CONSULTANCY REPORT

ON

THE PHILIPPINES

INNOVATIVE APPROACHES TO COOPERATIVE MANAGEMENT, FINANCE AND TRADE PROJECT

USAID COOPERATIVE AGREEMENT
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LIST OF ACRONYMS

ACDI	Agricultural Cooperative Development International
ACPC	Agricultural Credit Policy Council
AMC	Area Marketing Cooperative
BACOD	Bureau of Agricultural Cooperative Development
BANGKOOP	Federation of Cooperative Rural Banks of the Philippines, Inc.
BCTC	Bicol Cooperative Training Center, Inc.
BIR	Bureau of Internal Revenue
bps	bits per second
CAFFMACO	Cavite Farmers' Feedmilling and Marketing Cooperative
CALF	Consolidated Agricultural Loan Fund
CARP	Comprehensive Agrarian Reform Project
CB	Cenral Bank of the Philippines
CB/DRBSLA	Central Bank, Department of Rural Banks and Savings and Loan Associations
CBI	Central Bank Institute
CCFDI	Central Cooperative Finance Development, Inc.
CDLF	Cooperative Development Loan Fund
CENECO	Central Negros Electric Cooperative
CETF	Cooperative Education and Training Fund
CFG	Cooperative Finance Group (Central Bank)
CFI Task Force	Cooperative Financial Intermediary Task Force
CFPI	Cooperative Foundation of the Philippines, Inc.
CISP	Cooperative Insurance System of the Philippines
CLIMBS	Credit-Life Mutual Benefit Services Association, Inc.
CMP	Cooperative Marketing Project (ACDI, 1980-1983)
CMSP	Cooperative Marketing System of the Philippines, Inc.
CRB	Cooperative Rural Bank
CUNA	Credit Union National Association
CUP	Cooperative Union of the Philippines
DA	Department of Agriculture
DAP	Development Academy of the Philippines
DAR	Department of Agrarian Reform
DBM	Department of Budget and Management
DENR	Department of Environment and Natural Resources
DLG	Department of Local Governments
DOF	Department of Finance
DOLE	Department of Labor and Employment
DOST	Department of Science and Technology
DOTC	Department of Transport and Communication
DPWH	Department of Public Works and Highways
DTI	Department of Trade and Industry
FAO	Food and Agriculture Organization, United Nations
FECOPHIL	Federation of Electric Cooperatives in the Philippines
IAP	Innovative Approaches Project (Innovative Approaches to Cooperative management Finance and Trade)
ICA	International Cooperative Alliance
ICT	Inter-Coopewrative Trade, a service of NATCCO
IIRR	International Institute for Rural Reconstruction
ILO	International Labor Organization
IRC	International Record Carrier
KKPI	Federation of Transport Cooperatives in the Philippines, Inc.
LBP	Land Bank of the Philippines
MKSN	Municipal Association of Samahang Nayon
MMCC	Metro Manila Consumers Cooperative

NATCCO	National Confederation of Cooperatives, Inc.
NAMVESCO	National Market Vendors Cooperative Services Federation, Inc.
NDD	National Direct Dial (in-country direct long-distance service)
NEA	National Electrification Administration
NEDA	National Economic Development Authority
NIA	National Irrigation Administration
NFA	National Food Authority
NORLU	Northern Luzon Cooperative Development Center, Inc.
NPC	National Power Corporation
NUI	Network User Identifier
NUA	Network User Address
OTC-DTC	Office of Transport Cooperatives, Department of Transportation and Communication
PARC	Presidential Agrarian Reform Council
PARCCOM	Provincial Agrarian Reform Coordinating Committee
PCU/CCU	Provincial Cooperative Union/City Cooperative Union
PD 175	Presidential Decree 175, the law governing most cooperatives
PFCCI	Philippine Federation of Credit Cooperatives, Inc.
PKSN	National Association of Samahang Nayon
PLDT	Philippine Long Distance Telephone Company
PSS	Packet-Switched Service
PTT	Post, Telegraph and Telephone
PT&T	Philippine Telegraph and Telephone Corporation
QGFB	Quedan Guaranty Fund Board
RCU	Regional Cooperative Union (13 in the Philippines)
RKSN	Regional Association of Samahang Nayon
SCCP	Supreme Cooperative Council of the Philippines
SCDIP	Sugar Cooperative Development Institute of the Philippines
SEARSOLIN	South East Asia Rural Social Leadership Institute
SEC	Security and Exchange Commission
SN	Samahang Nayon (Barrio Association)
SPECC/MASS	Southern Philippines Educational Cooperative Center and Mindanao Alliance of Self-Help Societies, Inc.
SRA	Sugar Regulatory Agency
TAGCODEC	Tagalog Cooperative Development Center, Inc.
USAID	United States Agency for International Development
VICTO	Visayas Cooperative Development Center, Inc.

I. EXECUTIVE SUMMARY

A. Overview

This study is part of a series designed to explore the potential usefulness of computers and computer-based communications technologies to cooperatives with emphasis on subject matter areas of cooperative management, finance and trade. In order to properly assess this potential, however, the team felt it necessary to thoroughly explore the cooperative sector including cooperatives and their financial institutions at national, regional and local levels plus governmental agencies with promotional, support or regulatory responsibilities for cooperatives. The team has not confined its findings and recommendations to computer and technological issues because to potential usefulness of these technologies rests on the full development of the subject areas under study.

