including the reimbursement agreement, the province was responsible for construction and for providing training and support to the barangay water association. MLG/BWP also provided training and support to provincial staff and to the local water association.

With the exception of BIHNP, little information on the final outputs of these projects is available (see section 5.3 for a listing of BIHNP outputs). Interim evaluations describe a set of projects with very serious and remarkably similar implementation problems. In 1980, BWP I suffered from the weak technical capabilities of MLG/BWP staff to perform their support functions. They were not visiting the project sites frequently enough to be effective. Similar weaknesses in implementation capabilities were found at the provincial level. At the barangay level, training and technical support necessary to manage the systems were grossly inadequate, resulting in little or no capability to maintain system operations. Water service associations were not being developed and community involvement in the projects was marginal. Financial management systems were largely non-existent; mechanisms for repayment by the barangay water service association to the province did not exist. Unsurprisingly, projects were being allotted as political favors to the barangays by elected officials at higher levels.

In 1985, virtually the same report is issued concerning the performance of BWP II. It presents a picture of project failure and mismanagement across the board. Only 11 out 80 provinces and cities with a Memorandum of Agreement with MLG/BWP were found to be competent to plan and build small water systems in rural communities. MLG/BWP staff rarely visited project sites; its support functions were ineffective; and its staff lacked skills, motivation and credibility with local government staff. Training and technical support provided to Water Service Association members were parodies of what was actually needed.

Most Water Service Associations were not operating and maintaining their system on a financially sustainable basis. None conducted regular maintenance and many systems constructed under BWP a couple of years earlier were experiencing major problems or had ceased to function. Associations had not received adequate training and technical assistance. Repayment was not being made; local residents using the system saw no need to do so since the systems were "a gift from the Governor" and the responsibility of the province to maintain and repair them.

Of the 2,800 water systems BWP II was expected to improve, only 94 had been completed by 1985. Water testing had not been conducted and meeting health and institutional targets set for the project appeared highly unlikely. Due to deteriorating economic conditions, local governments lacked adequate funds to undertake new projects, hence, BWP II had virtually ground to a standstill under the FARA mechanism. USAID clearly did the right thing when it de-obligated $5.5 million from the project following the evaluation.

Evaluations presented equally grim pictures of BIHNP and PUSH. BIHNP suffered major implementation delays, in large part, because the project had simply been assigned to the Regional MOH Office in addition to their regular duties. In effect, no special office had been established until two years before project completion. PUSH had grossly inaccurate targets for physical accomplishments. For example, wells were planned to be dug in locations physically unsuitable for wells. Project funds were juggled among different categories of water supply improvements to adjust for such problems. Contractor inexperience with the small scale interventions funded through PUSH was common. The project was burdened with excessive contracting documentation for even small activities. It was assumed villagers would donate labor for construction, but projects were implemented when farmers were busy in their fields. Water quality testing was not conducted to assure the completed systems provided reliable safe water.

Assumptions about how the water supply systems would be operated by the recipient communities seem particularly problematic from available reports. An A.I.D. Water and Sanitation for Health (WASH) 1982 field report concerning shortcomings of metered public faucets (pipe stands) installed under BWP I&II is telling:

> "Because water must be carried into the home from public faucets, the expenditure in human resources for water is exorbitant, especially if the provision of 60 liters per day is to be achieved. The end result is that the consumption rate is actually less than 30 liters per capita per day. Also, in the act of transporting the water, contamination is common...
>
> (C)ost recovery...has been very poor...The percentage of nonpaying users is too high to be offset by those who do pay. Financial feasibility, even for operation and maintenance only, is highly problematic...
>
> (U)sers are generally unsatisfied with (public faucet) systems. In almost all cases before a (public faucet) system is complete, many, if not all, of the more affluent members of the community make direct connections...Since these same persons are usually the members of the board of the Rural Water Association, control over such actions to ensure equitable payment for usage is questionable...This has occasionally occurred to such an extreme that no public faucets were installed... The result is that the poor have no direct access..."

The preceding is only a partial listing of the problems these projects encountered, but it is more than sufficient to show what can go wrong with rural development projects. Unrealistic expectations and assumptions, poor planning for implementation

arrangements, inadequate attention to institutional development that needs to occur simultaneously with physical construction, inadequate involvement of local communities from inception through to completion of projects, abuse of projects as political handouts by elected officials, and more, all contributed to poor project performance.

Considering just the outputs of these projects, hundreds of water supply systems in rural communities were improved and tens of thousands of water sealed toilets were installed in homes. However, inadequate (or non-existent) institutional development, particularly at the community level, essential for project success, undermined the sustainability of these interventions.

The same conclusion holds for project impact. Improved health status was the principal justification for these project. However, there is no evidence available that health status improved as a result of water supply and sanitation interventions. Even accepting the common sense position that these interventions were intrinsically beneficial to the recipient communities and there was no need to demonstrate this, it is still important to establish that such benefits were cost-effective and sustainable. In light of poor operations and maintenance practices and other organizational weaknesses reported in the evaluations, it seems very unlikely that they were sustained.[40]

In retrospect, it appears that efforts directed to achieving necessary institutional development, which was recognized from the outset as essential to improving water supply and sanitation in rural communities, were ineffective or inadequate. Community involvement and organizational development to sustain these activities, rather than engineering and construction, should have been the top priorities in these projects.

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[40] The Bicol Impact Evaluation reports that BIHNP had a positive impact on health status, but the reported improvements appear to be more a function of improvements in health service delivery supported by these projects, rather than from water supply and sanitation improvements. For example, observed reductions in maternal death rates very likely were due to better health treatment from improved service delivery, not from improved water and sanitation. No evidence is offered on conditions improved water and sanitation are likely to effect, such as the incidence of water-borne diseases.

5.6 Energy

5.6.1 Rural Electrification

USAID's support for rural electrification began in the mid-1960's with funding for a national power industry study.[41] The study recommended the goal of national electrification and the development of rural electrification following the U.S. rural electric cooperative model. Rural electrification became a top priority for the GOP to accelerate the development of the country.[42] To support the rural electrification program, the National Electrification Administration, was established under the Rural Electrification Act of 1969. To strengthen NEA, its mandate was expanded in 1973 to include development and regulation of the electric utility industry. Equally important, new, dynamic leadership was brought to NEA which, in the following years, led to the rapid expansion of the rural electrification program.

Feasibility studies for developing rural electric cooperatives (REC) throughout the country were conducted. Two pilot RECs in Negros Occidental and in Misamis Oriental were subsequently funded by USAID for development . The first major loan for the Rural Electrification Project (RE) was made in 1972. Four more loans followed between 1974 and 1978, raising USAID's assistance for rural electrification to $85.8 million.[43] Each loan financed additional commodity procurement, technical assistance and training, and engineering services to develop more RECs.

The expected benefits resulting from rural electrification expanded with each subsequent USAID loan. Rural electrification would reduce socio-economic imbalances between rich and poor, and between urban and rural areas. It would promote rural development efforts in other sectors and contribute directly to increasing agricultural production and expanding rural

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[41] U.S. assistance in the energy sector pre-dates rural electrification. From 1956 through 1965, a total of $464,000 was provided for Atomic Energy Training.

[42] Judith Tendler in her 1979 discussion paper entitled "Rural Electrification: Linkages and Justifications", argues that this priority was highly motivated by the Marcos Administration's desire to pacify the countryside by supplying it with household electricity, wedding comfortably with the USAID/NRECA focus on household consumption of electricity.

[43] The figure $80 million is cited in evaluations for the program. The actual amount varies depending on whether additional funding for technical assistance is included and on whether how de-obligations are treated.

industries. It was expected to create more job opportunities in rural areas, and improve the quality of life, thus slowing migration to urban centers. Membership in the local electric cooperative would offer a new role for rural people; from running the REC, they would gain experience with a participatory democratic organization. In other words, many good things were expected to result from rural electrification.

The ADB and World Bank were also making large loans for power development and a division of labor had been reached by the early 1970's. The World Bank concentrated on development of the Luzon grid, while the ADB focused on Mindanao and USAID supported electrification in rural areas nationwide.

USAID loans enabled NEA to purchase commodities needed to develop the RECs. All RECs distributed electricity to their service areas. Some also generated electricity, while others obtained power from NAPOCOR. Once energized, the RECs were expected to become financially self-sustaining, including repayment to NEA for commodities and construction costs.

Following the U.S. rural cooperative model closely, RECs focused on household connections which became the "bottom line" in charting the annual progress of the program. The number of new cooperatives registered and organized; the amount of commodities procured, delivered and installed; the number of RECs energized; and the number of communities served all culminated in the cumulative number of household connections and the extrapolation to the number of people served. Especially during this early period when rural electrification was expanding rapidly, the program revolved around such quantitative outputs, and by these standards, it was highly successful.

From the initial two pilot RECs, forty RECs were under development using funding from the first two loans. Each year the number of RECs energized and fully operational increased, in some cases, ahead of schedule, which facilitated justifying subsequent loans. At the beginning of the program, it was estimated that 70 percent of rural people did not have electricity. By 1974, 27 RECs were operational, with some 160,000 cooperative members, providing service to an estimated one million users. Experience thus far indicated that each REC, on average, covered a population area of 100,000 residents. The development cost per REC averaged approximately $2.4 million. When USAID's last loan was authorized in 1977, 82 cooperatives had been organized and 62 were fully or partially energized, providing service to some 450 municipalities and 4,600 barangays. Approximately 520,000 households had electricity which implied that some 3 million people obtained service from the RECs.

These numbers continued to climb. By 1978, 100 RECs were organized in 71 provinces; 86 were providing service in 62 provinces - the original goal of at least one REC in each province was close at hand. However, implementation had progressed so swiftly that targets expanded to reaching all 1450 municipalities and some 34,000 barangays by the mid-1980's. With a projected total of 118 RECs, combined with service from NAPOCOR, MERALCO and six private franchises, national electrification would be achieved.

The first evaluation of the effects of the Rural Electrification Program was conducted in 1976 by the Mindanao Center for Population Studies of Xavier University. The study examined the economic status of customers and the general socio-economic impact of electricity service on the area covered by MORESCO, one of the pilot RECs established in Misamis Oriental.

The study found that 62 percent of MORESCO's customers were below the poverty line. Approximately 59 percent of households connected to the system were headed by small farmers and fishermen, two of the poorest occupational groups in the area. Improved water quality due to the availability of electric pumps and electricity service to hospitals and clinics contributed to improved health services for electrified communities. Similarly, the conduct of evening classes expanded educational opportunities, especially for women. In addition to the convenience offered by electricity, the study found that the cost of kerosene for lighting exceeded typical electricity expenditures.

New businesses were attracted to the area because of electricity service and production of existing businesses and industries had increased. This resulted in increased employment opportunities and rising incomes. Overall, the study concluded that MORESCO's electricity service had improved the quality of life for the rural poor.

The results of a nationwide survey conducted in 1978 concerning the socio-economic impact of rural electrification substantiated the positive aspects of the program. Key findings were as follows:

- Households served by cooperatives were of lower socio-economic status than those served by other electric utilities.

- Electrified households were of higher socio-economic status than non-electrified households.

- Cooperative utilities are more successful than private utilities in extending access to service and in making household connections in communities where service is provided.

- Cooperative utilities were more successful in providing service to remote areas and to the rural poor in those areas.

- Rural households used electricity primarily for lighting.

- In cooperative areas, neighborhood sharing was stronger and the benefits of electricity to non-electrified households were more widespread than in non-cooperative areas.

- The strongest perceived indirect benefit of electricity were improved peace and order and increased educational activity.

The first four points indicated that compared to private electric utilities, the RECs were more effective in extending service to more remote areas and providing service to poorer people in the communities they covered. Private utilities tended to charge higher rates which poorer people could not afford, or would not pay. Extending service to remote areas was less profitable, hence, private utilities would be less willing to provide electricity to such communities; whereas, that was one of the explicit purposes of rural electrification and the RECs.

It is not surprising to find that those who were connected to the RECs tended to be of higher socio-economic status than those who were not. Electricity service entails costs which the poor could not (or would not) bear. Use of electricity for more than lighting, such as for refrigeration or household appliances, also means the household has the resources for such items which the poor lack. Countering this bias toward servicing those who not among the "poorest of the poor" was the fact that sharing of service between electrified and non-electrified households was common. The poor thus obtained limited service for lighting (most likely) without incurring connection costs.

In general, electrification was viewed by the vast majority of users as a significant improvement to their standard of living. The survey found that electrification was particularly beneficial for women. Household connections provided improved lighting and safety at night, permitted use of labor saving appliances, and made refrigeration possible for sari-sari stores typically operated by women. Electricity permitted holding night courses for women and led to new commercial and manufacturing jobs for women. Electrification of communities was also reported as contributing to improved peace and order.[44]

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[44] Tendler (1979) suggests that the reported peace and order benefit may have resulted from the structure of the survey questionnaire, prompting a positive response. The benefit of increased employment for women resulting from electrification seems plausible, but the report offers no supporting evidence.

The 1978 survey provided very limited insight into the effects of electrification on business development, employment generation and other expected changes. The survey found that 16 percent of electrified households in cooperative areas have a business which uses electricity, the sari-sari store being the most common of these. There is no way of determining whether this is more than non-electrified households or if this percentage increased as a result of electrification. Nor is there any information on the uses of REC service for agriculture, such as electric irrigation pumps, and local industry which would suggest production or employment increases.

In sharp contrast to the 1978 survey results, a special A.I.D. impact evaluation conducted in 1980 concluded that rural electrification had limited effect on the rural poor. The evaluation reported that the rural poor could not afford service or, if connected, could afford only very limited use, such as a light bulb or two. Rural electrification had its greatest impact on economic development in areas of high population concentration, where people had the technical skills and financial resources to use electricity for commercial purposes and where there was access to larger, more diverse markets. The evaluation concluded that active promotion of activities which use electricity for productive purposes are needed to assure that electrification results in economic growth and employment generation. Specific attention to the poor and their participation in this growth was also deemed necessary.

A second survey to assess the impact of rural electrification was conducted by NRECA in 1981. The survey results reiterated the point that electricity service contributed significantly to improving the quality of life in rural communities. This included educational benefits, security and productivity gains in the household. Approximately one-third of households connected to the sampled RECs were "minimum bill users" - i.e., they consume on average 12 kWh per month costing P10. This was interpreted as evidence that very low income people were obtaining service from the RECs. Extrapolating from the total population of REC users, the report estimated that 3 million "very poor" Filipinos were benefiting from REC service.

The 1981 survey provided considerable evidence about the effects of electrification on commercial development, productivity and employment generation. Approximately 60 percent of REC power was consumed by commercial, industrial and public service enterprises. Access to electricity service and market roads were the two chief determinants of decisions about business location. 60 percent of the surveyed enterprises either did not exist or did not use electricity in 1973, roughly the start of the rural electrification program. Electricity service was strongly associated with meat and poultry production, manufacturing and small businesses. Grain and food processors, manufacturing,

personal service providers, and public establishments reported that their current operations and production were highly dependent on electricity.

Electricity was instrumental in producing the following benefits for private and public enterprises:

- extended operating hours;
- broadened the type and range of services provided;
- increased levels of manufacturing and agricultural production;
- facilitated the establishment of new rural industries, such as meat and poultry production enterprises
- use of electric equipment and machinery led to significant labor and money savings, especially for small businesses; and
- made rural enterprises more efficient and attractive investments, which led to expanded operations and increased employment opportunities for the local community.

These results substantiated many of the initial expected benefits of rural electrification. The effects are fairly predictable. Commercial and manufacturing development is stimulated by access to reasonably reliable, affordable electricity service. Enterprises highly dependent on electricity for their operations locate facilities in areas with electricity service which before would have been dismissed immediately as unsuitable. Pump irrigation becomes possible in areas now served by the REC, increasing production and permitting double cropping in areas previously producing only one rainfed crop a year. Increased production typically requires increased labor, resulting in employment generation and income gains.

A very insightful discussion of rural electrification relevant to the preceding survey results was presented in an A.I.D. Evaluation Discussion Paper prepared by Judith Tendler in 1979. Of particular interest are her observations about the implications for developing countries of adopting the U.S. cooperative model which emphasizes household connections. If the primary purpose of rural electrification is to improve socio-economic conditions, and in particular, assure that the rural poor benefit, then emphasis on household service is an inappropriate priority. Rather, giving priority to service which encourages commercial, industrial and agricultural development and generates jobs would serve the objective of socio-economic improvement more directly. Employment generation in rural areas due to the new availability of electricity would have a considerably greater impact than household electricity service on socio-economic conditions, especially for the poor who obtain

employment from this economic expansion. In other words, the best cure for poverty is a job.

What the 1981 survey results suggest is that, despite the program's near obsession with physical completion of RECs and connections to households, productive economic applications of electricity occurred - i.e., commercial, industrial and agricultural development due to electricity service from the RECs. Moreover, this occurred without special prompting or targeting by the program.[45]

These results, as well as those from the 1976 MORESCO study and the 1978 survey, clearly conflicted with the results of the 1980 impact evaluation. It is not surprising to find that rural electrification did not benefit the poor in the short-term if poor refers to those living in abject poverty, i.e., the "poorest of the poor". These people live at the minimum subsistence level and can afford very little else. This appears to the case in the 1981 evaluation. If poor refers to the much broader population of those living below or near the poverty line, i.e., the rural poor, then many rural poor can afford a small monthly expenditure for electricity. This is the case for the 1976, 1978 and 1981 surveys which provide credible evidence that rural electrification indeed benefits the rural poor, and benefits them to a greater extent than the most abject poor.

The 1981 survey also offered a prescient forewarning of what would become the near undoing of the program due to the RECs' administrative and financial management practices. Management systems had not kept pace with the physical expansion of the systems. Bill payment delinquencies were growing, creating financial constraints on the REC's ability to service debt and pay their power bills. Management information systems were not functioning properly and energy losses were beyond acceptable levels. The report cautioned that "(s)uch shortcomings, if not corrected, will affect project financial soundness in due time". Such shortcomings were not corrected, and the rural electrification program foundered in the 1980's.[46]

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[45] Tendler's question about the suitability of the U.S. cooperative model for the Philippines could be debated ad nauseam. At least one very positive result of the cooperative model was to preclude any attempts by the national government to provide electricity to rural areas through yet one more inefficient, overly subsidized public entity.

[46] Financial management problems are typical of power sector projects. The World Bank reported in 1994 that 73 percent of its loans for power development impose conditions designed to address existing financial problems.