The cooperative sector in the Philippines is quite mature as the reader may derive from the discussion of Section IV of this paper. This has positive implications for adoption of technologies in that cooperative principles are well understood and accounting and reporting procedures are advanced and standardized to a considerable degree within cooperative types. Thus, no massive effort is required to prepare cooperatives for computerization in these areas. The down side, however, is that years of piecemeal reform of the cooperative sector has resulted in a very complex, fragmented structure with numerous distinct types of cooperatives each with its own legislative mandate and rules of governance. The resulting complexity of accounting and reporting requirements increases the difficulty of computerization for the sector as a whole than would be required were the lines of authority7 more streamlined.

With respect to microcomputer technology, the Philippines is quite advanced by developing country standards. Sales and service facilities are sufficiently numerous to result in competitive pricing and are geographically well disbursed throughout the country. We also found evidence of an abundance of trained programmers. There are quite a few computer training centers, mostly in Manila but also scattered around the country. The telephone system, however, is not as well developed as it ought to be and does not compare well to other developing countries. Recent moves by the Government to introduce more competition into the telecommunications sector, however, are beginning to pay dividends.

B. Findings

1. Banking and Finance

A number of cooperative organizations are successfully filling the role of financial intermediary for cooperatives on a regional or national basis. For the most part, these operations function as inter-cooperative loan funds. Member cooperatives can deposit their surplus capital at interest and the funds are on loaned to other cooperative members. While these schemes are intrinsically successful, they do not meet potential efficiency for the cooperative sector as a whole. In the first place, most of the lending is among cooperatives of the same type so that investment opportunities resulting from alternate business cycles among types of cooperatives are largely missed. Also, little of the excess liquidity of cooperatives is finding its way into agricultural enterprises.

Sentiment favoring the creation of a National Cooperative Bank to address the needs for financial intermediation for the entire cooperative sector and to serve as a conduit for investment funds from sources external to the sector was nearly unanimous among the cooperative leaders interviewed by the study team. Among Government agencies, only the Land Bank of the Philippines expressed major reservations concerning the establishment of a

cooperative bank which reflects concern on two points: (1) the number of banks currently existing is adequate to meet aggregate financial requirements and specialized banks do not serve the economy as well as generalized banks; and, (2) many of the envisioned purposes and services of the proposed bank are already part of the mandate of the Land Bank itself. Computerization requirements will naturally vary depending upon whether such a bank is established.

At present, agriculture, in general, and agricultural cooperatives, in particular, are not being well served by existing financial institutions. Commercial banks, whether bullied or bribed, have shown little inclination to invest the amount of capital necessary to produce meaningful development in the Philippine agricultural sector. To a considerable extent Government pricing policies and erratic Government programs may have contributed to a perception of agricultural ventures as low profit, high risk investments. Whatever the reasons, however, the result is that Philippine agricultural cooperatives do not have access to available, affordable credit as do their counterparts in most industrialized countries and many developing countries.

2. Trade

There is a large and growing market for such non-traditional exports as rattan furniture, marble artifacts and statues, children's toys, and ready to wear apparel. Perhaps the most rapidly growing non-traditional export industry is prawns production. There may also be an export opportunity for U.S. cooperatives in the supply of soy meal or ready mixed prawn feed.

There does not appear to be any readily accessible source for daily market data for commodities or products of interest to cooperatives.

3. Management and Training

Most of the cooperatives visited observe basic principles of management. They prepare business plans and annual budgets and have well developed accounting systems. They have reporting requirements for various governmental agencies and departments and, for the most part, seem to be current.

Finance and marketing skills seem to be weak areas among many of the cooperative managers interviewed. Environmental factors including lack of adequate financial services as discussed above and weak prices and lack of market information for agricultural commodities contribute to the problem. However, some managers seem able to rise above these challenges while many are not.

Training courses in cooperative principles, basic cooperative management and cooperative accounting are abundant from a variety of sources. It is clear from the above discussion, however, that more advanced courses in cooperative finance and marketing would be in order. There is currently no computer-specific training being generally offered to the cooperatives, though a few cooperative institutions are gearing up to provide such. Computer-based training is not being offered and, though there is considerable interest in the possibility, the currently installed base of microcomputers is inadequate to support a widespread effort in this regard at the moment and more traditional applications should be the first priority.

There appears to be a felt-need among cooperative managers for software to help them plan, analyze and monitor their cooperative business.

4. Computers and Communications

Basic telephone service outside of Manila is not good. This impacts negatively on prospects for use by cooperatives of domestic and international electronic mail services. Recent developments and increasing competition, however, are leading to improvements which may rapidly expand the numbers of cooperatives in a position to avail themselves of computer-based communication services. Our study found little use of communications media other than telephone and domestic telegrams. Cooperative institutions outside Manila can be fairly characterized as substantially isolated.

A number of cooperatives have attempted to tackle the communications problem head-on by implementing private radio networks. This solution has the advantage that it can be quickly implemented and does not rely heavily on outside parties to perform. It may well be cost effective with respect to the particular problem being addressed, but for society as a whole it is a misallocation of resources which could more efficiently be used in more general forms of communication.

As mentioned earlier, the team found computer sales and service facilities to be abundant and geographically wide spread. An exception to the general rule is support for imported software packages. There are ample training courses in the most popular packages (WordStar, Lotus 123, dBase III, and others) and domestically produced software is supported by its creators; however, vendors of imported software do not offer the level of support including user hot-lines and assistance in installation and use that consumers in industrialized countries have come to expect.

Our study uncovered a particularly disturbing fact about the way in which Philippine cooperatives are going about the business of computerizing, namely, that virtually all of them have or say they would rely on a single vendor to advise them on their computer and software needs.

Most cooperative managers said they would like to see standardized software developed and supported for cooperative acccunting and management.

C. RECOMMENDATIONS

1. Banking and Finance

Philippine cooperatives should support and promote the establishment of a National Cooperative Bank in order to ensure a full service financial intermediary capable of maximizing returns to the cooperative sector from resources generated within the sector and of attracting resources from outside the cooperative sector. Such a bank would be unique in that its principal mission would be the provision of sound loans to cooperatives. To be effective such a bank must have substantial financial participation by all types of cooperatives and must have minimum government involvement.

The Central Bank should reconsider its program for debt/equity swaps. A well-directed program has the potential to channel needed external resources into productive development efforts the long-term benefits of which might well outweigh short-term fiscal considerations.

The Quedan Guarantee program should be expanded. This can be accomplished simply by liberalizing reserve requirements and by various administrative reforms without the need for additional budgetary resources.

2. Trade

ACDI should make an effort to assist Philippine cooperatives in non-traditional export industries including prawns, rattan furniture, marble artifacts, and children's toys. In particular, there is potential for the development of new cooperatives in support of prawn production in the ancillary activities of input supply, processing and marketing. In these efforts, ACDI should work closely with Cooptrade, an organization dedicated to the promotion of such exports and supported by various international cooperative development organizations.

3. Management and Training

ACDI should consider developing software to help cooperative managers plan, analyze and monitor their businesses.

ACDI should also consider holding its proposed regional computer training course in the Philippines making maximum use of Philippine instructors and should attempt to attract additional financial support so that the number of participants could be expanded.

4. Computers and Communications

Philippine cooperatives should endeavor to establish a National Cooperative Center for Computers and Communications to act as a focal point for cooperatives needing assistance in computer system design and procurement, software support and communications services. Such a center would also make it easy for international parties to provide assistance in these areas for the cooperative sector as a whole. A list of objectives that could be pursued by the Center can be found in Section VI.D.1.

Cooperatives should analyze carefully the potential advantages that may result from domestic electronic mail services which may become available in the near future. This form of communication should be cheaper than telephone conversation and more effective than domestic telegram. An effort should also be made to develop standarized accounting software for the Philippine cooperatives, such as is being developed for the Cooperative Rural Banks through the FAO. Such software should have open source code in dBase III+ or dBaseIV language, with specialized but integrated modules useful for coops.

II. INTRODUCTION

This study is the second in a series being carried out in six countries around the world. It is being conducted under the Innovative Approaches to Cooperative Management, Finance and Trade Project financed by the U.S. Agency for International Development under Cooperative Agreement No. OTR-0192-A-00-8241-00 with significant financial and in-kind contributions by the Central Bank for Cooperatives, the National Council of Farmer Cooperatives and others.

A. Project Goal

Delivery of technical assistance in the areas of management, finance and trade on a smaller scale, to a broader audience, on a continuous basis, at a lower per unit cost than traditional delivery of technical assistance allows and at a lower total cost to the federal government.

B. Project Purpose

To assist developing country cooperatives, credit institutions and other institutions that serve them to share in the benefits associated with the use of computers, including the traditional efficiencies in record keeping and management decision making processes but with an emphasis on international communication for data acquisition, technical assistance and trade relations.

C. Scope and Limitations of the Report

The study team undertook a very ambitious schedule in order to interview as many cooperatives and support organizations as possible in the slightly less than three weeks available for the data collection phase of the study. During this period the team visited institutions in six cities: Manila, Iloilo, Bacolod, Cebu, Cagayan de Oro, and Davao. Nevertheless, it was necessary to concentrate efforts on those cooperatives served by the Cooperative Union of the Philippines, which is to say those registered by BACOD under PD 175. The only exception the team made to this general rule was for electric cooperatives because of a current interest in that sector in computer networking and communications. No attempt was made to visit unregistered, sugar, or transportation cooperatives.

The findings and recommendations contained in this report represent the analysis and opinions of the members of the team based on information provided to it by the various cooperative leaders interviewed. It is inevitable that errors of fact and judgement have crept into this report in spite of our best efforts to be attentive and even handed. For such errors the team takes full responsibility. On balance, however, we believe this report presents a fair picture of the segment of the cooperative sector examined. We did not examine the cooperatives in every aspect but, in accordance with the purpose of the project, we focussed on management, finance and trade and, in particular, the ways computer and communication technology are or could be used to improve efficiency in these areas.