The overriding emphasis on physical accomplishments, that is, on the quantity of service provided rather than on the self-sustaining financial viability of the RECs, resulted in a rapidly deteriorating system, worsened by abuses it suffered from the national government. When USAID re-newed assistance for rural electrification in 1988, it would, in part, be paying the costs of the earlier failure to achieve the institutional development necessary for program sustainability.

5.6.2 Energy Development

As oil prices increased rapidly through the 1970's and into the 1980's, the Philippines, which was highly dependent on imported oil for energy, faced a worsening foreign trade deficit. The percentage of its foreign exchange earnings needed for oil importation increased sharply and continued to rise annually. In response, USAID funded three projects that attempted to develop alternative energy sources and promote energy conservation.

Non-Conventional Energy Development funded in 1978 supported the testing of solar, biomass conversion, wind and small-scale hydro generation technologies at nine pilot sites. The purpose of the project was to identify technologies applicable to areas of the country lacking conventional energy supply, e.g., rural remote communities, islands. The development of these communities would be stimulated by providing them with suitable energy sources for refrigeration of fresh fish, light manufacturing, and other productive and social purposes. Technologies found to be both economically and technically viable were also expected to help reduce the use of fossil fuels, resulting in foreign exchange savings and promoting the use of environmentally safe, renewable energy sources. $6.7 million was expended on this project; no information is available on its results and impact.

Rural Energy Development was initiated in 1982 using Development Assistance and ESF funds. The project was intended to promote the use of energy efficient activities in rural areas and reduce dependence on imported fossil fuels. Similar to Non-Conventional Energy, Rural Energy supported the testing, development and application of technologies to utilize fuelwood for dendro-thermal electricity generation; charcoal for domestic and industrial uses; and gas (produced by charcoal gasifiers) to power irrigation pumps, small fishing boats and refrigeration facilities for preserving fresh fish. In support of these applications, development of woodlots to produce fuelwood was funded by the project. The project also promoted energy efficiency in the modern sector and the development of other non-conventional energy sources.

Rural Energy encountered serious implementation problems. Questions arose about the underlying economic and technical feasibility of project activities, especially dendro-thermal

generation of electricity which was subsequently eliminated from the project. The project was reduced to two components: a) introduction of gasifiers for irrigation pump operation, and b) credit for tree farm development and construction of charcoal kilns. By Fy 1986, 275 gasifier units were installed and 148 hectares of woodlots developed; 6 kilns were constructed with roughly 2,800 hectares of woodlots developed to supply charcoal production. No additional outputs were produced. From the $18 million obligated to the project, $16.3 million were de-obligated with only $1.7 million actually spent on planned activities. No information is available on whatever impact these activities might have had.

The purpose of the Technology Transfer for Energy Management (TTEM) was to promote and accelerate the adoption of energy-efficient technologies and operational practices by major energy consumers, especially industries and commercial buildings, which are heavily dependent on fossil fuels and electricity. The project consisted of two major components: a) technical assistance, training, information dissemination, studies and policy analysis; and b) a Demonstration Loan Fund which partially financed the procurement of energy-efficient technologies. The technical assistance component promoted energy conservation and efficiency through such activities as industry energy audits, furnace efficiency testing, co-generation applications, waste heat recovery and information dissemination on products and equipment prices. The Loan Fund helped industries obtain financing through local banks for the purchase of energy-efficient technologies and equipment. The purpose of the fund was two fold: a) to demonstrate the technical, financial and economic feasibility of energy conservation measures which would facilitate more widespread adoption, and b) to encourage local bank lending to industries for such purchases.

Originally conceived in 1983, the initial implementation of this five year project could not have occurred under more difficult conditions. Authorized in May 1985, the project made little headway as the country entered into a period of political turmoil. The contract for technical services was awarded in December 1986, a senior technical advisor arrived in February 1987. On the GOP side, a TTEM project director and staff were appointed in October 1987 and the project's Conditions Precedent for the project were finally met in December 1987. In effect, TTEM started some two and half years after it was authorized.

Despite this very slow start, TTEM proceeded as planned, promoting energy efficiency through its technical assistance component and engaging local banks in lending for more than a dozen energy equipment purchases by local manufacturers. The project achieved some very promising results. On average the costs of equipment and technologies local manufactures purchased would be recouped from energy savings in two and half years.

Also, engaging local banks in financing such purchases helped to establish credit lines for future purchases of this sort. Despite this progress, the project was closed-out as planned in 1990. In effect, TTEM's implementation was cut in half, USAID decided not to extend the project to compensate for its slow start. No information is available on the impact of TTEM.

5.7 ESF Infrastructure Projects

The 1979 Amendment to the 1947 U.S. Military Bases Agreement resulted in a pledge by the U.S. Government to provide $200 million in Economic Support Funds (ESF) over the 1980-84 period in conjunction with the continued use of U.S. military facilities in the Philippines, principally Clark Air Base and Subic Naval Base. The Amendment also contained the provision that certain lands within Clark and Subic would revert to the GOP. It was further agreed that ESF funding would be additional to current Development Assistance funds. ESF funding would be used as "compensation" principally for the areas most "affected" by the U.S. Bases (principally Regions I & III). Though not a participant in the Amendment negotiations, USAID was responsible for ESF program administration. The GOP created a ministerial level body to set GOP policy for the ESF program. The Ministry of Human Settlements was instructed to establish a Secretariat for the day-to-day operation of the ESF program.

The exact use of the funds and how they would be managed was not specified in the 1979 Amendment. On the one hand, they would not be programmed and subject to the regulations of Development Assistance funded projects. However, discussions with Congress led to the position that they would be used strictly for development purposes and that proper administrative controls would be needed to assure appropriate use of the funds. It was subsequently decided that ESF funds would finance discrete projects. These projects would be consistent with the prevailing focus of U.S. economic assistance on meeting basic human needs. In this way, the ESF projects supported USAID/Philippines strategy employed for its Development Assistance projects, i.e., rural economic and social development to alleviate poverty.

Four of the ESF projects financed during this period - Schools, Municipal Development Fund, Regional Development Fund and Markets - used a similar project design and implementation approach. In general, the planning and implementation capabilities of local governments (provinces, cities and municipalities) in the "affected" localities were used to identify, develop, and implement various public infrastructure projects. This included elementary and high school buildings, farm to market and penetration roads, public markets, flood control and drainage, abattoirs and various other small to medium scale infrastructure projects. Though infrastructure was the tangible output of this

assistance, working through local governments was considered a means for strengthening their capabilities to plan and carry out development activities.

Approval and contracting processes managed by the ESF Secretariat were established which USAID determined satisfied requirements for adequate planning, implementation supervision and performance review prior to payment. The local governments were aided in preparing project proposals by technical assistance from an ESF funded Project Design project, which also funded the ESF Secretariat's operations. The ESF Secretariat was assisted by an in-house engineering services contractor. The Secretariat handled the approval process on the GOP side and with USAID. It also managed all project contracting (i.e., ESF projects used local contracting firms for construction and A&E services). The local government was responsible for monitoring contractor performance. The ESF Secretariat and USAID also monitored project implementation. As the GOP's contracting agent, the ESF made all payments to contractors for satisfactory completion of work.[47]

The following infrastructure projects were implemented under the ESF Program during the 1980-84 period:

- Schools Project: The objective of the project was to increase access to basic education in the Philippines through the construction and furnishing of typhoon resistant elementary schools. 884 three-room schools were constructed in the typhoon-prone regions of the country, plus 13 schools with 10 to 18 rooms in Region III. It was estimated that more than 100,000 children used these building annually.

- Clark Access Road: The project constructed 7.7 kilometers of asphalt road and 3.7 kilometers of gravel road into the Sacobia Resettlement Area created from lands formerly part of Clark Air

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[47] The actual approval process was far more convoluted and often much less systematic than this suggests. Considerable political pressure was often brought to bear by local officials to obtain approval of their projects. This distorted the decision making process in such cases, giving priority to the projects of the most influential or persistent of local officials. After trying to establish the exact steps in the project process from identification through to completion, a 1989 process evaluation of the ESF program concluded there simply was no one process, but actually several or many different processes from start to finish. Abuses did occur as a result of having to respond to political realities; however, a 1991 impact evaluation found that, for the most part, this was not excessive in the Philippines' context. USAID exercised considerable oversight and control over the 3,400 projects funded through the ESF Program.

Base. Other project components were terminated as GOP resettlement plans failed to materialize and GOP priorities shifted radically after the 1986 elections. (The project was implemented by Tarlac Province, not the ESF Secretariat.)

- The Municipal Development Fund: The project funded the construction of small-scale infrastructure projects in 23 cities and municipalities near Clark and Subic Bases. Under MDP, 20 elementary and high schools, five road improvement projects, 14 markets, five drainage projects, two slaughterhouses, two solid waste facilities and one flood control project were constructed. $12.1 million were used for basic infrastructure, while 18.6 million financed construction of public enterprises.

- Markets: Originally intended to finance construction of public markets throughout the country, the project was substantially reduced in 1986. Available funding permitted construction of only five markets. The project also provided technical assistance to improve management of the facilities by cities and municipalities in which they were located.

- Regional Development Fund: The project initially focused on the six provinces of Region III: Pampanga, Tarlac, Zambales, Bataan, Bulacan and Nueva Ecija. 44 sub-projects were financed during the 1982-83 period in these provinces, consisting of 12 roads, 14 schools, 10 markets, 4 hospitals and 4 other public works activities. As a result of the 1983 review of the Bases Agreement, it was agreed that the project would become national in scope with the infusion of $50 million for schools and roads in 1984. Some 2,300 schools were constructed by the end of 1986.

The 1979 Amendment included a thorough review and re-assessment of the Bases Agreement every five years. The 1983 review resulted in a "best effort" pledge of an additional $475 million in ESF assistance over the FY 1985-89 period. Beginning in 1985, program assistance for balance of payment support and budget support for donor assisted projects was provided as well as continuing funding for the Regional Development Fund. Program assistance increased substantially after the 1986 Elections and remained a major portion of the ESF Program until its conclusion.

By the mid-1980's, the ESF Secretariat mechanism described earlier had evolved into a reasonably well-functioning process for financing small and medium scale infrastructure projects initiated by local governments throughout the country. Standard designs for schools and markets had been developed and approved lists of projects facilitated the approval process. Contractors had also gained experience - good and bad - with the ESF Program, and vice versa - the Program with local contractors, also good and bad. A quarterly advance system combined with a Special Account to control the disbursement of pesos gave USAID sufficient basis for monitoring the flow of funds for projects.

By 1986, the Philippines economy was in shambles, having experienced negative or only marginal growth during last years of the Marcos Administration. As result of gross mismanagement of the economy, the country had incurred a large foreign debt. In support of the democratically elected Aquino Government, USAID moved to ease the burden the new Administration faced through a special, one-time grant in 1986. Funds were de-obligated from projects where possible and outstanding project loans were converted to grants. A total of $67.9 million were de-obligated in 1986 from Rural Energy Development, Municipal Development Fund, Regional Development Fund and Markets.

After 1986, ESF funds were obligated solely to the Regional Development Fund to continue support for infrastructure projects through the ESF Secretariat mechanism. The same types of sub-projects - schools, roads, etc. - were constructed until RDF reached its completion in 1992 (sub-project construction activity continued for another twelve months using funding approved prior to RDF's completion). New ESF-funded infrastructure projects working more directly with local government replaced RDF, which will be discussed in the next section.

The overall impact of the ESF Infrastructure Program was evaluated in 1991 as RDF neared completion. The results of that evaluation are presented in Section 6.3 - ESF Infrastructure Projects.

5.8 Conclusions

The 1974-86 period of USAID's support for infrastructure development was, if nothing else, remarkable for the diversity of assistance provided. Irrigation projects ranged from the small-scale to major systems involving land consolidation and resettlement of entire communities. Roads of all types - provincial highways, farm-to-market, penetration and small barrio access - were constructed throughout the country. Water supply systems for major provincial cities to small, remote barangays in some of the most isolated parts of the country were developed. A major component of the national power system was undertaken with USAID's assistance making electricity service a reality for millions of rural people throughout the country. Toward the latter half of this period, thousands of schools, road improvements, public markets and other infrastructure works were constructed throughout the country resulting in better access to education for the country's children, better transportation of goods and people, and better public facilities which are an integral part of daily life.

Several of these programs were outstanding successes from which the GOP and USAID should take great pride and satisfaction. Rural electrification probably had the greatest and most immediate positive impact on more people's lives than any other area of assistance. It helped to stimulated economic growth in parts of the country which would have otherwise fallen farther and farther behind the rest of country where electricity service was available. Moreover, it delivered electricity at a cost affordable to millions of rural poor people. The beneficial effect this had on raise the quality of life in rural areas was truly significant.

The economic and social value of the benefits produced by thousands of kilometers of road improvements during this period cannot be overlooked. Certainly inadequate maintenance diminished these benefits by shortening the useful life of these roads. Others were over-engineered or not the best choice for improvement due to political pressure. But even taking that into account, overall, the road projects USAID financed produced significant benefits well worth the overall investment made in them.

The schools constructed under ESF Program were unquestionably a run-away success. It is difficult to imagine a simpler, more effective project which better serves development needs while promoting goodwill between donor and recipient countries as the construction of schools did. If the objective is to reach the "poorest of the poor", to provide for basic human needs or produce benefits directly and quickly for rural people, then the ESF schools certainly accomplished this. Of the several thousand schools constructed nationwide, none has ever been damaged by even the most severe typhoons. The school buildings actually serve as shelters for many communities during typhoons, as well as community meeting places. Given more time and money, an even greater investment in schools would have been well justified.

Other projects were not so successful and some were dismal disappointments. Projects like Barangay Water which resulted in short-term benefits which were highly unlikely to be sustained, or were diverted to the benefit of the local elite, should have been terminated early.[48] Perhaps even more disturbing are projects like Small-Scale Irrigation which despite short-term gains in production were unwittingly placing small farmers in a deteriorating financial position. On average, however, these types of outcomes were not typical of the infrastructure projects of this period.

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[48] After the experience with Barangay Water I & II, one might have thought that this was enough. In fact, something akin to a Barangay Water III was attempted in the Rural Water Supply and Sanitation Project, which fortunately was terminated early.

It is also important to recognize that a constant theme throughout this period was to use infrastructure projects as a means for strengthening local government capacity to undertake development activities. "Bricks and mortar" projects, therefore, served institutional development purposes. This same objective applied equally to ESF and Development Assistance funded infrastructure projects.

Most interesting is the context in which this occurred. At a time when A.I.D. increasingly concentrated its assistance for rural development on the poor majority, the "poorest of the poor" and basic human needs, funding for infrastructure development soared to new heights. In the following period, when A.I.D.'s focus shifted to private sector development, USAID continued to fund the same types of infrastructure projects, but it was then argued to be critical for promoting private investment - the key to economic growth.

This "strategic" difference raises a curious question. Is rural infrastructure an intervention to reach the poor majority directly because benefits will not otherwise "trickle down" to them? Or does improving rural infrastructure stimulate private sector development and investment which are essential for expanding the economy and creating new employment opportunities? As the next section will suggest, infrastructure does both despite the rhetorical differences. The 1974-86 period and the one that follows are different sides of the same coin.

SECTION 6: 1987 - 1994: RE-STARTING NATIONAL GROWTH - SUPPORT FOR DEMOCRACY AND PRIVATE SECTOR DEVELOPMENT

6.1 Program Description

Following the restoration of a democratically elected government in 1986, the United States moved quickly to offer economic and political support to the new Aquino Administration. Due to the disastrous mismanagement of the economy during the Marcos Era, the Philippines faced a staggering foreign debt. By the end of December 1987, the country's foreign debt amounted to $27.9 billion of which $3.7 billion was for short-term loans. Out of the $24.2 billion in medium and long-term debt, $17 billion was eligible for debt relief. Managing foreign debt while re-invigorating the economy was central to the country's economic planning and its dealings with donors and commercial creditors.

Economic stability needed to be established. USAID responded by providing cash to help meet immediate debt repayments and to maintain imports of essential commodities. This was largely carried out through balance of payments assistance linked to macroeconomic policy reform. To demonstrate both political and economic support for the Aquino Administration, USAID's funding level rose sharply beginning in 1986, ranging from $350 to $380 million annually from FY 1986 to FY 1992.[48]

A major portion of this increase resulted from U.S. contributions to the Multilateral Assistance Initiative, subsequently referred to locally as the Philippine Assistance Program. The MAI/PAP was initiated by the United States to support the Aquino Administration's efforts to re-establish a democratic political system in the Philippines after some twenty years of the Marcos dictatorship. Euphemistically referred to as a "Mini-Marshall Plan" for the Philippines, the MAI/PAP attempted to coordinate and focus the efforts of bilateral and multilateral donors (particularly, the U.S., Japan, the World Bank and the Asian Development Bank). The goal was to accelerate the economic development of the country and, thereby, reinforce the democratic political institutions re-introduced by the Aquino Administration. Introduced by the GOP at the July 1989 Tokyo Pledging session, infrastructure development to encourage domestic and foreign investment, and bolstered by policy reforms to eliminate impediments to such investment, was central to the MAI/PAP strategy.[49]

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[48] FY 1988 was an exception, total funding in that year was $111.7 million.

[49] Annex 2 provides a brief overview of the background to the MAI/PAP and the projects USAID development under this program.

USAID/Philippines program strategy also changed significantly during the 1987-92 period. A.I.D.'s priorities now emphasized private sector-led growth, promotion of trade and investment and strengthening participatory democracy. The Mission's 1988 program strategy reflected these priorities. Virtually all new projects and programs since 1988 have targeted on impediments to private sector growth while shrinking the role of the national government in the economy, encouraging domestic and foreign trade and investment or encouraging a more open, participatory political and economic system.[50]

Infrastructure played an important role in this strategy. The lack of adequate infrastructure imposes a major impediment to increased domestic and foreign investment. Nothing exemplified this problem more poignantly then the worsening power crisis of the Philippines. Power failures throughout the Luzon grid lasting ten to twelve hours daily in 1992 and 1993 imposed enormous costs on the economy through lost productivity and discouragement of foreign investment. USAID maintained its focus on rural infrastructure development, thereby encouraging investment in these areas. It also funded several very large projects to promote area development in Southern Mindanao while also continuing assistance for small and medium-scale infrastructure development.

As Table 6 shows, USAID developed three major infrastructure projects under the MAI/PAP framework in addition to re-structuring the balance of its infrastructure portfolio during the 1987-92 period.