D. Acknowledgements

The team owes much of its effectiveness to Tony Arcellana, ACDI Regional Office Director, who planned the itinerary, made appointments and reviewed our work every step of

the way. Jaime Chua accompanied us on our field trip, provided logistical support and helped us better understand the cooperative organizations and geographic regions we visited. To them we give our thanks and gratefully acknowledge that our study would not have been as comprehensive without them. Hopefully, their insight has helped us to prepare a better report.

The group without whom there would have been no study at all is the group of cooperative leaders whose names and institutions are listed in Annex E. These are the people we visited and interviewed at length. The hospitality and patience they showed us was remarkable and we are sincerely grateful. The frankness and knowledge with which our questions were answered means that our hosts have done their part to make this a successful study.

III. Methodology

Several weeks prior to departure, team leader Donald Crane conferred with various knowledgeable people in the U.S. to gather background information and suggestions of people and organizations to contact when in the Philippines. Then, working with ACDI Asia/Pacific Regional Representative Antonio Arcellana, based in Manila, a preliminary list of organizations and people to visit was drawn up. Mr. Arcellana and the regional office then made appointments in Manila with national organizations for the first week and planned a nine day trip to five provincial cities which included appointments with secondary and primary cooperatives and organizations.

The first working day (September 12, 1988) was spent reviewing the scopes of work, receiving a background briefing on cooperatives in the Philippines from Mr. Arcellana, finalizing the schedule and adding some appointments for later on in the study. Over the next few days, an institutional profile, with basic questions on the status of each organization, and a questionnaire, an opinion survey on the issues involved in this study, were drawn up to be asked at each organization the team visited. A draft outline of the final report was also prepared.

The remainder of the first week was spent visiting various national cooperative organizations, the USAID mission, and the Philippine Bureau of Agricultural Cooperative Development, in order to get an overview of the country's cooperative sector and the current situation. At each organization, usually after brief mutual introductions, the team leader asked the questions from the profile and questionnaire and each team member asked additional questions in their respective areas of expertise. Generally the team stayed together for meetings, all team members took notes and a recent annual report and/or financial statement was requested, along with other informational materials available. During the first week, a connection to CARINET was made through a local record carrier, both from ACDI's regional office in Quezon City and from the hotel in Makati.

Departing Sunday, the team left Manila for the provinces accompanied by Jaime Chua, a consultant for ACDI in the Asia/Pacific regional office, visiting Iloilo, Bacolod, Cebu, Cagayan De Oro and Davao. In each city, the team met with leaders from different kinds of cooperatives and regional organizations, gathering information from many perspectives. After unsuccessfully attempting to access CARINET through an operator connected call in Iloilo, successful connections to telecommunications were made in Bacolod, Cebu and Davao, using the National Direct Dial service.

Returning to Manila mid-way through the third week, the fourth team member, Ken Novak, data communications consultant, joined the team. Here the team split into two parts for much of the remaining time. Donald Temme, trade and finance specialist, and Donald Crane, management and training specialist, attended further meetings with government agencies, national organizations, banks and took a day-long field trip to Cavite to visit a cooperative and potential sites for the computer training course. Thandi Bergfalk, computer and communications specialist, and Ken Novak spent time preparing for the telecommunications seminar and demonstration held at the end of the third week (see VII. A) and collecting information on computer software, hardware, local IRC services and telephone services through meetings and telephone interviews.

At the end of the third week, responsibilities for different sections of the final report were divided among the team members, with team members encouraged to contribute to the

findings and recommendations in all areas (finance, trade, management, training and computers and communications). Any unscheduled time during the last week was spent writing the report. A debriefing for the USAID mission was scheduled in the middle of the last week, where tentative findings and recommendations were made. A relatively complete draft was done before the team left Manila at the end of the fourth week (Oct. 8, 1988).

IV. COOPERATIVE ORGANIZATIONS AND SUPPORTING INSTITUTIONS

A. Cooperative Sector

Cooperatives in the Philippines enjoy a long and diverse history. Current structure of the cooperative sector is illustrated in Figure 1. This neat and logical presentation belies the considerable diversity of ideologies, goals, constituencies, benefactors, functions, financial condition and opinions that exist among the institutions that collectively are referred to as the cooperative movement.

One way in which cooperatives differ from one another is the authority and registering body under which they are registered. Many cooperatives in the Philippines are not registered at all. Naturally, statistics on this type of cooperative are not readily available.

The principal authority under which cooperatives are registered is PD 175. All such cooperatives must be registered with the Bureau of Agricultural Cooperative Development (BACOD) of the Department of Agriculture. Some of them may also be subject to registration and regulation by other government agencies. Cooperative Rural Banks, for instance, are also responsible to the Central Bank of the Philippines and the Securities and Exchange Commission.

Electric Cooperatives are registered with the National Electrification Administration (NEA) under PD 269. Sugar cooperatives are registered by the Sugar Regulatory Agency (SRA) under PD 775. Transportation cooperatives (primarily passenger vehicles) are registered with the Office of Transport Cooperatives of the Department of Transportation and Communication (OTC-DTC) under EO 898.

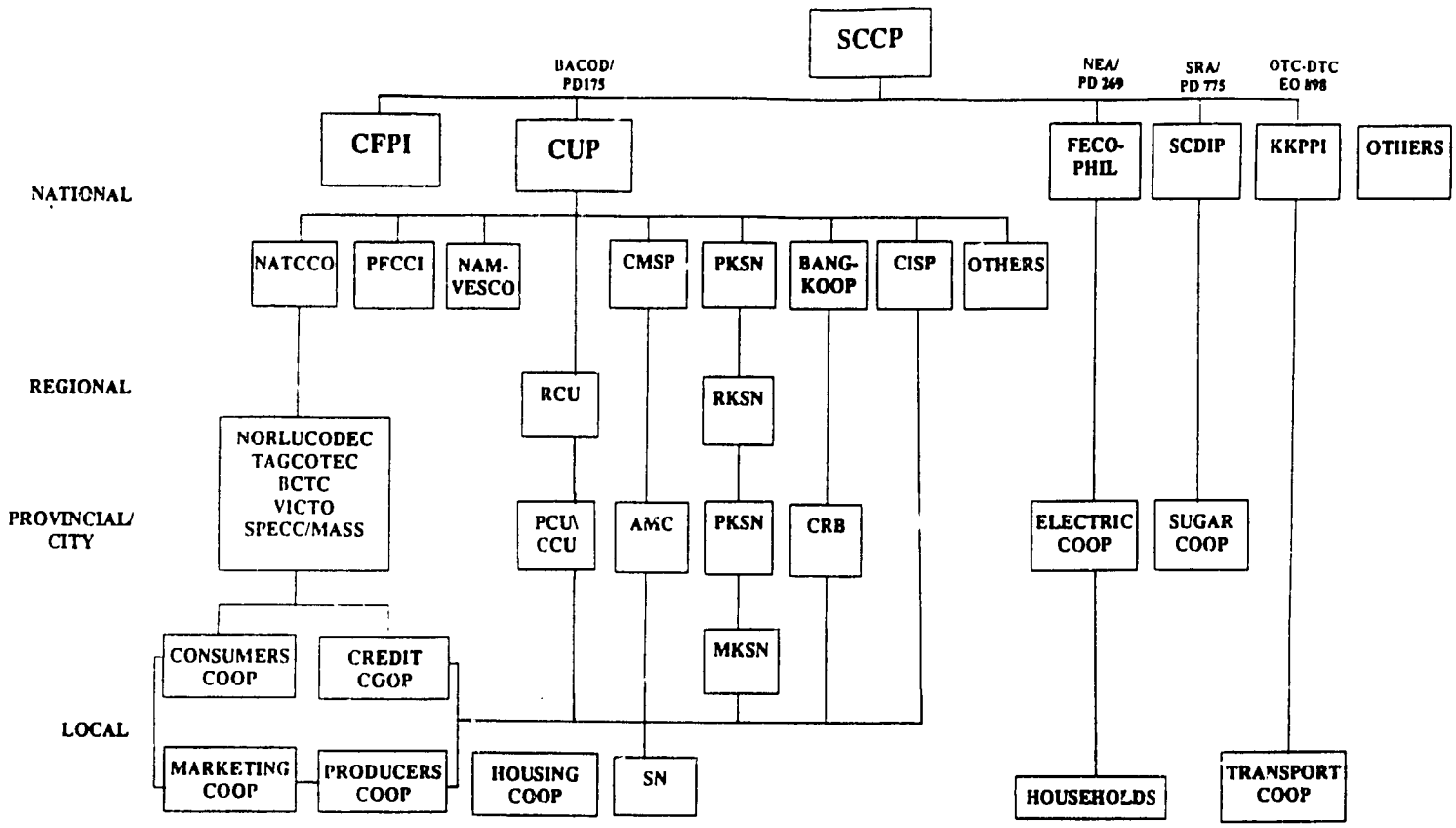
Various types of cooperatives are registered under PD 175 including: consumer cooperatives, credit cooperatives, marketing cooperatives, cooperative rural banks, insurance cooperatives, and others. The Cooperative Union of the Philippines (CUP) endeavors to rationalize the views of this segment of the cooperative sector and to represent them to outside parties. CUP is supported in this effort by a network of regional, provincial and city level cooperative unions.

Very recently cooperatives have organized the Supreme Cooperative Council of the Philippines. This is a coalition of cooperatives that attempts to achieve consensus on important issues for the cooperative sector as a whole by bringing together cooperatives across the regulatory barriers. It is a consultative group and not a registered organization. Its members, in addition to CUP are: the Federation of Electric Cooperatives in the Philippines (FECOPHIL); the Sugar Cooperative Development Institute of the Philippines (SCDIP); the Federation of Transport Cooperatives in the Philippines, Inc. (KKPI); and, the Cooperative Foundation Philippines, Inc. (CFPI).

B. Cooperative Institutions

Key institutions of importance to this study are briefly described in this section. Annex E lists cooperatives and supporting institutions actually visited.