(see Table 6)

As funding shot up dramatically to roughly three times the average annual levels of the preceding period, USAID's support for infrastructure development changed to reflect new program realities. While the programming levels increased sharply, security concerns limited USAID's staffing levels. To accommodate this situation, USAID had to minimize the overall number of individual projects and programs in its portfolio while assuring that its expanded annual budget would be fully utilized. Less staff intensive modes of assistance and project designs which contracted out implementation management functions became

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[50] What was supposed to have been an infrequent exercise of formulating a program strategy became an annual exercise for USAID/Philippines. With the impending cuts in program levels because of the GOP's rejection of a new the U.S. Bases Agreement in 1991, the Mission revised its 1988 strategy to reflect these new realities. Infrastructure development was dropped as an objective in 1993. Until that change was made, program revisions were more cosmetic than profound.

TABLE 6: RE–STARTING NATIONAL GROWTH: SUPPORT FOR DECREASING & PRIVATE SECTOR DEVELOPMENT

('000 DOLLARS)

	1987	1988	1989	1990	1991	1992	1993	1994	TOTAL DE–OB	PROJECT TOTAL
Reg. Dev. Fund (RDF)	30,000	20,476	35,190	9,000			(5,487)	(1,445)	(6,932)	87,734[1]
Rural Infrastructure Fund	51,190		38,810	40,000	30,000	30,000		(11,587)	(11,587)	178,413
LGIF					12,000	15,199				27,199
ESF INFRASTRUCTURE TOTAL										293,346[2]
Rural Electrification		13,886	19,147	(7,300)	5,050	5,629		(1,364)	(8,664)	35,048
Rural Water Supply & Sanitation	13,453	(10,209)							(10,209)	3,244
RURAL INFRASTRUCTURE										38,292
Mindanao Development Project				14,484	30,000	30,516				75,000
PCIS				30,000						30,000
PAPS				25,000		10,000	21,250	12,500		68,750
MAI INFRASTRUCTURE TOTAL										98,750

[1] Total RDF Funding: 174,659,000

[2] Total ESF Infrastructure Project Funding: 388,429,000

the order of the day. Cash transfers for macroeconomic policy reform, policy-based sector assistance programs and large infrastructure projects met this requirement.

Infrastructure projects during this period were of essentially two types: a) "big ticket" projects, such as the Mindanao Development Project which funded construction of a major coastal highway, an airport and port facilities in Southern Mindanao; and b) "umbrella" projects which funded numerous small to medium-scale sub-projects nationwide, such as the Regional Development Fund (RDF), the Rural Infrastructure Fund (RIF) and the Local Government Infrastructure Fund (LGIF). Consequently, as Table 6 shows, there are fewer individual projects (meeting the need to limit the number of management units) while average funding levels per project tended to be much greater than in previous periods (meeting the need to utilize increased funding levels).

6.2 ESF Infrastructure Projects

Under the second ESF Program running from FY 1985 to FY 1989, a total of $475 million had been pledged on a "best efforts" basis. Following the 1986 elections, additional ESF funds were appropriated, raising the total amount provided to $874.2 million through FY 1989. A third ESF package for FY 1990 and 1991 pledged $320 million; $253.7 million was actually provided. In 1991, the U.S. Bases Agreement was terminated; the Base facilities were subsequently turned over to the GOP. This also marked the end of the ESF program; $46.7 million in ESF assistance was provided in FY 1992 and $5 million in FY 93, the last year of ESF assistance to the Philippines.

The ESF Infrastructure Program operating through the ESF Secretariat was continued with new funding for infrastructure development channelled through the Regional Development Fund. Fund.[51] Two new ESF-funded infrastructure programs - the Rural Infrastructure Fund (RIF) and the Local Government Infrastructure Fund (LGIF) - were implemented via the Department of Public Works and Highways (DPWH). The results of these projects are summarized in the following sections.

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[51] The School Construction Project was completed and the Clark Access Roads closed-out in December 1987. Large de-obligations from the Markets Project reduced financing to only five public markets; the project was completed in September 1988. The Municipal Development Fund operated on remaining funds until December 1991. Development Assistance funding was also obligated to RDF, but the bulk of its funding was from the ESF Program.

6.2.1 The ESF Infrastructure Program

The first generation of ESF infrastructure projects was discussed in Section 5.7. In the 1987-92 period, these separate projects were superseded by the Regional Development Fund (RDF) which continued to finance the same types of small to medium-scale sub-projects funded by the first generation ESF projects, i.e., schools, roads, markets, hospitals, resettlement activities, drainage systems, slaughterhouses, and an export processing zone. RDF was completed in August 1992; funded sub-projects were completed over the following twelve months.

The 1991 impact evaluation of the ESF Infrastructure Program assessed the results of the five constituent projects: Schools, Markets, Clark Access Road, the Municipal Development Fund and RDF. More than 3,400 sub-projects were funded throughout the country by these five projects. The evaluation concluded that despite the political origins of the ESF Program, the differing perspectives between the GOP and the U.S. on the nature and ownership of these funds, and the potential for abuse of the ESF mechanism, the assistance was used for remarkably sound development purposes.[52] Much to the credit of the ESF Secretariat and USAID, the constant political pressure from local government officials to give priority to their projects was well managed. Of the more than 3,400 sub-projects funded under the Program, the percentage of such "pet" projects (which typically failed to meet economic criteria) was not excessive.

Overall, the large majority of sub-projects were successful and produced important economic and social benefits for poorer segments of the rural population. School construction was clearly the most effective and successful component of the

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[52] The GOP viewed the ESF Program as rent payments for the use of the Bases. Therefore, ESF assistance should not be subject to the same controls imposed on regular Development Assistance funds. The U.S. perspective was that these funds constituted economic assistance and should be used for mutually agreed upon purposes. Therefore, adequate planning and financial controls to assure proper and effective use of these funds for project activities was necessary. Local governments knew that ESF funds were grants and "cost" the central government nothing. This led to constant pressure from local government officials to circumvent established project approval procedures and fund "pet" projects irrespective of their economic viability. In addition to political pressure, the ESF Infrastructure Program was a prime candidate for corruption since the ESF Secretariat controlled contracting and payment of local contractors. Despite the attempt to establish "clean" government by the Aquino Administration, the evaluation found no discernable change in the abuse of ESF projects when compared to the preceding Marcos Era.

Program. The largest percentage of ESF funding was used for school construction. No ESF-constructed school has ever suffered damage from typhoons. The buildings were highly valued by the local community and encouraged increased enrollments and better school attendance. They were also regularly used for other community activities, including storm shelters. Road improvements were also generally successful; however, a number of roads sub-projects were of questionable justification or of limited or brief utility.

The results for the balance of sub-projects was highly mixed, ranging from very successful to clear failures. Some of the public markets were very well managed and had stimulated local commercial development and generated employment. Others were operated poorly and only one had become financially self-sustained because local governments refused to set rental charges and other fees high enough to cover operation and maintenance costs. Slaughterhouses and solid waste management sub-projects, as well as the Clark Access Road Project (the "road to nowhere") were disappointingly unsuccessful. However, this constitutes a relatively small percentage of the overall program.

The evaluation argued that given the number of sub-projects funded by the Program, it is reasonable to expect that some percentage of these activities will be unsuccessful for all the various reasons that account for poor project results. From that perspective, the evaluation argued that the bulk of ESF funds produced sound development results with a failure rate that was within acceptable limits.

The evaluation pointed out that the generally sound results of the Program need to be understood in light of the political background of the ESF Program, and the management constraints USAID and the GOP confronted in administering these funds. Taking these factors into account, the fact that the large majority of sub-projects produced useful and important economic and social benefits for thousands of rural communities is all the more impressive.

6.2.2 Impact of the Rural Infrastructure Fund

The purpose of the Rural Infrastructure Fund (RIF) was to improve and expand rural infrastructure to facilitate commerce, encourage investment and production and stimulate economic growth in rural areas. By the end of RIF in December 1994, a total of $178 million had been provided for small-scale rural infrastructure sub-projects. RIF financed the construction of 14 roads, a major bridge and 19 feeder ports. Air navigational equipment was installed in 25 airports nationwide. Technical assistance was provided to facilitate privatization in the telecommunications sector. In response to the Mt. Pinatubo eruption, 12 schools, two city hospitals and the preparation of an engineering

framework to guide planning of civil works to minimize further losses due to the aftermath of the eruption were funded by RIF.[53]

An impact evaluation conducted in 1994 concluded that RIF was a highly effective, very successful project evidence by the economic growth, investment and productivity activities it had stimulated. The social benefits produced by the RIF sub-projects, such as improved access to markets and services, were equally important to improving social well-being. The vast majority of beneficiaries of these sub-projects were the rural poor - small farm households, small-scale business operators and service providers.[54]

Infrastructure improvements (roads and ports) and new construction (schools and hospitals) funded by RIF were generally of very high quality, both in terms of design, material input, and construction. Technical feasibility studies were, for the most part, very sound. A solid quality assurance program - including construction supervision, monitoring, and inspection - was established before the project commenced, and these procedures were followed strictly throughout project implementation. RIF sub-projects were generally superior to similar types of infrastructure throughout the Philippines.

The overall economic impact of the RIF Project was very positive. The project achieved its goal of stimulating economic growth and investment in the rural areas. Many of the RIF sub-projects contributed substantially to local economic development. Improvements in transportation efficiency and savings in transportation costs were significant and resulted in business growth and investment. This growth was fairly wide-ranging, affecting previously remote rural areas as well as market towns

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[53] See Annex 3 and 4 for maps showing the location of the roads and ports sub-projects and the airports receiving air navigational equipment funded by RIF.

[54] The evaluation included a nationwide survey of selected sub-projects to obtain data on the economic and social effects produced for different groups of beneficiaries, i.e., the general public using the infrastructure, service providers (jeepney, bus and boat operators), local farmers, manufacturers and processors, investors and business operators. A rapid appraisal approach was used, similar to market research surveys. 2,217 individuals were interviewed at the selected sub-project sites. Respondents were asked a limited number of key questions concerning the sub-project's effects. They also had the opportunity to make additional comments on the projects if they so desired. The results of the survey provided the bulk of data used to evaluate social and economic impact of RIF.

and rural centers. More than 80 percent of sub-project beneficiaries lived in provinces with a poverty incidence above the national average. Considerable employment was also generated. Benefit-cost ratios were clearly positive.

The commercial impact of the roads and ports sub-projects was significant, evidenced primarily by expanded production of farm products and increased growth and investment in agribusinesses and other commercial activities. RIF sub-projects encouraged local government units to undertake additional infrastructure investments in and around the area of the roads and ports, which would stimulate additional commercial investment and activity in the area.

Major project beneficiaries included farmers, fishermen, businessmen, jeepney/bus and truck operators, and passengers. Many rural and market town residents gained employment from the construction of RIF road and port sub-projects. More important, however, was the longer-term employment generated by the increased investment and business expansion that the road and port improvements encouraged. Employment opportunities and personal income for many beneficiaries were increasing.

RIF Project roads and ports also greatly improved access to both health and educational services, relieved the discomfort and tediousness of rural travel, and promoted rural-urban integration by facilitating access to market towns and urban centers.

RIF also funded the procurement, installation and associated training of users of air navigational equipment (NAVAIDS) at 25 airports located throughout the Philippines. All indications were that the NAVAIDS program definitely contributed to flight safety, improved operations and better air traffic control.

The NAVAIDS program permitted upgrading of air service and the use of larger planes with greater passenger and cargo capacity; at some airports, night flights became possible. This expansion contributed to regional economic development in the areas served by airports benefiting from NAVAIDS. For example, more tourists could visit locations such as Palawan and more manufactured products were air freighted out of processing centers such as Cebu. Smaller, regional airports generally benefitted immediately and to a greater extent from NAVAIDS than did larger airports (which already had some of this equipment). Improved operations at smaller airports created new opportunities for local businesses and industries.

In response to the widespread destruction caused by the Mt. Pinatubo eruption, RIF provided $8.76 million for construction of 12 school and 2 hospitals. The ESF school design was used for RIF-funded schools which were well-constructed, and highly valued by students, their parents, and the community at large.

Enrollments had increased, and students willingly traveled additional kilometers to attend classes at these schools. The two urban hospitals may not have been the best means of addressing medical and health needs in the Mount Pinatubo area. Limited RIF money might have been better spent constructing rural health care units at the municipal level which require less equipment and fewer staffing. Many rural health centers could have been constructed and equipped with the funds spent on the two hospitals. Such health units serve the health needs of rural communities more directly than urban hospitals.

The Mount Pinatubo Recovery Action Plan (RAP) funded by RIF had limited utility. Though unquestionably a technically sound, comprehensive product, the RAP fell far short of DPWH's expectations for operational guidance. DPWH simply lacked the understanding and institutional capabilities to make effective use of the RAP. This activity was the least successful component of the RIF.

6.2.3 The Local Government Infrastructure Fund

The Local Government Infrastructure Fund (LGIF) helps finance the construction of small-scale infrastructure by provinces and chartered cities. LGIF funds 56 sub-projects implemented by nine chartered cities and twelve provinces. Due to USAID's reduced program levels after 1992, LGIF's total funding reached only $27.2 million. The project is scheduled for completion in September 1996. LGIF funding is intended to serve as "seed money" for infrastructure development which is expected to attract additional investment to the area. The local governments and, in some cases, private sector participants, co-finance 33 to 66 percent of sub-project costs, with an overall average of 49 percent of sub-project funding coming from the local governments and private sector.

The project is implemented the LGIF Project Management Office (LGIF/PMO) located within DPWH and is assisted by an engineering services and technical assistance team. After approval of the sub-project proposed by participating local governments, LGIF and the local government enter into a Project Agreement which specifies how much of the total project cost will be financed by LGIF and by the local government. Funding for the sub-projects is tied to accomplishment of benchmarks by the local government. These benchmarks pertain to adequate planning and preparations for project implementation, such issuing contracts for engineering design services or for construction services. On reaching these benchmarks, funds are released by the LGIF/PMO from a special account which is financed through the standard GOP

budgetary system.[55] Monitoring of construction is the responsibility of the local government. The co-financing arrangement helps to assure adequate construction supervision and monitoring by the local government.

The outputs of LGIF will include 26 public markets; 17 bus and jeepney terminals; seven roads and bridges; and six learning resource centers (science high schools) and equipment, materials, textbooks and computer systems for these centers. The project also funded feasibility studies needed for sub-project development by the local government's. All sub-projects are expected to be completed by August 1995.

In addition to these physical outputs, LGIF continues USAID's long-established objective of strengthening local capacity for designing and constructing local infrastructure. Training for local government staff and local engineering and construction firms is an integral part of the project. Training courses on the following topics have been conducted thus far: conduct and format of feasibility studies, contract management, credit financing, evaluation of construction management and engineering services, site adaptation to standard designs and construction supervision. Prior to project completion, training in management, operation and maintenance of terminals, markets and learning resource centers will be provided to local government and private sector staff. Given that most sub-projects are still under construction, no information is available yet on project impact.

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[55] USAID released dollars to the Treasury which are used for the repayment of foreign debt. An equivalent amount in pesos was then made available by DBM to DPWH which were deposited in the LGIF Special Account.

6.3 Rural Infrastructure: The Rural Electrification Project

In the 1987-92 period, USAID re-started assistance for rural electrification.[56] USAID funded a study in late 1986 which examined the existing financial, management and technical performance of the National Electrification Administration (NEA) and selected Rural Electric Cooperatives (REC). The studies identified major deficiencies which undermined the service delivery and commercial viability of the entire Rural Electrification Program.

The study found that development activities in the energy sector were not adequately coordinated and that certain GOP policies were in conflict with rural electrification objectives. NEA was not financially viable, it could not meet its foreign debt borrowings and it depended on continued subsidies from the GOP. RECs suffered from poor operation and maintenance of equipment and mismanagement of the cooperative. Due to the RECs poor financial condition, they were unable to repay their debts to NEA. Other problems included the following:

- Because of GOP policies under the Marcos Administration, NEA and the RECs had become involved in activities unrelated to rural electrification.

- NEA had failed to provide adequate direction, supervision and technical guidance to the RECs.

- Many of the RECs coverage areas had been subdivided into uneconomic units.

- The REC distribution network was in dire need of rehabilitation.

- The rural electrification program suffered as a result of mismanagement, political interference and unbusinesslike activities.

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[56] USAID also attempted to continue assistance for rural water systems. The Rural Water Supply and Sanitation (RWSS) was the third USAID project to fund the development of water and sanitation systems in rural communities. The two preceding projects, Barangay Water I&II, were highly problematic and largely unsuccessful. RWSS was designed to correct their deficiencies. DILG was the implementing agency. Almost three years after project authorization, RWSS had made no expenditures. The GOP subsequently decided that DILG would no longer implement water systems projects. USAID de-obligated funding in FY 1988; technical assistance and commodities for DILG account for RWSS' expenditures. No construction was funded.

- There was minimal understanding, participation or involvement in REC affairs by the cooperatives' membership.

These problems all pointed to a critical lack of institutional development needed for sound operational and financial management. The system was further eroded by abusive GOP policies under the Marcos Administration which ran contrary to the basic objective of developing self-sustaining RECs. RECs were required, for example, to support local housing construction and livelihood projects administered through the Ministry of Human Settlements. Some RECs were also strapped with the repayment for alternative energy generation equipment they had been forced to acquire and which had become inoperable.

The study's findings were supported by similar analyses by the World Bank. In response, the Aquino Administration made a commitment to revitalize the program and instituted a number of important changes, including the appointment of new leadership to the NEA.

USAID supported the effort to revitalize the program through the Rural Electrification Project (RE) whose purpose was "...to achieve commercial viability of selected RECs by addressing institutional, policy and technical weaknesses of the REC system." RE was authorized for $40 million to support two main areas of assistance: a) institutional development and b) system loss reduction. Institutional development focused on internal management policies and operations of NEA and the RECs. In addition to technical assistance and training, computerization of NEA and REC administrative operations, financial systems, and planning and design for system expansion was an important part of this component. Commodities needed to rehabilitate and upgrade selected RECs were procured to reduce system losses and improve operational efficiency. Commodities were provided to RECs on the basis of eligibility requirements, performance benchmarks and associated funding limitations.

The first phase of the project financed the procurement of commodities for 36 RECs, technical assistance from the National Rural Electric Cooperative Association (NRECA) and its subcontractors, training and miscellaneous project support activities. A mid-term evaluation conducted in 1991 concluded that the RE project was providing effective assistance and was contributing to major improvements that were underway in NEA and the RECs. The GOP and NEA continued to show strong support for establishing a commercially viable system. However, important legislation effecting NEA and the RECs needed passage.

Despite a somewhat delayed start, commodity procurement had proceeded relatively smoothly and the technical assistance team had produced a number of useful technical outputs, including operational manuals, guidelines and planning tools. The

evaluation noted, however, that considerable improvement in the planning process at the REC level was needed to effect technology transfer through greater participation by REC technical.