FIGURE I
STRUCTURE OF THE COOPERATIVE MOVEMENT



ACRONYMS

SCCP	Supreme Cooperative Council of the Philippines
CFPI	Cooperative Foundation of the Philippines, Inc.
CUP	Cooperative Union of the Philippines
FECOPHIL	Federation of Electric Cooperatives in the Philippines
SCDIP	Sugar Cooperative Development Institute of the Philippines
KKPI	Federation of Transport Cooperatives in the Philippines, Inc.
BACOD	Bureau of Agricultural Cooperative Development
PD 175	Presidential Decree 175, the law governing most cooperatives
NEA	National Electrification Administration
SRA	Sugar Regulatory Agency
OTC-DTC	Office of Transport Cooperatives, Department of Transportation and Communication (EO, Executive Order)
NATCCO	National Confederation of Cooperatives, Inc.
	NATCCO has 5 regional federations/training centers:
	NORLU — Northern Luzon Cooperative Development Center, Inc.
	TAGCODEC — Tagalog Cooperative Development Center, Inc.
	BCTC — Bicol Cooperative Training Center, Inc.
	VICTO — Visayas Cooperative Development Center, Inc.
	SPECC/MASS — Southern Philippines Educational Cooperative Center and Mindanao Alliance of Self-Help Societies, Inc.
PFCCI	Philippine Federation of Credit Cooperatives, Inc.
NAMVESCO	National Market Vendors Cooperative Services Federation, Inc.
RCU	Regional Cooperative Union (13 in the Philippines)
PCU/CCU	Provincial Cooperative Union/City Cooperative Union
CMSP	Cooperative Marketing System of the Philippines, Inc.
AMC	Area Marketing Cooperative
SN	Samahang Nayon (Barrio Association)
PKSN	National Association of Samahang Nayon
RKSN	Regional Association of Samahang Nayon
MKSN	Municipal Association of Samahang Nayon
BANGKOOP	Federation of Cooperative Rural Banks of the Philippines, Inc.
CRB	Cooperative Rural Bank
CISP	Cooperative Insurance System of the Philippines

Cooperative Union of the Philippines (CUP)

Since its founding in December, 1979, CUP has been striving to develop the cooperative movement in the Philippines through: promotion of the "cooperative idea" as a way of life; development of cooperatives within the context of national policy by means of research and information, education and training, audit, technical services, and facilitation of technology transfer; advise the authorities on all matters relating to cooperatives; and, represent all cooperatives in the Philippines at home and abroad. Internationally, CUP is a member of the International Cooperative Alliance and is affiliated with ICA's Cooptrade project in Malaysia.

CUP's membership comprises two types of components: (1) business components represented by national federations and special secondary/tertiary cooperatives; and (2) non-business components represented by Regional and Provincial/City Cooperative Unions. There are 12 national federations in membership, 13 regional unions, and 36 Provincial/City Cooperative Unions. Membership statistics indicate the following numbers of secondary and primary societies represented: Regional Federations of Credit Cooperatives (13); Provincial/City Federations of Cooperatives (40); Cooperative Rural Banks (29); Area Marketing Cooperatives (84); Credit Cooperatives (1,592); Consumer Cooperatives (853); Marketing (agricultural) Cooperatives (294); Producers (industrial) Cooperatives (218); Service Cooperatives (194); and Samahang Nayons (17,115). These numbers, however, reflect registrations rather than a count of cooperatives in active status. The actual number of functioning cooperatives may be considerably less in some categories, notably AMCs and SNs. According to BACOD, only 35 AMCs and 4,800 SNs are currently active.

Principal activities of CUP include the following: policy initiatives; education and training; development of cooperative business; preservation of financial integrity of cooperatives; development of institutional relations; public information; and special projects. These activities may be funded from a variety of sources including: membership fees; membership contributions; local and foreign assistance; and the Cooperative Education and Training Fund. However, CETF contributions represent the primary source of funding. CETF contributions for 1987 amounted to P2,333,851.

Cooperative Foundation of the Philippines, Inc. (CFPI)

CFPI is a non-government organization (NGO) which is non-stock and non-profit. It was registered with the Security and Exchange Commission (SEC) on May 12, 1977, began operations in January 1978 and was registered as a cooperative with the Bureau of Cooperative Development on August 13, 1981.

In 1984, CFPI was accredited as a tax-exempt foundation by the Department of Science and Technology (DOST) and as a donee institution by the Bureau of Internal Revenue (BIR). All donations made to CFPI are 100 percent tax-deductible.

CFPI aims to promote the development and growth of cooperatives as instruments for social justice and the uplift of the socio-economic conditions of the poor.

Principal activities of CFPI include: research and policy studies; cooperative development; business development; promotions and publications; and a cooperative data bank and information center. Its main source of finance is the interest from its P4 million trust fund.

National Confederation of Cooperatives, Inc. (NATCCO) and its Affiliates

NATCCO, the National Confederation of Cooperatives, Inc., is a national level organization, representing various types of registered cooperatives operating in different parts of the country. It has five affiliated centers, which were organized between 1966 and 1976 as cooperative training centers. In 1977, the leaders of these centers decided to form a national organization, NATCCO (originally the National Association of Training Centers for Cooperatives). These centers at first provided only cooperative education and training for their members, but later also began consulting and auditing services for cooperatives, inter-cooperative lending, and an inter-cooperative trade program. The five centers are the Northern Luzon Cooperative Development Center (NORLU), the Tagalog Cooperative Development Center (TAGCODEC), Bicol Cooperative Training Center, Inc. (BCTC), the Visayas Cooperative Development Center (VICTO), and the Southern Philippines Educational Cooperative Center and Mindanao Alliance of Self-Help Societies (SPECC/MASS). A sixth affiliated organization, the Credit-Life Mutual Benefit Services Association (CLIMBS), is a national cooperative mutual protection program which offers various forms of insurance and savings plans for cooperative members throughout the country.