Following the recommendations of the mid-term evaluation, RE was modified in 1992. Funding for additional commodity procurement was reduced while training and technical assistance were increased. The World Bank and OECF were developing major loans that would easily cover the commodities USAID had planned for the second phase of RE. A close complementarity existed among the World Bank, OECF and USAID programs to the extent that they jointly supported common policy changes and targets for improved operations which were needed to achieve commercial viability.

Due to budget cuts in the USAID program after 1992, the Mission could no longer afford direct financing of infrastructure development and the Mission's revised 1993 program strategy eliminated this as a program objective. Consequently, FY 1992 was the last year in which funds were obligated to RE and a further $1.4 million were de-obligated in FY 1994. USAID's future role in the energy sector would focus on technical assistance in support of policy reforms, including those affecting the rural electrification system. World Bank and OECF had become the major players in the energy sector, particularly with respect to commodity procurement, providing $100 million and $80 million in loans respectively. Both agencies anticipated follow-on loans and a long-term involvement in the sector.

The results of the RE project were very mixed. NRECA and its sub-contractors had produced numerous technical outputs in the form of policy guidance on tariffs and loans; procedural manuals on administration, budgeting and engineering; system plans for 99 RECs, and studies on zonal repair centers, financing, management information systems and electronic billing. There was no shortcoming in this respect, many potentially useful outputs had been produced as specified in the terms of NRECA's contract. It was also apparent that the RE project had contributed to NEA and REC policy and procedural improvements which had occurred during the course of the project.

However, the evaluation questioned the emphasis that had been placed on technical outputs at the expense of greater attention to institutional development and policy reform affecting the national Rural Electrification Program. Too many of these technical outputs seemed unlikely to result in actual technology transfer necessary for institution building. The evaluation concluded that RE "... was heavily engineering-driven, and it focused upon micro problems in NEA and at the REC level, perhaps at the expense of macro problems and solutions." The evaluation concluded that NRECA's technical assistance seemed more appropriate for a purely engineering project rather than a development project. Though many policy and procedural

improvements had been made, key reforms needed to achieve commercial viability of the RECs was still pending. More attention should have been directed to critical policy reforms.

Technical assistance through NRECA was completed in March 1994 while work on computerization continued until June 1994. Training activities under a separate contract are scheduled through 1995. Indications that these activities were contributing to improved operations were apparent in progress toward REC performance targets established at the outset of the project. Total operating margin had gone from a loss of P22 million in 1987 to a positive P234 million by 1992. System loses had decreased from 24.9 percent in 1987 to 20.7 percent in 1992, whereas a target of 15 percent had been set as an acceptable level. Collection efficiency improved between 1987 and 1992 from 85 percent to 93 percent; the target was 99 percent. Connections per employee also improved from 134 to 153 during this same period. In short, modest progress toward operational efficiency and commercial viability was occurring in certain areas; however, the majority of RECs still had a considerable way to go before reaching commercial viability.

Expecting the RE project to have corrected the serious problems affecting rural electrification in just four or five years would be unrealistic. Modest improvements of the sort described above are probably fair expectations for the technical improvements supported through the project. Achieving such improvements was, and continues to be, a slow and gradual process. Major and more rapid improvements, however, might have occurred had key policy changes been made.

In this respect, the evaluation presented estimates of what the financial impact of two major policy measures would have been on the commercial viability of the RECs if these measures had been enacted. These two policies were: a) effective anti-pilferage legislation which would reduce non-technical system losses to an acceptable level and b) transfer of large consumers directly connected to NAPOCOR service to local RECs which would increased the profitability of those RECs. If both measures had been enacted, compared to actual levels in 1992, overall operating revenues of the RECs would have increased by 213 percent, operating margin would have improved by 541 percent, net margin would have risen 1,369 percent and free cash flow would have increased from $70,823 to $969,261 per REC. These improvements would have made the RECs commercially viable.

By the end of the RE project, it is clear that progress had been made toward improving the operational efficiency of RECs and placing them on a sounder financial footing. USAID-funded assistance certainly contributed to these improvements, especially prior to the substantial loan programs from the World Bank and OECF. Further improvements in operations and progress

toward commercial viability are occurring. However, the implications of the potential effects of key policy changes presented in the 1994 evaluation are equally clear. The RE project might have had considerably greater impact if it had concentrated on promoting critical policy changes affecting rural electrification as opposed to its emphasis on technical interventions and commodity procurement.[57]

6.4 Multilateral Assistance Initiative Infrastructure Projects

From the outset of the Multilateral Assistance Initiative (MAI), USAID's position was that all of its MAI-funded projects would focus on stimulating private sector investment and growth. USAID funded three projects through the MAI focused on infrastructure development which supported this objective. They are the Mindanao Development Project (MDP), the Philippine Capital Infrastructure Support Project (PCIS) and the Philippines Assistance Program Support Project (PAPS). These projects promote private sector growth via infrastructure development through the following approaches:

- traditional public sector provision of infrastructure which stimulates private sector investment and growth;

- introduction of new or innovative financing arrangements for infrastructure development by the private sector or a partnership between local government and the private sector; and

- technical assistance and training for: a) feasibility studies for specific infrastructure projects, Area Master Plans and Economic Development Zones; b) policy formulation and studies to expand the private sector's role in infrastructure development and provision of services in the Energy and Telecommunications Sectors; and c) information dissemination and institutional support for joint public - private sector development of infrastructure through Build-Operate-Transfer arrangements.

Two of the MAI projects - MDP and PAPS - are still on-going, while PCIS is a completed activity. The following sections summarize the major infrastructure-related activities supported through these projects.

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[57] At present, the legislation needed for an effective anti-pilferage program has been past recently while transfer of NAPACOR direct connections to RECs is still under review within the Department of Energy.

5.4.1 The Mindanao Development Project

A central element of the MAI/PAP strategy presented by the GOP at the 1989 Donor Consultative Group Meeting was to concentrate this special assistance in five Special Demonstration Areas: the CALABARZON, Samar, Panay, the Cagayan de Oro - Iligan Corridor and the South Cotabato - General Santos City area in Southern Mindanao. By concentrating assistance, project results were expected to have a greater combined impact than if dispersed throughout the country. The GOP requested that the U.S. provide assistance for the South Cotabato - Sarangani - General Santos City area - SOCSARGEN.

USAID's response was to develop the Mindanao Development Project (MDP) with initial funding set at $75 million for major infrastructure construction. Additional funding for a second phase of MDP seemed likely at the time. Various sub-projects were considered, but priority was given to three sub-projects for the initial commitment: a coastal highway and improvement of selected road segments in the SOCSARGEN area, an international standard airport and major expansion of the Makar Wharf facilities in General Santos City. To maximize the benefits that would result from these sub-projects, MDP also financed a highly effective Growth Plan Component. The Growth Plan developed a master plan for the area taking into consideration available resources and potential investment opportunities in the area. The Growth Plan served as a common framework generally accepted by the public and private sector as a guide to regional development over the next five to ten years. Technical assistance and training were provided for local planning work, environment resource protection and development and promotion of local economic development through facilitation of new production arrangements and investments.

Highway construction was "fast tracked" by funding initial costs through the Rural Infrastructure Fund. MDP has constructed some 173 kilometers of roads throughout the area, including a major coastal highway.

The Makar Wharf in General Santos City is the second most important port facility in the Southern Mindanao Region after Davao. The volume of cargo handling has increased annually with the growth of the regional economy, placing ever greater demands on existing port facilities. Work is currently underway on extending and strengthening the quay to handle heavy containers. New container handling facilities and more storage space will also be developed as part of the port improvements.

Construction of a new airport capable of accommodating larger jet aircraft, such as A-300's and B737's is underway. USAID recently decided to extend the runaway to 3,200 meters making landings by 747's possible. The level of air service the facility will make

possible creates new opportunities for investment and growth. Direct flights to Manila and foreign destinations are expected to benefit local producers. Improved air service is expected to open new markets for the region, attract new investments to the area, promote Southern Mindanao as a tourist destination and generally stimulate the regional economy through business expansion and employment generation.

Other donor agencies are financing additional projects in the area. The Japanese are funding the construction of a new fish landing facility. The ADB has included the General Santos city water system in its Second Provincial Cities Water Project. Telecommunications will be developed by the private sector. An earlier government proposal to fund an agro-processing center is also better suited to private sector development.

It should be recognized that the SOCSARGEN area has considerable potential for development due to its natural resources, weather conditions and geographic location. The area had already become a growth center prior to these infrastructure investments. However, improved infrastructure is accelerating and expanding this process significantly, helping to convert the potential for growth into actual development. A special study undertaken through MDP's Growth Plan Component forecast rapid expansion of the regional economy as a consequence of improved infrastructure. While agriculture, agri-business and agro-processing will be central to this growth, new investments in various other industries are also anticipated.

Even while road work was still underway, a 1993 interim evaluation found convincing evidence that the road improvements were stimulating local commercial development and planning for future business expansion and new investment. The standard benefits of the road improvements were evident: reduced travel time, reduced costs for service providers and passengers, more reliable transportation during bad weather, and improved transportation services due to increased competition among providers.

Small business owners were traveling for business purposes more frequently from outlying communities to the city, improving their supply of goods. Local businesses were responding to increased travel by the general public, e.g., local tricycle manufacturers, small eateries, which in turn was creating employment. Larger businesses, such as local copra processors, had extended their operating hours and increased production as a result of better access to raw materials due to road improvements.

No serious adverse effects of the road improvements were found. Compared to the previous dirt and gravel roads, the MDP roads had improved environmental conditions along its course by eliminating dust created by vehicle traffic and reducing flooding by

improving road drainage. However, little evidence of major changes in agricultural production was found.

Even while the infrastructure projects were being designed or, in the case of roads, were under construction, the evaluation found that local and outside investors were also making plans. This was evidenced by rapidly increasing real estate prices in General Santos City and along the improved roadways. Investment in various commercial businesses, such as tourist facilities, plantation development, agro-processing and manufacturing were under consideration. However, new investment was proceeding on a very cautious "wait and see" basis. Government promises of improved infrastructure made in the past had too often failed to materialize.

Countering this understandable caution, the efforts of MDP's Growth Plan component have facilitated new production arrangements between local growers and buyers and new investments that have brought millions of pesos into the region.

Recent analyses of regional growth indicate that earlier projections are proving accurate and that plans for new investment are moving ahead. New employment generated in the region between 1992 and 1994 far exceed the levels which would have occurred without the infrastructure development. Similarly, Regional Gross Domestic Product has expanded more rapidly than would have been expected. The SOCSARGEN has become the fastest growing region in Mindanao.

As important and useful as the roads are proving to be, the improved port facilities and particularly the new airport have equal, if not greater, potential for stimulating growth over the long term. When these facilities become operational, the "wait and see" position of a couple of years ago should convert into action. This already appears to be happening based on recent growth in the region. Existing plans for investment should push forward while attracting even more investment to the region. If the region continues to be viewed as a highly desirable location for investment, MDP could well prove to be one of the most effective infrastructure programs USAID has ever financed in the country.[58]

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[58] Recent events in Southern Mindanao illustrate what could go wrong for the SOCSARGEN region. Peace and order problems, such as the recent attack on the town of Ipil by Muslim extremists, could quickly erode investors' confidence. Re-occurrence of the Ipil event, renewed kidnapping or prolonged conflict between the military and rebel groups even in neighboring areas could easily interrupt SOCSARGEN's rapid growth, irrespective of its improved infrastructure.

6.4.2 Philippine Capital Infrastructure Support Project

The Philippines Capital Infrastructure Support Project (PCIS) established a Concessional Financing Facility (CFF) for priority capital projects in the power, telecommunications, transportation and capital equipment sectors. The CFF constituted an innovative financing mechanism that blended grant funds from USAID and the Export Import Bank of the United States (EXIM) with commercial loans made by Citicorp which were guaranteed by the EXIM. The stated purpose of PCIS was to mobilize public and private sector resources to meet priority infrastructure needs that constrain broad-based private sector-led growth. In actual practice, PCIS also promoted the sale of U.S. capital products and related services through the use of concessional financing targeted against competitor countries using similar financing arrangements in the Philippines. Equally important, the sub-projects PCIS financed had a clear development impact in the specified sectors consistent with GOP and USAID programmatic objectives.

PCIS was authorized as a seven year project with concessional financing to be offered during the first five years. USAID and EXIM grant funds combined with EXIM loan guarantees were expected to reach $481 million. However, changes in OECD guidelines , specifically the Helsinki Agreement of 1991, substantially limited future use of mixed credits in middle income countries like the Philippines. Consequently, the CFF was terminated by the U.S. government on August 15, 1992.[59]

By the time PCIS was terminated, $30 million had been provided facilitating the financing of eight public sector and two private sector sub-projects worth a total of $134.5 million. Sub-project financing was distributed among the four priority sectors as follows: power - 61.9 percent, telecommunications - 25.6 percent, capital equipment - 7.6 percent, and transportation - 4.9 percent. Allocation of almost two-thirds of financing to power sub-projects reflected the severe power problems the country was facing in the early 1990's. Private sector sub-projects constitutes 17 percent of PCIS financing. This was a major accomplishment given the prevailing policy and operational issues involved with providing bilateral donor funding directly for private sector projects.

The following table lists the sub-projects financed through PCIS.

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[59] While the U.S. decided to end its use of mixed credits in accordance with the agreement it had so strongly advocated, other competitor countries were reported to have continued providing such financing in the Philippines.

Table 7: PCIS Sub-Projects

PUBLIC SECTOR SUB-PROJECTS	VALUE
DOTC: Philippine Satellite Equipment	$16.8 m.
DOTC: Camarines Sur Telecommunications	$1.8 m.
DOTC: Mt. Pinatubo Emergency Communications	$4.2 m.
DOTC: Flight Inspection Equipment	$6.5 m.
DPWH: Mt. Pinatubo Emergency Equipment	$10 m.
NAPOCOR: Mak Ban Geothermal	$32.6 m.
NAPOCOR: Bac Man Geothermal	$32.6 m.
NAPOCOR: Limay-Hermosa Transmission Line	$6.9 m.
PRIVATE SECTOR SUB-PROJECTS	
Capital Wireless Inc.: Philippine Satellite	$12 m.
CEPALCO: Mindanao Energy System	$11 m.
TOTAL SUB-PROJECT COSTS:	$134.5 m.

DOTC: Department of Transportation and Communications
DPWH: Department of Public Works and Highways
NAPOCOR: National Power Corporation

Planning for all sub-projects financed through PCIS actually started prior to the project. This means that PCIS facilitated and accelerated financing for existing proposed projects. It did not lead to developing new projects, but would have if the financing facility had existed beyond 1992. U.S. sources for equipment had been selected prior to PCIS, suggesting price competitiveness and high quality technology made U.S. suppliers attractive sources, not merely concessional financing. Six out of ten of the sub-projects were likely to lead to follow-on sales by U.S. suppliers. All ten sub-projects clearly addressed an important development problem and/or introduced new technologies to the country. However, only three out of the ten sub-projects advanced the GOP's privatization efforts.

Despite the nightmarish difficulties this innovative project encountered during its initial phase of implementation, by the time PCIS was terminated, the financing mechanism was well established and a pipeline of future projects, many of which in the private sector, had formed. It was unfortunate that PCIS had to be terminated just at the time when implementation had become workable. PCIS melded both the development objectives of USAID with the trade promotion interests of U.S. manufacturers. Typically, these interests are portrayed as diametrically opposed. PCIS demonstrated otherwise at a time when the

importance of expanding U.S. exports had become crystal clear. If more U.S. economic assistance had been used for such purposes, perhaps the current opposition in the U.S. to foreign aid would not be as strident as it now is.

6.4.3 Philippines Assistance Program Support Project

The original purpose of the Philippines Assistance Program Support Projects (PAPS) was to assist the Philippines develop and implement high-priority development projects under the Philippine Assistance Program. In an effort to "fast track" infrastructure projects financed through the MAI/PAP, the PAPS project provided $25 million for the following activities:

- Budget support for staffing, technical assistance and commodities (computer equipment and software) to the Coordinating Council for the Philippine Assistance Program (CCPAP);

- The Pre-investment Facility which offered a cost-sharing arrangement to potential private sector investors for feasibility studies;

- Technical assistance and training needed to accelerate planning and design work, including: pre-feasibility and feasibility studies of large public sector infrastructure projects, area master plans, small-scale project studies (e.g., agro-industrial complexes) and policy studies; and

- Technical assistance and training for the development of a Build-Operate-Transfer program managed by CCPAP.

The first phase of the project was successful. In a three year period, PAPS produced a number of useful infrastructure studies and area plans, financed feasibility studies for private sector investors which facilitated investment decisions and helped to introduce BOT and other alternative financing approaches in the Philippines at a time when the need for major infrastructure investments far exceeded GOP and donor resources. An additional $10 million was added to PAPS in 1992 to continue these activities with greater focus on BOT financing of infrastructure projects.

PAPS was expanded in 1993 to make it an "umbrella" funding mechanism for various technical assistance and training activities consistent with USAID's program objectives and the MAI/PAP. Through FY 1994, total funding for PAPS reached $68.75 million with a new completion date of September 1998. Elements of the original project are supported under the expanded PAPS, including assistance to CCPAP, funding for studies and area master plans, small-scale studies, policy studies and the PIF. The extension of PAPS support for BOT financing has led to developing a BOT center to promote further understanding and use

of this financing approach for public infrastructure projects. Some of the activities now funded through PAPS do not pertain directly to infrastructure; those that do include the following:

- Assistance to the Department of Energy: $4.5 million
- Demand Side Energy Management: $2.5 million
- Renewable Energy: $5.5 million
- Telecommunications: $2.2 million

These activities largely provide technical assistance and training for policy formulation and implementation which could influence future infrastructure development. PAPS is an on-going project and the activities funded since the expansion of the project in 1993 are still too recent to have been evaluated for impact.

With major reductions in USAID/Philippines program levels after FY 1992, direct financing of infrastructure is no longer possible and has been dropped as a USAID program objective. Given current program levels, PAPS accurately reflects the type of assistance USAID can offer for the foreseeable future. This assistance is clearly far below levels provided through earlier infrastructure projects. However, as these earlier projects showed, changes in key policies could have greater impact on sustainable development of infrastructure than far more costly assistance for construction and commodity procurement.

6.5 Conclusions

The 1987-94 period marks the high point as well as the end of USAID's direct support for infrastructure development. Some of the most successful infrastructure projects USAID funded were undertaken during this period.