NATCCO's mission is to institutionalize cooperativism in the socio-political-economic life of the people and to evolve a strong and viable cooperative sector and movement through the establishment of a cooperative confederation. It has links nationally to the Cooperative Union of the Philippines (CUP) and internationally to the International Cooperative Alliance (ICA). NATCCO's membership indirectly consists of the members of its affiliated centers; these centers have over 400 primary cooperatives as members. Of these 400 cooperatives, about 63% are credit cooperatives, 15% are consumer cooperatives, 15% are multi-purpose cooperatives, 5% are marketing cooperatives and 2% are service and producer cooperatives. Their scope is primarily non-agricultural. These organizations view themselves as true cooperatives, inspired and organized by individuals in the private sector and maintained through membership support and education; this is in contrast to the perception of agricultural cooperatives (SNs, AMCs and CRBs) as being organized and supported by the government instead of individuals for their own sake. Members credit the success of these "grassroots" cooperatives and their centers to being private sector initiatives and to their cooperative education efforts.

NATCCO has received funding from the West German Friedreich-Ebert-Stiftung, the Dutch development agency and the Canadian Cooperative Association for various projects, including a Small Scale Industry Project, a comprehensive survey of Philippine cooperatives and an Inter-Coop Trade program.

NATCCO's primary activities are: cooperative educational promotion and curriculum development for training courses, given primarily at the centers to cooperative members, directors, managers and staff (no courses on computers are yet offered); consulting and audit services for cooperatives on a fee basis; cooperative funds mobilization, including the inter-cooperative lending fund, and financial assistance for cooperative projects; the Inter-Coop Trade program, which facilitates inter-regional trade between cooperative producers and consumers within the Philippines; and development and research on cooperatives in the Philippines, for special studies and dissemination of information.

In the 1980s, regional inter-cooperative lending funds were established at each of the five centers, which were combined in 1986 into a national fund, managed at NATCCO.

Of NATCCO's six affiliated organizations, the team visited three: VICTO in Cebu City, and SPECC/MASS and CLIMBS, which share an office in Cagayan De Oro, Mindanao.

Visayas Cooperative Development Center (VICTO)

VICTO, the Visayas regional federation, performs business and non-business functions with a membership of 110 cooperative societies; these societies have a combined membership of 150,000 and combined assets of P90.7 million. It was founded in 1971 and has two branch offices in Catarman, Northern Samar, and Bacolod, Negros, as well as its main office in Cebu City.

VICTO offers similar services as NATCCO, namely education and training, auditing, consulting, cooperative central fund system and inter-cooperative trade. Unlike NATCCO, it has on-site training facilities; its paid staff numbers 145, with 85 in Cebu, 40 in N. Samar and 20 in Bacolod. It sees its primary function as training individuals to organize cooperatives and then to increase their capabilities as cooperative members, leaders and managers. It has offered auditing services since 1978 and has nine CPA's on staff; management consulting, mainly to improve internal control, has been offered since 1981. The Visayas Central Fund, established in 1979, now has 50 cooperative members and total assets of P15 million. Loans are approved only to members by a credit committee at a rate of 1% per month. Inter-cooperative trade activities were begun in 1982, and are carried out on a variable commission basis. Some commodity price gathering and distribution is done by phone by the ICT group, to counterparts in Bohol, Iloilo, Negros and Samar, but phone connections are a big problem. A proposal has been made, as yet unfunded, to establish a single-side band (VHF) radio network to link VICTO, NATCCO and the other centers, requiring a ground station and five radio sets.

Southern Philippines Educational Cooperative Center and Mindanao Alliance of Self-Help Societies (SPECC/MASS)

SPECC/MASS has its roots in the early Philippine credit union movement of the 1950s, which led to the founding in 1960 of the Philippine Federation of Credit Cooperatives, Inc. (PFCCI), in Cagayan De Oro. The Federation recognized the need for a separate cooperative education and training group, and after study of many other countries' systems, established the Southern Philippine Educational Cooperative Center. It has been providing cooperative education and training ever since. During some of the longer seminars on cooperative management, the idea emerged in 1971 to set up a life-deposit insurance system, CLIMBS (Credit-Life Mutual Benefit Services Association, Inc.). The Mindanao Alliance of Self-Help Societies (MASS) was founded in 1973 by four cooperative federations and 104 primaries (credit, consumer, service, multi-purpose, and agricultural marketing cooperatives). SPECC and MASS joined in 1984, and now have 105 primary members and 4 federations, and a staff of 30.