This period benefitted from the experience gained from the initial ESF infrastructure projects. An effective approach for providing ESF assistance for small to medium-scale infrastructure projects had been established. The Regional Development Fund refined this approach further. The effort to make ESF-funded infrastructure projects a means for strengthening local government capacities was also an objective of the Rural Infrastructure Fund. The Local Government Infrastructure Fund took this effort yet further by increasing local government responsibility for project development, financing and implementation, and by encouraging greater participation in such projects by the private sector. The vast majority of sub-projects funded by RDF and RIF clearly produced substantial economic and social benefits for rural communities throughout the country. LGIF is very likely to do the same.

The results of the Rural Electrification Project were mixed. Technical outputs focusing on commodity procurement, system expansion and the proper management of facilities were unquestionably important. They definitely contributed to improved NEA and REC operations. But the results of the project suggest that perhaps greater progress toward commercial viability would have been achieved if more attention had been given to institutional development, technology transfer and policy reform.

The infrastructure projects funded under the Multilateral Assistance Initiative have been highly effective in addressing key infrastructure constraints. All indications are that the Mindanao Development Project is accelerating the economic growth of Southern Mindanao largely as a result of encouraging greater private sector investment in the region. The results of this are producing a wide range of economic and social benefits for the region, including the rural poor. Recent growth in the region already suggests that this is happening even before completion of the improved port facilities and the new airport.

The Philippine Capital Infrastructure Support Project produced ten very worthwhile sub-projects which responded to important infrastructure requirements of the country. If PCIS had continued, close to $500 million in project costs could have been financed, providing needed infrastructure for the Philippines and increased sales for U.S. manufacturers and suppliers.

The Philippine Assistance Program Support Project has a proven record of providing effective technical assistance, training, policy analysis and introduction of alternative infrastructure financing approaches. Assistance PAPS currently funds in the Energy and Telecommunications Sectors could influence how future infrastructure needs in these area are to be met.

PAPS also marks a major transition in a long history of U.S. support to the Philippines to meet the infrastructure requirements for national development. The Philippines is clearly making progress, but infrastructure development will remain a top priority for some time to come. Direct financing of construction and commodities by USAID is no longer possible, but this should not necessarily spell the end of its support for infrastructure development. The types of technical assistance and policy support provided through PAPS redefine USAID's role in this process from financier to advisor, facilitator or broker. As long as USAID maintains a presence in the Philippines, it should continue to help the country meet its infrastructure requirements.

SECTION 7: CONCLUSIONS REGARDING U.S. ASSISTANCE FOR INFRASTRUCTURE DEVELOPMENT

7.1 Fifty Years of Accomplishment

Perhaps the most striking feature that emerges from this review is the sheer effort that has been directed to infrastructure development utilizing U.S. assistance. This effort resulted from the assistance of just one donor, albeit an important source of assistance, but only one. Considerably greater amounts for the financing of infrastructure development have been lent to the Philippines by World Bank, Asian Development Bank and, more recently, the OECF. Taken as a whole, the human and financial resources from the GOP, local governments, donor agencies and the private sector engaged over the past several decades in public infrastructure development has been absolutely enormous. Similar efforts in other areas of economic and social development simply pale in comparison.

Within this much larger development effort, U.S. economic assistance has been instrumental in many areas in helping the Philippines to meet its infrastructure requirements and to establish and strengthen the institutions needed to support infrastructure development. Throughout the country, literally millions of rural people living in rural areas, including the very poor, have benefitted from USAID-funded infrastructure projects. The record on this is unquestionable - the bulk of USAID expenditures for infrastructure development has resulted in tangible economic and social development, especially for rural communities.

More important than the amount of funding the U.S. has provided for infrastructure construction is the lead role this assistance has played in the country's development. U.S. assistance for infrastructure supported some of the initial efforts at decentralization of development management responsibilities to local government levels. These activities also helped build capacity in central line Departments of the GOP to assist and work with local governments. This included the predecessor agencies of the Department of Interior and Local Government. A major beneficiary institution of U.S. assistance for infrastructure since the 1950's has been the Department of Public Works and Highways, including its predecessor agencies.

A number of new GOP agencies responsible for national infrastructure programs received initial support through USAID-funded projects. Among the earliest was the National Irrigation Administration established in 1964, which served as the counterpart agency to USAID-funded technical assistance for water resources management from its inception in 1964. Similarly, the National Electrification Administration received assistance

through USAID's the Rural Electrification Project from its beginning in 1969. The Local Water Utilities Authority was likewise a beneficiary of early USAID assistance through the Provincial Water and Local Water Development Projects. These organizations have subsequently developed into key GOP institutions in their respective sectors.

USAID's leadership is also evident in attracting financing from other donors for infrastructure programs which USAID helped to initiate. Studies and plans funded through USAID infrastructure projects were subsequently used by World Bank, the ADB and other bilateral donors for project preparation. This includes rural roads, provincial water systems, rural electrification, integrated area development, and water resource management for irrigation system development. USAID has more recently been at the forefront of encouraging greater private sector involvement in the development of infrastructure in such key sectors as telecommunications and energy. This includes introduction of financing arrangements creating public/private partnerships and alternative financing approaches for public infrastructure, e.g., Build-Operate-Transfer arrangements.

In many instances, USAID was working with central line Departments and local government agencies on new, pilot programs designed to provide infrastructure in rural areas. Working on new programs in more difficult locations poses considerably higher risk of poor results or failure than sticking to the established, tested modes of assistance. In this respect, USAID's role has often been one of providing "venture capital" for new programs to support infrastructure development more effectively, or address infrastructure requirements which were not being met, particularly in rural areas. Most of these efforts produced acceptable or better results, some were run-away successes and while others failed to perform satisfactorily.

Viewed in its entirety, this is a record in which the GOP, local governments and USAID should take considerable pride. It is a record of fifty years of accomplishment that resulted from genuine cooperation between the peoples of the Philippines and the U.S. in a joint effort to promote national development by meeting the country's infrastructure requirements.

7.2 Infrastructure and Rural Development Strategy

Even under the best of circumstances, it would be extremely difficult to compare the four periods of U.S. assistance on the basis of which provided the most effective assistance for infrastructure development and contributed most to the development of the country. The lack of data measuring the economic and social benefits of the projects precludes a comparative analysis of that sort. Moreover, each period of

assistance responded to the prevailing development problems the Philippines confronted at that particular point in time. As the country developed over the past fifty years, its development requirements likewise changed. Assistance appropriate at one time, therefore, becomes inappropriate at another. Each period was also responding to differing mandates guiding U.S. economic assistance and differing U.S. foreign policy objectives associated with that assistance. Similarly, the political interests of the GOP affecting how economic assistance was used, for what types of projects located in which parts of the country also varied widely during these four periods.

Clearly, the level of U.S. assistance for infrastructure development has been greater after 1974 than in the preceding periods. More infrastructure and more benefits from infrastructure funded by USAID have simply been produced since then. However, broad differences in the results of assistance for different types of infrastructure projects are apparent in the 1974-86 and 1987-94 periods. These differences suggest some important implications about future rural development strategies and support for infrastructure development.

7.2.1 The Range of Results: Winners versus Losers

It is fair to conclude that during the 1974-86 period, rural electrification was the most important investment made by the USAID program. The long-term benefits of rural electrification far outweighed the $80 million or so USAID invested in it. The provision of electricity service probably did more in the shortest amount of time to alter the economic development potential of rural areas than any other infrastructure investment could have done.

On basis of return per dollar invested, rural roads development - including the roads developed through the ESF Infrastructure Program - is probably second only to rural electrification. The economic and social benefits produced by the majority of these roads has contributed significantly to rural development. Similar results from other road projects were achieved throughout the history of U.S. assistance for infrastructure development.

A third important area where sound results were produced is from the ESF assistance for small and medium-scale infrastructure. The ESF infrastructure projects produced a wide range of economic and social benefits for rural communities throughout the country. However, excessive political pressure distorted project selection in some cases. This resulted in a number (not excessive) of marginal projects which diminished the Program's overall accomplishments. The Rural Infrastructure Fund was subject to far less political pressure. The investments made in RIF road and port improvement projects are now paying off for rural communities through road and port improvements and for the larger

regional economies of which they are part.

At present, the Mindanao Development Project appears likely to become one of the most successful areas of U.S. assistance for infrastructure development in the history of the program. Road improvement, port facilities and a new airport will create a significant stimulus to accelerating growth in the Southern Mindanao Region. A very different strategy guided USAID's investment in MDP, one which will be discussed later.

In the middle of the spectrum is the Bicol River Basin Development Program. Fraught with institutional, organizational and administrative complexities, the grand theory of integrated area development in actual practice failed to deliver. Bicol was and is one of the poorest regions of the country, and some measures suggest it is falling even further behind. The outputs and development impact of the BRBDP appear to have resulted from a collection of discrete project activities rather than from some integrated development process. Development impact was achieved in project areas. Production increases from irrigation were realized and incomes rose. Roads improved transportation efficiency and gave improved access to rural communities. Health service delivery improved and health status in rural communities improved somewhat. However, these results fell far short of what was promised from integrated rural development.

At the low end of the continuum are irrigation projects, particularly small-scale irrigation, and rural water supply projects. The economic and social return from these projects appears to have been marginal at best. Short-term production gains from improvement of small-scale irrigation systems also increased farmers' debt which became unmanageable during years of crop failures or poor yields due to adverse weather and storms so common in the Philippines. Rural water supply systems which had virtually no chance of being properly operated and maintained produced unsustainable benefits of only the shortest duration. Moreover, water systems "captured" by local elites for their own benefit did not meet any basic human need of the rural poor.

7.2.2 The "Poorest of the Poor" versus the Private Sector "Engine of Growth": A War of Words

While rural development has been a constant object of USAID's programs since 1974, the strategies guiding assistance have changed sharply. The 1974-86 period, responding to the "New Directions" legislation, focused assistance on the meeting the basic human needs of the poor majority and later, on reaching "the poorest of the poor". This strategy quickly came into question after 1986. So many people had fallen below the poverty line, reaching the poor majority was tantamount to a shotgun blast approach to providing assistance - how could you miss?

From 1987 to the present, rural development remained a priority for USAID assistance and infrastructure development played an important role in this. However, during this period, infrastructure development was viewed as essential for attracting investment to rural areas. Such investment would be the "engine" of growth that would transform the rural economy over time. Increased investment was expected to expand production and create employment for more rural people in activities more profitable than traditional rice, corn and coconut farming and coastal fishing.

The results of the review repeatedly found that infrastructure development produced results consistent with both of these apparently conflicting strategies. Moreover, both types of results - benefits to the poor, business growth and investment - are reported during both periods (i.e., there is no clear evidence of reporting what is currently "politically correct"). The rural poor often benefitted economically and socially, and new infrastructure often resulted in increased business activity, investment and employment generation which, in turn, often benefitted the rural poor.

There may be types of rural infrastructure which benefit the rural poor more directly or to a greater extent. Conversely, there may be types of rural infrastructure that encourage or attract greater investment to rural areas. But the infrastructure projects USAID funded, which covered a very broad array, accomplished both objectives. In short, the apparent contrast between these two program strategies had more reality in Washington than on the ground. Much to the credit of the GOP and USAID, the same types of essential rural infrastructure projects were implemented and useful development results were obtained.

7.2.3 Accounting for Differential Results: Institutional Dependency

Developing the institutional capabilities of government organizations responsible for the provision of infrastructure was an integral part of infrastructure projects funded by the U.S. from the very outset of its assistance to the Philippines. Operation and maintenance, service provision, collection of service fees and future improvement or expansion of facilities and obviously dependent on the capabilities of these agencies. To a very large extent, the results of infrastructure projects and, most certainly, the sustainability of those results were determined by institutional performance.

This dependency on the institutional performance of organizations responsible for effective provision of infrastructure accounts for a large part of the success or failure of infrastructure projects discussed in this review. The failure to establish local water service associations was the undoing of Barangay

Water I&II. Both projects recognized that these associations were critical to the successful provision of improved water systems. Yet both projects failed to develop these associations due to inadequate technical assistance and training resulting from weak motivation on the part of line agency and provincial staff responsible for this organizational development.

USAID had worked through Provincial Develoßment and Engineering Offices in the past and achieved good results. However, those projects typically involved larger-scale infrastructure which were the responsibility of the province to develop and maintain. In BWP I&II, these same Offices were expected to provide support to barangay organizations. It is unclear whether provincial government staff were capable of this or motivated to do so. In other words, institutional capacities were weak or absent at two levels of organization necessary for project success.

Initial development of irrigation systems in the Bicol Program - IAD I - proceeded with design and construction without first developing strong irrigators associations. This resulted in faulty planning and a lack of a sense of ownership of the system by farmers. Subsequent efforts to form such an association met with limited success. Fortunately, that lesson was learned and similar mistakes were avoided in the following irrigation projects. Based on evaluation results, IAD III, which gave considerable attention to engaging the users of the system in each stage of its development was considerably more successful than the preceding IAD projects.

More successful projects either developed reasonably effective organizations to support project outputs or were implemented in ways which utilized existing institutional capabilities. The linkage between USAID's support for decentralization and the strengthening of provincial capabilities contributed to the results of Rural Roads I&II. However, the longer-term sustainability of project impact suffered in post-project years from inadequate road maintenance, a problem almost universal to road projects in the Philippines.

Initial efforts to strengthen NEA and establish effective RECs were fundamental to the success of the Rural Electrification Project. However, it appears that these organizations should have received longer-term support to assure capacities were more fully institutionalized. The sustainability of initial results quickly eroded as the institutional performance of these organizations degenerated in post-project years. USAID's second Rural Electrification Project starting in the 1980's paid the price of inadequate institutional development and distortion of NEA and the RECs operations by the Marcos Administration.

In short, for public infrastructure projects, it is possible to make a direct connection between the results of the projects and the institutional capacities of the corresponding government organization. Infrastructure projects developed and managed by the private sector, such as BOT projects and those financed through PCIS, are different. In these cases, profit serves as the driving motivation for successful implementation, proper operation and adequate maintenance of infrastructure.

Though USAID is nearing the end of its direct involvement with infrastructure development, it should take this relatively obvious lesson to heart and assure that in its on-going infrastructure projects the institutional capabilities exist or will be developed to sustain project results.

7.2.4 Investment Strategy and Infrastructure for Rural Development

This review calls attention to the investment strategies that guided U.S. assistance for infrastructure. Again, the contrast between the "New Directions" focus on the "poorest of the poor" and the subsequent focus on private sector growth and investment is instructive.

During the 1974-86 period, the attempt to target projects on the very poor took the form of increasingly stringent criteria for project selection. Rural Roads I&II exemplify this. Criteria were established to guide selection of roads which would benefit rural communities. This included estimates of economic return, the socio-economic status of residents in areas affected by the road, linkage of the road to other road networks and the capacity of provincial governments to identify, design and implement road projects. Adherence to these criteria were to filter out roads which were not highly beneficial to rural, poor communities.

This rural poverty focus, of course, had much greater urgency and importance in Washington than in Lingayan, Tacloban, Iloilo and every of provincial capital in the Philippines. Provincial governments, and governors in particular, had their own criteria for road selection which sometimes overlapped with USAID's and sometimes did not. Unsurprisingly, local interests often prevailed. Weak adherence to USAID's criteria resulted in some questionable selection of roads for improvement and over-construction in paving surfaces when gravel would have been sufficient. Nonetheless, convincing evidence showed that poor people benefitted from the roads, but this was not good enough. USAID was criticized for not reaching the "poorest of the poor", beneficiaries of roads had to be really poor folks.

In response, USAID tried to impose more stringent criteria and enforce stricter adherence to these criteria. Labor intensive construction techniques were introduced to generate employment

for local residents, presumably the "poorest of the poor". The Provincial Engineering Offices which were to employ these construction techniques were unfamiliar with them and apparently lacked enthusiasm about such approaches.[60] In effect, USAID introduced increasing complexity into a project process which had been working reasonably well and producing acceptable results on average.

The investment implications of this are important. If USAID had succeeded in this effort, the result would have been to direct the project into ever more remote areas where economic returns were ever more marginal. Meeting the basic human needs of very poor people might be a desirable social objective, but it does not lead to selection of projects likely to produce high economic returns for the rural economy.

In sharp contrast to the 1974-86 approach, the Mindanao Development Project follows a strategy of developing infrastructure concentrated in a region which has high growth potential. The goal of constructing roads, port facilities and an airport is to accelerate the growth that had already started in the region, converting the potential for growth into actual investment. The new facilities will also create opportunities for businesses and other productive activities that simply would not have been possible without this infrastructure. In other words, new potential for further growth in the future is being created.

This growth process has already begun to translate into employment for the residents of the region. Like other agricultural areas in the Philippines, seasonal unemployment and underemployment in rural farming communities are endemic to Southern Mindanao. There simply have not been enough alternatives to the meager existence that rice and corn production provides to farm households. As unpleasant as some might find factory work and other manufacturing employment, the poor who obtain such jobs are in a far better economic condition than those eking out some hard-scrabble living in the outback. As the regional work force expands and non-farm employment increases, these workers will create the market demand for higher value food crops and livestock which will enable more farmers in the region to shift to more profitable crops and productive activities. These farmers, in turn, will be better able to buy

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[60] This antipathy toward labor intensive construction methods was shared by the Department of Public Works. The Upland Access component of the Rainfed Resources Development project introduced these methods to the Engineering Offices of participating provinces. The component suffered considerable implementation delays as engineering staff gained familiarity with such approaches.

the goods and services being produced in rural centers. This is not just so much wishful thinking, recent data indicate that growth of sort is happening in Southern Mindanao and that USAID's assistance for infrastructure development is an important contributing factor.

The investment implications of the Mindanao project are equally important. Instead of investing in the most remote, poverty-ridden locations, where returns are marginal at best, USAID invested in an area that not only has high potential for growth, but which is already growing. It also has an abundance of rural poor people who stand to benefit in the process. The return on this investment might prove to be the highest any USAID project in the country has ever attained.

The purpose of emphasizing the investment aspects of these two contrasting strategies is that rural development should be viewed from this perspective. Funds for rural development are simply too limited and too expensive to base project investments on marginal economic returns. Prudent investors look for opportunities which offer high returns with an acceptable level of risk. The same should apply to USAID. Giving USAID the responsibility to promote rural development and then limiting its investments to marginal projects to serve social objectives literally begs for poor to middling project results. The significance of MDP is that USAID had the opportunity to invest where the returns for rural development promised to be high.[61]

USAID must serve many masters with differing purposes, including such important functions as development of democratic political institutions and provision of humanitarian disaster assistance. But its core business is economic development. Yet when A.I.D. is increasingly forced by U.S. policy to serve objectives which do not maximize the economic return from project investments, as was the case during the "New Directions" era, USAID programs begin to resemble international public welfare operations.

Perhaps some believe that the foreign assistance should be used as welfare for the very poor. But no one should expect welfare programs to produce growth and development. The results of welfare programs in the U.S. and elsewhere certainly attest to

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[61] The decision to direct MAI funding to Southern Mindanao was not a purely rational, analytic process. The GOP had suggested the area as part of its proposal for development of several such growth centers using MAI/PAP funds. USAID wanted to select an area outside of Luzon. The "clincher" that largely locked USAID into Southern Mindanao was a visit to the area by former Secretary of State George Schultz who supported the idea of focusing U.S. assistance there. Fortunately for MDP, the area has enormous potential for growth which the project accelerates.

that. However, USAID has been held to a very different standard. While forced to target on the "poorest of the poor", it was at the same time judged on the basis of the economic return and growth resulting from its assistance.

The people who set the direction for foreign assistance need to understand that there is no necessary contradiction between investing in rural development projects that are likely to produce high returns and improving the economic and social well-being of the rural poor. USAID's rural infrastructure assistance accomplished both when given the opportunity as in MDP.

7.3 Future U.S. Assistance for Infrastructure Development

Infrastructure development is one of the most important areas of assistance donors can provide. While program strategies came and went, infrastructure development remained central to USAID's program in the Philippines. The heyday of USAID assistance for infrastructure is clearly over. Though USAID lacks the funds to finance construction, infrastructure development should continue to be part future assistance. The challenge USAID now faces is how to remain effective in this endeavor.

In the past, USAID provided leadership in a number areas of infrastructure development, helping to establish new GOP agencies and attracting additional funding from other donors often times at levels far above USAID's initial funding. It was important, and perhaps even essential, that USAID was actually providing financing in these areas. This gave credibility to USAID's activities, strengthening its leadership role. Now that USAID can no longer fund infrastructure projects, it remains to be seen to what extent it can continue to provide leadership as in the past. That may no longer be possible.

On-going assistance for BOT financing of infrastructure projects, policy formulation and implementation in the energy and telecommunications sectors through the PAPS project is one approach to support infrastructure development. The underlying idea is that USAID will now play a purely advisory role in policy matters affecting infrastructure development, drawing on technical expertise, studies and analyses, limited training, etc., much as it has done in other technical assistance projects.

An alternative approach is planned for a new project in Mindanao - Growth with Equity in Mindanao (GEM) - which expands the work of the Growth Plan component of MDP to other parts of Mindanao. As with the Growth Plan, investment promotion linked to private and public sector development of new infrastructure will be a major objective of GEM. Making investors aware of opportunities created by new infrastructure and anticipating and resolving problems before they become major impediments to investment will be an important part of GEM's assistance.

Instead of playing a purely advisory role, the technical assistance USAID will provide through GEM more closely resembles a broker or facilitator for infrastructure development.

There are well established precedents for both approaches and perhaps both will prove to be effective. However, USAID needs to keep very close track of these activities to determine how it can support infrastructure development most effectively in light of its new budget realities. When USAID cannot provide even this minimum support for infrastructure development, it has probably reached the point where U.S. assistance is no longer needed in the Philippines.

Annex 1: Financial Data on Annual Obligations

An Annual Obligation Record covering 1951 through 1981 had recently been compiled by the Mission for other purposes. This record was used for this review. One basis for cross-checking this record was a program document from 1970 which reported total assistance levels for 1951 through 1970. The assistance totals reported by these two sources correspond through 1956. Substantial differences occurred in the composition of these totals for 1955 and 1956, and for the program totals for 1957 through 1969. This divergence appears to end in FY 1970. The main source of this divergence involves reporting on Development Loans and Title I assistance which appear to be inaccurate in the Mission's Annual Obligation Report. Therefore, estimates were made to correct these discrepancies using data from the 1970 Program Report on total assistance levels for 1951 through 1970. (See attached copy).

Funding Level Estimates for 1955 through 1969

YEAR	Grant	Loan	I	II & FFP	PL Tot	TOTAL	PL %
1955	15396	5000	7507	700	8207	28603	29
1956	11406	8000	15040	1100	16140	35546	45
1957	14967	12000	27291		27291	54258	50
1958	8507	13000	11855	8300	20155	43662	46
1959	5093	20000	12624	7900	20524	45617	45
1960	5652	10000	14018	5300	19318	34970	55
1961	2778		30000	6800	36800	39578	93
1962	3755			7600	7600	11355	67
1963	2703			9800	9800	12503	78
1964	3209		10000	10700	20700	23909	87
1965	2970		12542	4800	17342	20312	85
1966	3654		19082	7957	27039	30693	88
1967	4557			5506	5506	12499*	44
1968	5284	7000		7000	7000	19284	36
1969	5402	4000		10000	10000	19042	53

* Includes military and "other" assistance as part of the USAID program

Note: Most estimates and corrections based on the 1970 Program Report are entered above under Development Loans and Title I as rounded numbers (e.g., 4,000)

Beginning in 1981, a much more reliable obligation record is available from the Mission's quarterly and annual obligation reporting system maintained by the Mission's Office of Financial Management (OFM).

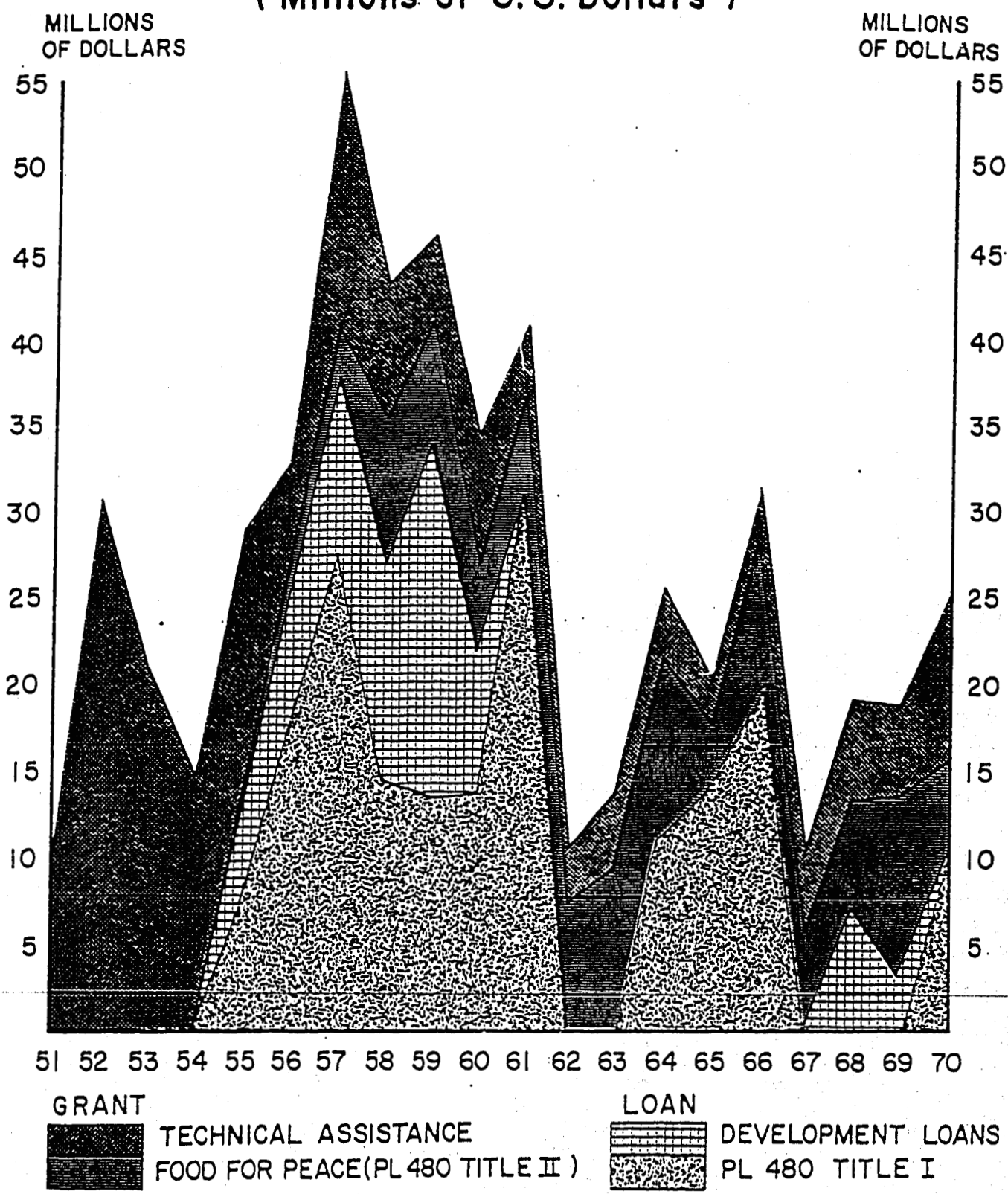
Using obligation levels has limitations for the purposes of this review. Obligations made in one year typically support projects activities for several years in advance, especially in the case of projects which were fully obligated in one fiscal year. Moreover, for various reasons, the actual start-up of many projects occurs a year or more after the initial obligation. Therefore, data on the actual start and completion of each project and annual expenditures would have been useful to construct a more complete or accurate picture of support and involvement in a specific project.

However, no such records are available. Project Agreement Completion Reports (PACRs) were either not routinely prepared or are no longer available. Consequently, there is simply no readily available source from which such information can be obtained for more than the most recently completed projects. Perhaps with enough time and manpower, such data could be reconstructed from sources in Washington, but OFM staff who have experince with USAID's financial reporting systems over the past twenty-five years believed that the most reliable source of financial data was what existed on annual obligations.

This reflects a fundamental point concerning a review of this sort: USAID is almost exclusively oriented to the present and near-future; once an activity is completed, it is truly "off the screen". Obligations, therefore, will have to suffice - it is a near miracle that even this information still exists.

TOTAL U.S. ECONOMIC ASSISTANCE TO THE PHILIPPINES

Fiscal Years 1951 Thru 1970
(Millions of U.S. Dollars)



Annex 2: The Multilateral Assistance Initiative/Philippines Assistance Program

The Multilateral Assistance Initiative, subsequently referred to locally as the Philippine Assistance Program, stemmed from interest within the U.S. Government to provide extensive financial aid to the Philippines. The MAI/PAP was a direct response to supporting the Aquino Administration's effort to re-establish a democratic political system in the Philippines after some twenty years of the Marcos dictatorship. Euphemistically referred to as a "Mini-Marshall Plan" for the Philippines, the MAI/PAP attempted to coordinate and focus the efforts of bilateral and multilateral donors (particularly, the U.S. Japan, the World Bank and the Asian Development Bank) to accelerate the economic development of the country and, thereby, strengthen the democratic political institutions being re-introduced by the Aquino Administration. Initiated at the July 1989 Tokyo Pledging session, infrastructure development which would encourage domestic and foreign private sector investment, bolstered by policy reforms to eliminate impediments to such investment was central to the MAI/PAP strategy.

The plan for the MAI/PAP was submitted to President Reagan by a group of U.S. senators in 1987 in conjunction with the visit of President Corazon Aquino to the U.S. Initially proposed as providing $10 billion over a five year period, approximately half of the MAI/PAP would be financed by a consortium of donors providing assistance to the Philippines. The balance would be generated by domestic and foreign investments. Improved infrastructure and private sector-oriented policy reforms to encourage investment would be financed and supported by the donors. Greater political stability and a concomitant decline in internal peace and order problems would trigger this investment inflow. Increased foreign exchange from donor and private sector investments, export earnings expected to result from these investment and debt relief to slow foreign exchange outflows were expected to provide significant financing for the country's development efforts as well as assist it in meeting in foreign debt obligations.

The most urgent economic problem facing the Philippines which resulted from the disastrous mismanagement of the economy during the Marcos period was a staggering foreign debt. By the end of December 1987, the country's foreign debt amounted to $27.9 billion of which $3.7 billion was for short-term loans. Out of the $24.2 billion in medium and long-term debt, $17 billion was eligible for some form of debt relief. How to manage this substantial foreign debt was central to the country's economic planning and its dealings with donors and commercial creditors. In turn, maintaining an economic program with the IMF was crucial for these discussions to continue. In this context, the MAI/PAP developed as a potentially significant means for addressing the

country's economic difficulties.

Serious discussions and planning for the MAI/PAP commenced in 1988, leading up to the July 1989 Tokyo pledging conference conducted by the World Bank. Initially, the Government was understandably focused on using the MAI/PAP assistance to close the country's financing gap, i.e., help meet its foreign debt requirements. As the MAI/PAP discussions continued, equal attention was given to using assistance for infrastructure and other economically viable projects to attract foreign investment.

At the 1989 Tokyo meeting, the Philippines presented a strategy for the program which focused on a) increased financial donor aid, b) debt relief, c) promotion of private investment and d) increased local cost financing (i.e., reduced local counterpart funding requirements). Rapid disbursing program assistance was being encouraged by the Philippines. The idea of financing five Special Demonstration Projects located throughout the country was also presented at this meeting.

The Tokyo Pledging Session concluded with promises of some $3.5 billion in annual assistance from the twenty-two bilateral and multilateral organizations participating. The World Bank and ADB were largest multilateral contributes, each pledging $2 billion over the 1989-91 period. Japan was the largest bilateral with $827 million offered on an annual basis, followed by the U.S. with $200 million annually. The World Bank estimated that over the five years of the MAI/PAP, the Philippines could receive approximately $14 billion in assistance.

However, the initial objective of substantially increasing assistance to the Philippines above and beyond existing aid levels did not materialize. Donors had already begun increasing their assistance program during the 1986-89 period in response to Aquino's election in 1986. Only the U.S. appears to have offered genuinely additional assistance, but it was unable to hold to its initial pledge of $200 million annually because Congress failed to appropriate sufficient funds. USAID's highest annual MAI/PAP contribution was $160 million which decreased significantly after the Bases negotiations in 1991. Other donors, including Japan, simply counted their existing assistance levels as part of the MAI/PAP.

Part of the reluctance of other donors to increase their assistance further is attributable to the earlier increases they had already made. But it may also be due to the perceived connection between the upcoming Military Bases negotiations and the U.S. initiated MAI/PAP. This may have dissuading some donors, particularly the Japanese, from providing "special" MAI/PAP funding to avoid being associated with the U.S. bases in the Philippines. Some have also argued that the Philippines received very little "new money", i.e., additional over what it

would have received had there been no MAI/PAP.

Aside from the "new versus old" money debate, the donors generally accepted the broad directions presented by the GOP at the 1989 Pledging Session. With respect to the mode of assistance, the majority of donors continued to follow their standard approaches to providing aid through traditional projects modes. Canada and Australia provided commodity grants in support of macroeconomic reforms which can be considered a faster disbursing mechanism than traditional projects. Program assistance has been used by USAID for approximately 40% of its MAI funds; the balance was directed to projects. World Bank and ADB provided major program loans in support of both macroeconomic and sectoral policy reforms.

The major donors - the World Bank, ADB, Japan and the U.S. - strongly supported the focus on infrastructure development to attract private investment. Individual donors committed funding for the five Special Demonstration Projects. The CALABARZON supported by Japan and the South Cotabato/Sarangani/General Santos City area development project support by USAID are the most prominent to date. In addition to these special projects, many other infrastructure and rural development projects have also received donor financing under the MAI/PAP rubric.

Greater coordination of donor assistance, as well as greater coordination of donors with the Government of the Philippines, were to have been important elements of the MAI/PAP. The intention was to reduce the redundancy of donor assistance that occurs in many countries and to establish a coherent, consistent position among major donors on critical economic policy issues. Meetings among the major donors have been held for these purposes. The IMF and World Bank have generally led the efforts for macroeconomic reforms. The U.S. and Australia have been heavily involved. For example, USAID provided assistance for economic reforms in particular policy areas, such as trade liberalization, as well as at the sectoral level, such as natural resource management and agribusiness development. Japan has also participated in these policy discussions, but it channels its assistance for reforms through the multilaterals' programs.

USAID's MAI-funded portfolio of projects and programs reflects the major objectives of the overall program, as follows:

- **Private Enterprise Policy Support** ($79.828 million): PEPS provided $79 million in performance disbursement funding in support of economic policy reforms designed to establish a trade and investment regime that would stimulate private sector investment and development. This included tariff reform and the new Foreign Investment Act which encourages foreign investment. Technical assistance for special studies in support of these reforms were also funded.

- **Philippines Assistance Program Support** ($25 million) PAPS provides funding needed for technical assistance to develop the planning of priority infrastructure projects throughout the country. Working with the Coordinating Council for the PAP (CCPAP), PAPS has provided highly useful assistance for developing support for Build-Operate-Transfer and similar approaches to financing of major infrastructure works. PAPS also provided $5 million for a Pre-investment Facility which offers a cost sharing arrangement for feasibility studies undertaken by potential private sector investors.

- **Mindanao Development Program** ($75 million - MAI, $30 million - Rural Infrastructure Fund): USAID and the GOP are financing major infrastructure projects in the South Cotabato - Sarangani - General Santos City region of southern Mindanao. This is one of the five original Special Demonstration Projects proposed for the MAI/PAP. The projects include major highway construction and improvements throughout the region, a new airport in General Santos City and extensive upgrading of the City's port (Makar Wharf). MDP also financed a highly effective Growth Plan for the region which has been used to promote investment in the area as well support business development and environmental protection.

- **Philippine Capital Infrastructure Support Project** ($25 million): PCIS established an innovative mixed credits facility which combined USAID grant funds with additional grant funds from the U.S. Export - Import Bank and EXIM loan guarantees for the procurement of capital equipment and related services from U.S. suppliers for priority infrastructure projects in the areas of power, telecommunications, transportation and construction equipment. Originally proposed as a seven year project which could provide financing for as much as $500 million in projects, the 1991 Helsinki agreement on mixed credits projects in middle income countries required curtailing PCIS. The project provided financing for ten projects worth $134 million, seventy percent of which was in the energy sector. PCIS also funded highly effective technical assistance for the development of a National Satellite Policy, privatization policy in the energy sector and assistance to the newly-established Department of Energy.

- **Natural Resource Management Program** ($125 million): NRMP provides $75 million in performance disbursements in support of policy reforms to improve the management of forestry resources and the protection of biological diversity. Policies have been enacted affecting logging in old growth areas, leasehold agreements for forestry operations in secondary growth forests, collection of forestry-use fees, forestry management in protected areas involving local communities with NGO participation and GOP budgetary outlays for improved forestry management. $25 in funding was provided to support a Debt-for-Nature Swap and to establish a Natural Resource Management Foundation to manage the resources obtained. An additional $25 million was provided for

technical assistance services which support the overall policy reform process.

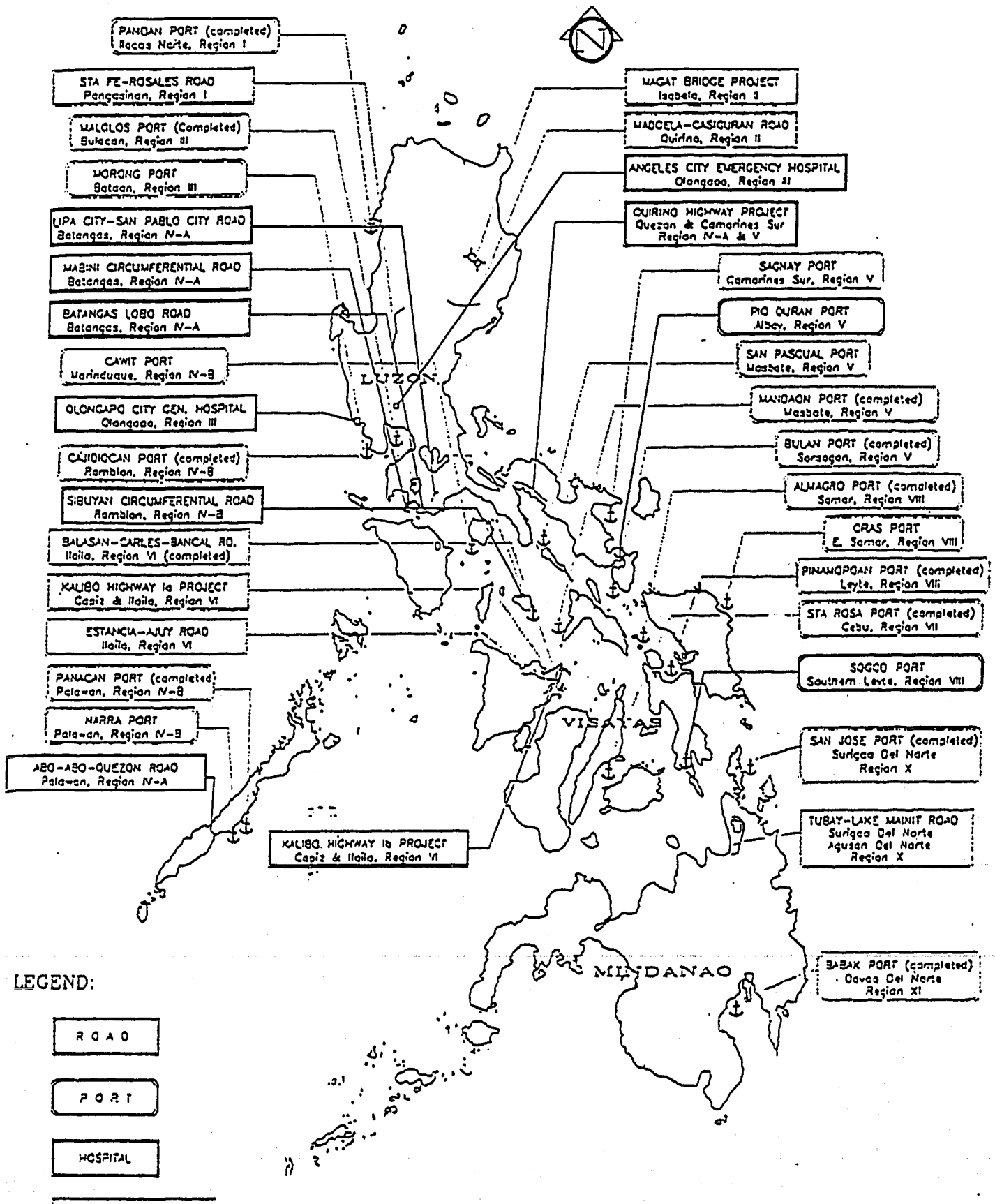
- **Industrial Environment Management Project** ($20 million): IEMP encourages improved industrial waste management to reduce pollution through: a) prevention or reduction of pollution discharge at its source, b) reclamation of industrial wastes where feasible and c) use of pollution abatement technology. IEMP provides $13 million to prevent or reduce industrial pollutants in selected industries, $2.8 million in support of policy dialogue on legal and regulatory controls affecting industrial pollution and $3.7 million to upgrade the skills of GOP, industry and NGO personnel in technical, policy and administrative aspects of pollution reduction.

ANNEX 3

PROJECT LOCATION MAP

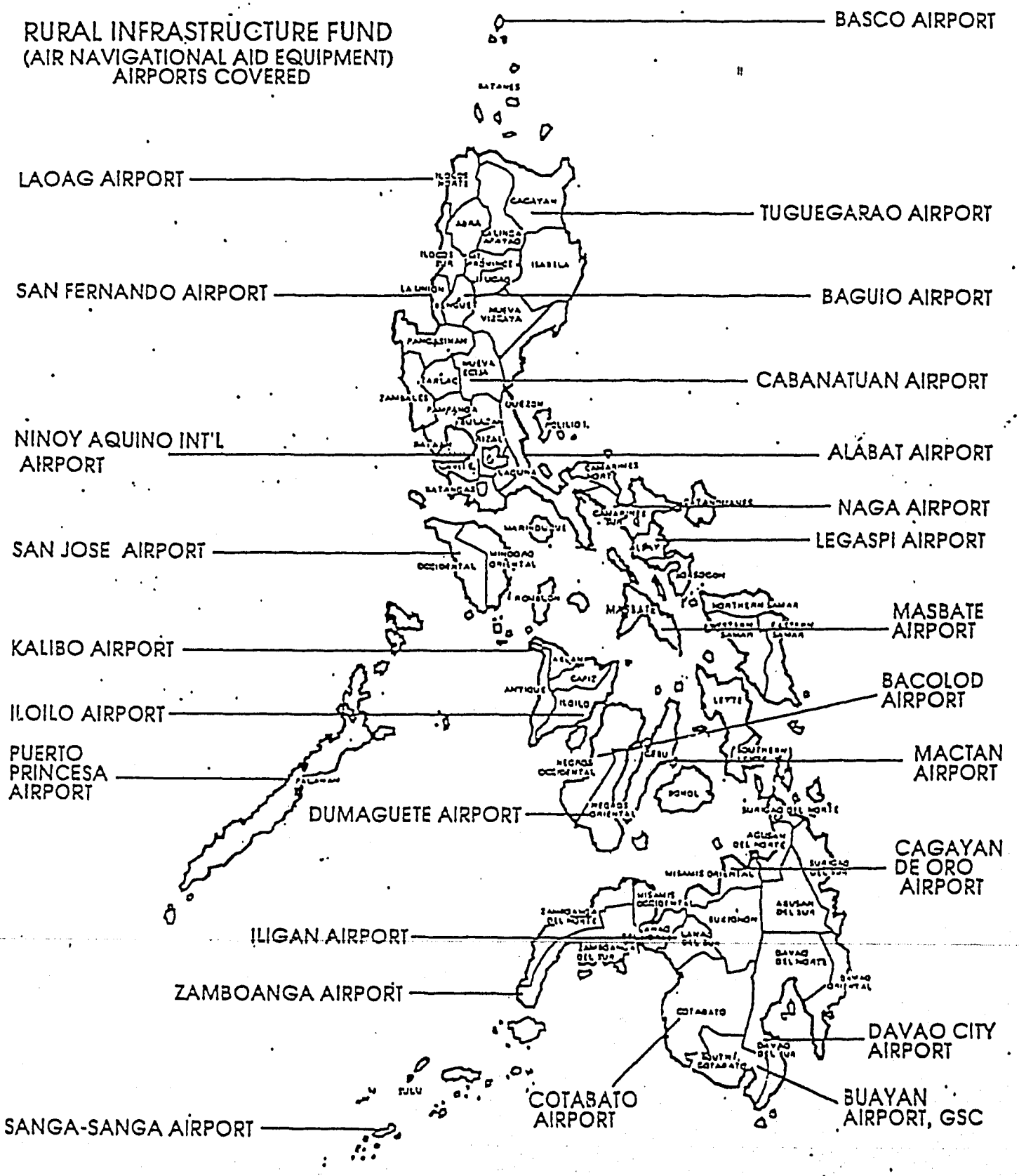
RURAL INFRASTRUCTURE FUND PROJECT—PMO
AID PROJECT NO. 492—0420

SUBPROJECTS UNDER CONSTRUCTION



ANNEX 4 AIRPORTS RECEIVING RIF NAVIGATIONAL AIDS

MAP OF THE PHILIPPINES



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U.S. ASSISTANCE FOR INFRASTRUCTURE DEVELOPMENT FROM 1946 TO 1994: FIFTY YEARS OF ACCOMPLISHMENT

SYNOPSIS

1. Overview

Since the end of World War II, the United States has provided more than $1 billion to the Philippines for various infrastructure projects. Adjusted for the inflation over this period, this amount would easily be triple that number in current dollars. The purpose of this review is to document how this assistance for infrastructure development was used - for what kinds of projects located in which parts of the country - and what this assistance accomplished - what were the development objectives of the projects and what were the results.

The United States has provided financial assistance to the Philippines for an extremely broad array of infrastructure projects. This assistance and the types of projects undertaken, particularly their focus and mode of implementation, have changed repeatedly over time as the needs of the country have evolved. This assistance also reflects the changes in U.S. legislative mandates governing USAID and its predecessor agencies, especially the Foreign Assistance Act of 1961 and its amendment in 1973 (i.e., the "New Directions").

U.S. economic assistance has been instrumental in many areas in helping the Philippines to meet its infrastructure requirements and to establish and strengthen the institutions needed to support infrastructure development. Throughout the country, literally millions of rural people living in rural areas, including the very poor, have benefitted from USAID-funded infrastructure projects. The record on this is unquestionable - the bulk of USAID expenditures for infrastructure development has resulted in tangible economic and social development, especially for rural communities.

The U.S. has played an important role in the development of the Philippines through its assistance for infrastructure. A number of new GOP agencies responsible for national infrastructure programs received initial support through USAID-funded projects. Among the earliest was the National Irrigation Administration established in 1964, which served as the counterpart agency to USAID-funded technical assistance for water resources management from its inception in 1964. Similarly, the National Electrification Administration received assistance through USAID's the Rural Electrification Project from its beginning in 1969. The Local Water Utility Authority was likewise a beneficiary of early USAID assistance through the Provincial Water and Local Water Development Projects. These organizations have subsequently developed into key GOP institutions in their respective sectors.

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U.S. assistance for infrastructure also supported some the first efforts at decentralization of development management responsibilities to local government levels. These activities also helped build capacity in central line Departments of the GOP to assist and work with local governments. This included the predecessor agencies of the Department of Interior and Local Government. A major beneficiary institution of U.S. assistance for infrastructure since the 1950's has been the Department of Public Works and Highways, including its predecessor agencies.

USAID's leadership is also evident in attracting financing from other donors for infrastructure programs which USAID helped to initiate. Studies and plans funded through USAID infrastructure projects were subsequently used by World Bank, the ADB and other bilateral donors for project preparation. This includes rural roads, provincial water systems, rural electrification, integrated area development, and water resource management for irrigation system development. USAID has more recently been at the forefront of encouraging greater private sector involvement in the development of infrastructure in such key sectors as telecommunications and energy. This includes introduction of financing arrangements creating public/private partnerships and alternative financing approaches for public infrastructure, e.g., Build-Operate-Transfer arrangements.

In many instances, USAID was working with central line Departments and local government agencies on new, pilot programs designed to provide infrastructure in rural areas. Working on new programs in more difficult locations poses considerably higher risk of poor results or failure than sticking to the established, tested modes of assistance. In this respect, USAID's role has often been one of providing "venture capital" for new programs to support infrastructure development more effectively, or address infrastructure requirements which were not being met, particularly in rural areas. Most of these efforts produced acceptable or better results, some were run-away successes and while others failed to perform satisfactorily.

Viewed in its entirety, this is a record in which the GOP, local governments and USAID should take considerable pride. It is a record of fifty years of accomplishment that resulted from genuine cooperation between the peoples of the Philippines and the U.S. in a joint effort to promote national development by meeting the country's infrastructure requirements.

2. Program Eras

Based on existing financial records, listings of projects funded since 1951 and program strategy documents, four major "program eras" can be delineated, as follows:

1. 1951 - 1961: National Rehabilitation and Basic Infrastructure

2. 1962 - 1973: The Transition to a Rural Development Program

3. 1974 - 1986: Implementing the "New Directions": Rural Development and Local Capacity Building

4. 1987 - 1994: Re-starting National Growth: Support for Democracy and Private Sector Development

1. 1951 - 1961: National Rehabilitation and Basic Infrastructure

U.S. assistance during this period was directed toward developing a broad array of basic institutions and national services that the country required. In some cases, this development was in the literal sense of constructing the buildings while training the staff for the institutions. Viewed collectively, these programs provide a fascinating record of the development of the country from its post-colonial years to the beginning of a modern state.

The programs during this period consisted of dozens of relatively small projects funded annually and covering the spectrum of public services and facilities; agricultural services, inputs and commodity development; industry and mining development, including industrial machinery and materials; education and manpower development; basic health services; and infrastructure. In 1952, for example, $21.3 million was obligated to fifty-six separate projects, plus $9.1 million in non-project assistance. This means an average obligation of $38,000 per project annually.

A number of infrastructure projects funded during this period were national in scope and constituted the largest projects in the portfolio. Others concentrated on specific locations and the construction of large facilities. The types of infrastructure projects undertaken included rehabilitation and upgrading of irrigation systems; roads, bridges, and foot bridges; schools; port facilities; public markets and health facilities. Two major transportation projects funded in the 1950's were the Highway Improvement Project ($28.4 million) and the Roads and Bridges Project ($15.5 million). Highway Improvement included a Mindanao Development Roads component which constructed some of the first all-weather roads in southern and eastern Mindanao. This included the following road systems: Zamboanga City to Pagadian, Davao to Butuan and the Allah Valley. These roads opened previously isolated areas for settlement and development. However, this frequently occurred at the expense of Muslim communities which were pushed to marginal areas.

It can be concluded such projects as building or upgrading agricultural schools, small-scale irrigation systems, farm to market roads, foot-bridges, water systems and the like, which

were woefully inadequate or absent prior to the project, were largely beneficial to those served by such facilities and infrastructure. Funding the construction of penetration and short barrio roads which gave access to nearby roadways using donated local labor was very likely to be economically and socially beneficial to isolated rural communities.

2. 1962 - 1973: Transition to a Rural Development Program

USAID funding declined sharply after 1960, from $52.8 in 1959 to $24.9 in 1960 and $19.2 in 1961. Total program levels moved irregularly downward, while grant assistance steadily declined through 1965 and then increased slightly until 1969. Particularly pronounced was the sharp funding decline in the Development Assistance (D.A.) account. Between 1960 and 1961, Development Assistance levels fell from by almost fifty percent. Between 1951 and 1960, annual Development Assistance grants averaged $12.2 million, while for the 1962-73 period, the average was only $5.2 million.

While D.A. levels remained low in comparison to the preceding period, PL-480 funding increased as a percentage of total annual assistance. PL-480 programs generated substantial local currency that was programmed for various national agricultural and rural development programs, many of which involved infrastructure development. In short, PL-480 programs composed a major portion of USAID's program assistance in the 1962-73 period. Unfortunately, there is no record available of the exact infrastructure projects that were financed, how much funding was provided and what these activities accomplished.

Project assistance for infrastructure included: water resources planning and management for irrigation systems development; the Community Development Program which funded small-scale, self-help infrastructure projects; Cooley Loans for private sector infrastructure facilities; and provision of road construction equipment via the U.S. Excess Property Program.

USAID's assistance for decentralization of development management responsibilities to the provincial level expanded. Initial assistance was provided through the Rural Development and Provincial Development Projects. Provincial planning and engineering capabilities were strengthening and limited funding was provided for construction of roads, bridges and small irrigation systems using equipment obtained through the Excess Property Program. Special assistance in response to severe typhoon damage in 1972 expanded this activity in Luzon, which was subsequently extended to other parts of the country.

During this period, USAID's strategy underwent a major transition which focused the program on rural development. This led USAID to initiate assistance in the power sector specifically for for

rural electrification. Planning studies and pilot efforts in the late 1960's led to the first major loan for the Rural Electrification Project in 1972. The goal of the project was to establish at least one "backbone" system in each province through development of Rural Electric Cooperatives. The project proved to be highly successful in developing these systems. USAID also provided $4.7 million of initial work on the Tiwi Geothermal Plant in Albay which subsequently attracted major funding from other sources.

3. 1974 - 1986: Implementing the "New Directions"

The 1974 - 1986 period is complex and, arguably, the most interesting period in USAID/Philippines' history. The period itself is not homogeneous; it contains major changes in overall program levels categories of assistance funding the program and program strategy. Local government capacity building, a key program element during this period, broadens from the provincial level to support institutional strengthening at the municipal and community levels. These factors directly affected assistance for infrastructure development which expanded across a wide range of sectors, geographic locations, modes of implementation and levels of intervention. One could easily sub-divide this period in several different ways; however, the underlying strategy guiding USAID's support for infrastructure development has sufficient continuity during this period to define it as a distinct period in the program's history.

A major turning point in USAID/Philippines' program occurred in 1974. Total program assistance reached $55.7 million in 1974 and continued to rise to $185.9 million in 1985 due to increased Development Assistance levels and ESF funding. The annual average level during the 1974-85 period was $90.4 million, considerably above preceding period averages. Infrastructure financing during the 1974-86 period consisted of large development loans prior to 1980 and ESF grants after 1980.

The program strategies of the 1974-86 period began to take shape as early as 1970. The USAID program increasingly focused on two key areas - rural development and health/population. A new generation of projects were under development that were wholly consistent with the "New Directions" even before the legislation was passed. From 1974 onwards, these projects were introduced in quick succession targeting assistance on the rural poor. In 1980, the Mission intensified its previous efforts by adopting a "poorest of the poor" strategy designed to reach the most abject poor segments of the rural population. It was within this context that major new infrastructure investments were made, most notably, in rural electrification, rural roads, irrigation, and water supply and sanitation systems.

During this period, USAID funded a series of projects designed to strengthen local government capacities to undertake development projects. Infrastructure was the focus of these efforts. For the most part, these projects helped to develop local institutional capacities which, in turn, contributed to more effective participation in USAID-funded infrastructure projects and, in many cases, more effective results.

USAID supported a major effort in integrated area development located in the Bicol - the Bicol River Basin Development Program (BRBDP). BRBDP was successful in only limited ways. Incomes in the project area did increase in the short-term more than those in non-project areas. Road improvements had a demonstrable impact at the farm, program area and regional levels. However, the basic premise that the IAD approach would produce something greater than its constituent elements was simply unfounded. The outcome suggested discrete results from discrete projects benefitting their immediate project areas.

At the project level, incomes increased as area under production increased and as irrigated farming replaced rained agriculture. But income inequality increased; wealthier individuals were simply able to benefit from the projects to a greater degree than the poor. Unless wealthier people are specifically excluded from a project, that outcome is a virtual certainty. Given the area development focus of BRBDP, that was not possible, nor, in retrospect, even desirable for regional development.

BRBDP did not induce increased investment in agri-business and industry in the area. It probably increased farm labor opportunities, but it did not generate even modest non-farm employment opportunities. In fact, the evidence suggested capital flight from the region - i.e., disinvestment as businesses closed.

The pre-existing low income, semi-subsistence agricultural system of the region was largely unchanged outside of the project areas and even there, only partially. The persistent poverty of the area was, and is, largely due to its high dependence on rice and corn production, crops of low profitability. Developing alternatives to low profitability rice and corn production should have received greater attention.

The lack of credit was a serious constraint to achieving increased productivity. Consequently, actual yields and productivity fell considerably short of potential gains; increases achieved in productivity between 1973 and 1983 were unimpressive.

The capstone to this program is the goal of "...raising the socioeconomic level of the region's people to the national level by 1990 and to sustain at that level thereafter." Unfortunately,

nothing of the sort was achieved; in fact, recent data suggest an even grimmer reality. Between 1985 and 1990, consumption per capita data, a reliable measure of individual well-being, show that compared to other regions, Bicol actually fell from fourth from the bottom in 1985 to the very bottom by 1990.

Results from the Small-Scale Irrigation and Small Farmer Systems I&II Projects were even more disappointing. In the short-term, these projects did little to change the situation of subsistence farmers. They were marginally profitable before the project, and they were marginally profitable after the project, only now they carried an even larger debt burden from the irrigation system improvements. USAID had paid entirely too much attention to needed engineering and equipment improvements without providing sufficient assistance for improving farming systems necessary to realize the potential gains from irrigation.

Rural Roads I&II were successful projects which produced meaningful economic and social benefits for rural communities. In years following the construction of these roads, hundreds of thousands of rural poor people benefitted economically and socially from these projects, including tens of thousands of extremely poor people living in rural communities previously cut-off from even marginal transportation services. These are numbers which precious few other projects can claim.

A fourth infrastructure component of USAID's rural development portfolio during the 1974-86 period was support for construction water supply and sanitation systems. Six projects constituted this effort: Provincial Water Development (PWD), Local Water Development (LWD), Barangay Water I & II (BWP I& II), Panay Unified Support for Health (PUSH) and Bicol Integrated Health, Nutrition and Population.

Provincial Water and Local Water successfully initiated assistance for development of water supply systems in medium and large cities and towns. Cagayan de Oro and Bacolod were indicative of the effects of water supply improvements. Between 1978 and 1983, the number of households connected to the city system quadrupled . The amount of water lost due to wastage and pilferage was reduced by 50 percent or more. Five years after completion of construction, 90 percent of water samples in both cities met the national safety standard. This was a major improvement for Bacolod. While extending service to previously unserved households, water supply reliability improved significantly. Water availability on a 24 hour basis was reported by more than 90 percent of users in both cities. The improved water systems also resulted in significant decreases in the amount of time spent obtaining water for the households and the distance needed to travel to do so.

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The financial performance of the local water districts lagged behind technical improvements. The evaluation found no evidence of improved water supply contributing to significant increases in household businesses. The results of a major survey effort to evaluate the impact of improved water supply on health found no evidence of such an association. However, the large increase in the number of households that decided to connect to the system demonstrated the value people placed on these projects.

Regarding benefits to the poor, users of the improved systems were generally of higher socio-economic status than non-users. However, sharing of water between connected and non-connected household resulted in a significant number of lower income households in both cities gaining access to safe, reliable water supply.

Barangay Water I&II, PUSH and Bicol Health experienced serious and remarkably similar implementation problems. In 1980, BWP I suffered from the weak technical capabilities of central project staff to perform their support functions. Similar weaknesses in implementation capabilities were found at the provincial level. At the barangay level, training and technical support necessary to manage the systems were grossly inadequate, resulting in little or no capability to maintain system operations. Water service associations were not being developed and community involvement in the projects was marginal. Financial management systems were largely non-existent; mechanisms for repayment by the barangay water service association to the province did not exist. Unsurprisingly, projects were being allotted as political favors to the barangays by elected officials at higher levels. In 1985, virtually the same report is issued concerning the performance of BWP II. Of the 2,800 water systems BWP II was expected to improve, only 94 had been completed by 1985.

Evaluations presented equally grim pictures of BIHNP and PUSH. Unrealistic expectations and assumptions, poor planning for implementation arrangements, inadequate attention to institutional development that needed to occur simultaneously with physical construction, inadequate involvement of local communities from inception through completion of projects, abuse of projects as political handouts by elected officials, and more, all contributed to poor project performance.

Considering just the outputs of these projects, hundreds of water supply systems in rural communities were improved and tens of thousands of water sealed toilets were installed in homes. However, inadequate (or non-existent) institutional development, particularly at the community level, essential for project success, undermined the sustainability of these interventions.

Rural electrification was the most significant investment USAID made during this period. The long-term benefits of rural electrification far outweighed the $80 million USAID invested in it. The provision of electricity service probably did more in the shortest amount of time to alter the economic development potential of rural areas than any other infrastructure investment could have done.

The Rural Electric Cooperatives were effective in extending service to remote areas and providing service to poor people in the communities they covered. However, those who were connected to the RECs tended to be of higher socio-economic status than those who were not. Countering this bias toward servicing those who not among the "poorest of the poor" was the fact that sharing of service between electrified and non-electrified households was common. The poor thus obtained limited service for lighting (most likely) without incurring connection costs.

In general, electrification was viewed by the vast majority of users as a significant improvement to their standard of living. Electrification was particularly beneficial for women. Household connections provided improved lighting and safety at night, permitted use of labor saving appliances, and made refrigeration possible for sari-sari stores typically operated by women. Electricity permitted holding night courses for women and led to new commercial and manufacturing jobs for women. Electrification of communities was also reported as contributing to improved peace and order.

Approximately 60 percent of REC power was consumed by commercial, industrial and public service enterprises. Access to electricity service and market roads were the two chief determinants of decisions about business location. 60 percent of the surveyed enterprises either did not exist or did not use electricity in 1973, roughly the start of the rural electrification program. Electricity service was strongly associated with meat and poultry production, manufacturing and small businesses. Grain and food processors, manufacturing, personal service providers, and public establishments reported that their current operations and production were highly dependent on electricity.

Electricity was instrumental in producing the following benefits for private and public enterprises: a) extended operating hours; b) broadened the type and range of services provided; c) increased levels of manufacturing and agricultural production; d) facilitated the establishment of new rural industries, such as meat and poultry production enterprises; e) use of electric equipment and machinery led to significant labor and money savings, especially for small businesses; and f) made rural enterprises more efficient and attractive investments, which led to expanded operations and increased employment opportunities for the local community.

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However, management systems had not kept pace with the physical expansion of the systems. Bill payment delinquencies were growing, creating financial constraints on the REC's ability to service debt and pay their power bills. Management information systems were not functioning properly and energy losses were beyond acceptable levels. A 1981 evaluation report cautioned that "(s)uch shortcomings, if not corrected, will affect project financial soundness in due time". Shortcomings worsened and the rural electrification program foundered in the 1980's.

The 1979 Amendment to the 1947 U.S. Military Bases Agreement resulted in a pledge by the U.S. Government to provide $200 million in Economic Support Funds (ESF) over the 1980-84 period in conjunction with the continued use of U.S. military facilities in the Philippines, principally Clark Air Base and Subic Naval Base. It was subsequently decided that ESF funds would finance discrete projects. These projects would be consistent with the prevailing focus of U.S. economic assistance on meeting basic human needs. Implementation capabilities of local governments (provinces, cities and municipalities) in the "affected" localities were used to identify, develop, and implement various public infrastructure projects. This included elementary and high school buildings, farm to market and penetration roads, public markets, flood control and drainage, abattoirs and various other small to medium scale infrastructure projects. By working through local governments, ESF assistance was also expected to strengthen their project management capabilities.

Outputs of the ESF projects were substantial. For example, through the School Construction Project, 884 three-room schools were constructed in the typhoon-prone regions of the country, plus 13 schools with 10 to 18 rooms in Region III. It was estimated that more than 100,000 children used these building annually. The Municipal Development Fund supported the construction of small-scale infrastructure projects in 23 cities and municipalities near Clark and Subic Bases. Under MDP, 20 elementary and high schools, five road improvement projects, 14 markets, five drainage projects, two slaughterhouses, two solid waste facilities and one flood control project were constructed. The Regional Development Fund initially focused on the six provinces of Region III: Pampanga, Tarlac, Zambales, Bataan, Bulacan and Nueva Ecija. 44 sub-projects were financed during the 1982-83 period in these provinces, consisting of 12 roads, 14 schools, 10 markets, 4 hospitals and 4 other public works activities. As a result of the 1983 review of the Bases Agreement, it was agreed that the project would become national in scope with the infusion of $50 million for schools and roads in 1984. Construction of some 2,300 schools was completed by the end of 1986.

4. 1987-1994

USAID/Philippines program strategy changed significantly during the 1987-92 period. A.I.D.'s priorities now emphasized private sector-led growth, promotion of trade and investment and strengthening participatory democracy. Virtually all new projects and programs since 1988 have targeted on impediments to private sector growth while shrinking the role of the national government in the economy, encouraging domestic and foreign trade and investment or encouraging a more open, participatory political and economic system. In support of the Aquino Administration and the re-introduction of democratic political processes, U.S. economic assistance quickly rose to $350 to $400 million annually. ESF levels increased and new special assistance provided through the Multilateral Assistance Initiative (MAI) was initiated in 1989. Funding for infrastructure sharply increased as a result.

Infrastructure projects during this period were of essentially two types: a) "big ticket" projects, such as the Mindanao Development Project which funded construction of a major coastal highway, an airport and port facilities in Southern Mindanao; and b) "umbrella" projects which funded numerous small to medium-scale sub-projects nationwide, such as the Regional Development Fund (RDF), the Rural Infrastructure Fund (RIF) and the Local Government Infrastructure Fund (LGIF). The major infrastructure projects funded during period are as follows.

From 1980 through 1991, the ESF Infrastructure funded roughly 3,400 small to medium-scale sub-projects, the vast majority of which produced important economic and social benefits for poor rural communities. School construction was clearly the most effective and successful component of the Program. The buildings were highly valued by the local community and encouraged increased enrollments and better school attendance. They were also regularly used for other community activities, including storm shelters and evacuation centers. Road improvements were also generally successful; however, a number of roads sub-projects were of questionable justification due to political influence in their selection, or of limited or brief utility.

The results for the balance of sub-projects was highly mixed, ranging from very successful to clear failures. Some of the public markets were very well managed and had stimulated local commercial development and generated employment. Others were operated poorly and only one had become financially self-sustained because local governments refused to set rental charges and other fees high enough to cover operation and maintenance costs. Slaughterhouses and solid waste management sub-projects, as well as the Clark Access Road Project (the "road to nowhere") were disappointingly unsuccessful. However, this constitutes a relatively small percentage of the overall program.

The evaluation pointed out that the generally sound results of the Program need to be understood in light of the political background of the ESF Program, and the management constraints USAID and the GOP confronted in administering these funds. Taking these factors into account, the fact that the large majority of sub-projects produced useful and important economic and social benefits for thousands of rural communities is all the more impressive.

The Rural Infrastructure Fund was a highly successful project evidenced by the economic growth, investment and productive activities it had stimulated. The social benefits produced by the RIF sub-projects, such as improved access to markets and services, were equally important to improving social well-being. The vast majority of beneficiaries of these sub-projects were the rural poor - small farm households, small-scale business operators and service providers.

Infrastructure improvements (roads and ports) and new construction (schools and hospitals) funded by RIF were generally of very high quality, both in terms of design, material input, and construction. Technical feasibility studies were, for the most part, very sound. A solid quality assurance program - including construction supervision, monitoring, and inspection - was established before the project commenced, and these procedures were followed strictly throughout project implementation. RIF sub-projects were generally superior to similar types of infrastructure throughout the Philippines.

The overall economic impact of the RIF Project was very positive. The project achieved its goal of stimulating economic growth and investment in the rural areas. Many of the RIF sub-projects contributed substantially to local economic development. Improvements in transportation efficiency and savings in transportation costs were significant and resulted in business growth and investment. This growth was fairly wide-ranging, affecting previously remote rural areas as well as market towns and rural centers. More than 80 percent of sub-project beneficiaries lived in provinces with a poverty incidence above the national average. Considerable employment was also generated. Benefit-cost ratios were clearly positive.

Major project beneficiaries included farmers, fishermen, businessmen, jeepney/bus and truck operators, and passengers. Many rural and market town residents gained employment from the construction of RIF road and port sub-projects. More important, however, was the longer-term employment generated by the increased investment and business expansion that the road and port improvements encouraged. Employment opportunities and personal income for many beneficiaries were increasing. RIF Project roads and ports also greatly improved access to both health and educational services, relieved the discomfort and

tediousness of rural travel, and promoted rural-urban integration by facilitating access to market towns and urban centers.

RIF also funded the procurement, installation and associated training of users of air navigational equipment (NAVAIDS) at 25 airports located throughout the Philippines. All indications were that the NAVAIDS program definitely contributed to flight safety, improved operations and better air traffic control. The NAVAIDS program permitted upgrading of air service and the use of larger planes with greater passenger and cargo capacity; at some airports, night flights became possible. This expansion contributed to regional economic development in the areas served by airports benefiting from NAVAIDS.

The results of the second Rural Electrification Project were very mixed. NRECA and its sub-contractors produced numerous technical outputs in the form of policy guidance on tariffs and loans; procedural manuals on administration, budgeting and engineering; system plans for 99 RECs, and studies on zonal repair centers, financing, management information systems and electronic billing. There was no shortcoming in this respect. By the end of the project, progress had been made toward improving REC operations. However, the majority of RECs still were still far from reaching commercial viability.

Disproportionate emphasis that had been placed on technical outputs at the expense of greater attention to institutional development and policy reform affecting the national Rural Electrification Program. Too many of these technical outputs seemed unlikely to result in actual technology transfer necessary for institution building. A 1994 evaluation concluded that RE "... was heavily engineering-driven, and it focused upon micro problems in NEA and at the REC level, perhaps at the expense of macro problems and solutions." The evaluation concluded that NRECA's technical assistance seemed more appropriate for a purely engineering project rather than a development project. Most important, though many policy and procedural improvements had been, key reforms needed to achieve commercial viability of the RECs was still pending. More attention should have been directed to critical policy reforms.

The Mindanao Development Project funds the construction of road improvements, including a major coastal highway, improved port facilities and a new airport in General Santos City. MDP also supported a very effective Growth Plan component which helped to extend the benefits of the infrastructure being developed as well as to promote investment and facilitate new productive arrangements (e.g., contract farming) in the region. Even while road work was still underway, a 1993 interim evaluation found convincing evidence that the road improvements were stimulating local commercial development and planning for future business expansion and new investment. The standard benefits of the road

improvements were evident: reduced travel time, reduced costs for service providers and passengers, more reliable transportation during bad weather, and improved transportation services due to increased competition among providers.

Recent analyses of regional growth indicate that earlier projections are proving accurate and that plans for new investment are moving ahead. New employment generated in the region between 1992 and 1994 far exceed the levels which would have occurred without the infrastructure development. Similarly, Regional Gross Domestic Product has expanded more rapidly than would have been expected. The SOCSARGEN has become the fastest growing region in Mindanao.

As important and useful as the roads are proving to be, the improved port facilities and particularly the new airport have equal, if not greater, potential for stimulating growth over the long term. When these facilities become operational, the "wait and see" position of a couple of years ago should convert into action. This already appears to be happening based on recent growth in the region. If the region continues to be viewed as a highly desirable location for investment, MDP could well prove to be one of the most effective infrastructure programs USAID has ever financed in the country.

The Philippines Capital Infrastructure Support Project was an innovative attempt to provide concessional financing for critical infrastructure projects using grant funds from USAID and the U.S. Export Import Bank (EXIM) and EXIM loan guarantees. However, the project was terminated early due to changes in OECD guidelines on concessional financing in middle income countries. Despite initial implementation difficulties, by the time PCIS was terminated, the financing mechanism was well established and a pipeline of future projects, many of which in the private sector, had formed. Roughly $134 million in project financing had been facilitated by PCIS by the time of its termination in 1992. PCIS effectively melded both the development objectives of USAID with the trade promotion interests of U.S. manufacturers.

The Philippines Assistance Program Support Project (PAPS) was initially designed to provide technical assistance for studies needed to "fast track" infrastructure projects proposed for funding through the MAI/PAP. The first phase of the project was successful. In a three year period, PAPS produced a number of useful infrastructure studies and area plans, financed feasibility studies for private sector investors which facilitated investment decisions and helped to introduce BOT and other alternative financing approaches in the Philippines at a time when the need for major infrastructure investments far exceeded GOP and donor resources. An additional $10 million was added to PAPS in 1992 to continue these activities with greater focus on BOT financing of infrastructure projects.

PAPS was expanded in 1993 to make it an "umbrella" funding mechanism for various technical assistance and training activities consistent with USAID's program objectives and the MAI/PAP. Total funding for PAPS was increased to $68.75 million with a new completion date of September 1998. Elements of the original project are supported under the expanded PAPS, including assistance to CCPAP, funding for studies and area master plans, small-scale studies, policy studies and the PIF. PAPS support for BOT financing has led to developing a BOT center to promote the use of this financing approach. New technical assistance activities which could influence future infrastructure development include the following:

- Assistance to the Department of Energy: $4.5 million
- Demand Side Energy Management: $2.5 million
- Renewable Energy: $5.5 million
- Telecommunications: $2.2 million

With major reductions in USAID/Philippines program levels after FY 1992, direct financing of infrastructure has not been possible, and since 1993, this is no longer been a program objective. However, USAID should continue to support infrastructure development through such activities as PAPS and the Growth with Equity in Mindanao Project which will extent the investment promotion and support initiated by the Growth Plan component of MDP to other parts of Mindanao.