SPECC/MASS began an extension service in 1974, operating a printing press in 1974, and auditing and consultancy services in 1976. The Mindanao Central Fund was started in 1978, the first of the regional cooperative inter-lending funds; the fund grew from P50,000 to P4.5 million in 1988, with 60% of its 75 members being credit cooperatives, 25% consumer cooperatives and 15% service and marketing cooperatives. A cooperative research arm was created in 1978. The Inter-Coop Trade program was begun in 1985, mainly for marketing of primary crops such as corn, rice, coffee and copra, with a volume of P2 million in 1987 and

an expected volume of about P5 million in 1988. The idea is that the Central Funds, Inter-Coop Trade and the auditing services would all evolve into separate national services over time. Connected with the ICT program, they have created a VHS radio system with a ground station and eight sub-stations all in Mindanao; this is used mainly to collect and disseminate price and availability information for agricultural commodities. One reason a radio network was set up was the terrible condition of the phone system, particularly in Cagayan De Oro (recognized throughout the country as having the worst phone service).

Credit-Life Mutual Benefit Services Association (CLIMBS)

CLIMBS was adopted in 1980 by the cooperatives affiliated with NATCCO and is promoted by all five Regional Development Centers as well as by its staff and officers. CLIMBS offers nine different services: a life-savings plan, a loan protection plan (life-credit), a cooperative officers protection plan (life), a cooperative employees retirement plan, a cooperative security undertaking plan (bonding), a cooperative crop protection plan (pilot project: only rice and corn, up to 200 hectares/farmer), a cooperative individual members retirement plan, a cooperative hospitalization plan, and a cooperative education plan. CLIMBS has one PC with a 30 megabyte hard disk on which they track member insurance records and maintain a financial ledger (dBase III and Lotus). Originally this computer and the in-house Dbase programmer were to be shared between SPECC/MASS and CLIMBS, but CLIMBS immediate needs resulted in a de facto monopolization of the computer by CLIMBS.

The Cooperative Rural Bankers Association of the Philippines, Inc. (BANGKOOP)

BANGKOOP is a non-stock cooperative association of cooperative rural banks in the Philippines organized and registered with the Bureau of Cooperatives Development. BANGKOOP was established on December 14, 1979 (the first CRB was established in 1974) for the express purpose of providing a uniform expression of the common needs of its members and institutionalizing the cooperative rural banks as a means of promoting the interest and welfare of the rural people. Some of the services it provides are: Promoting appropriate laws, regulations and policies within both private and public sectors; conducting research and development for its members; providing education and training program directors, officers, and key staff employees of CRBs; conducting management consultancy services to its members; and providing liaison with key government officials and agencies.

BANGKOOP is managed by a board of fifteen (15) Directors, (one from each of eleven regions and four at-large) elected by an annual General Assembly. The Board elects the officers from its own members with the exception of the Secretary and the Executive Officer who are appointed by the Board. BANGKOOP's twenty nine member banks are located throughout the eleven regions and on December 31, 1987 held P345.7 in combined assets. One of BANGKOOP's goals is to witness the establishment of a Rural Cooperative Bank in every one of the seventy four (74) provinces in the Philippines.

According to its published financial statements, total resources of BANGKOOP on December 31, 1987, were P45.3 million supported by liabilities of P40.8 million and members' capital of P4.5 million. Included in members' capital is subscribed capital of P1,450,000 (50,000 from each CRB member) of which P741,400 is paid and the balance unpaid. BANGKOOP also has undivided profits of P781,709 (of which P617,775 is the current year's profits) and a surplus reserve of P3,000,000. Also included in these figures are receivables from member banks of P25.3 million representing advances to member banks largely supported by funding from the Central Bank under the CDLF and DAF programs. Essentially

BANGKOOP has also been a conduit of Central Bank funds to its member banks for on-lending to Area Marketing Cooperatives and the Samahang Nayons.

The Cooperative Rural Banks

At present count there are approximately eight hundred forty six (846) Rural Banks located throughout the rural provinces of the Philippines. Of these exactly twenty nine (29) are cooperatively owned and are specifically classified as Cooperative Rural Banks (CRB). Under the law all rural banks, including the CRBs, are registered with and licensed by the Central Bank of the Philippines which regulates the CRBs' activities, performs audits on their records, and keeps statistical records of their performance.

The depositors and borrowers of the CRBs are its cooperative members including primarily the Samahang Nayons and the Area Marketing Cooperatives in the agricultural sector and to a lesser extent some of the non-agricultural cooperatives. According to statistics published by the Central Bank and BANGKOOP, total loans granted by all CRBs during 1987 were P178.6 million broken down as follows:

LOANS GRANTED BY CRBs, 1987

	Amount (million pesos)	Distribution (%)
Agricultural	105.8	59.2
Commercial	31.6	17.7
Industrial	11.7	6.6
Other	29.5	16.5
Total	178.6	100.0

Other selected relevant information regarding the combined activities of the CRBs at December 31,1987:

	(million pesos)
Total Resources	345.7
Total Liabilities	256.3
Total Capital	89.4
Gross Income	43.6
Net Income	6.9
Total Loans Outstanding	301.4
Current Loans	174.1
Past Due Loans	127.3
Return in Assets (%)	2.0
Return on Net Worth (%)	7.8
Past Due Ratio (%)	42.2
Debt to Equity Ratio (%)	2.9

CRBs are funded by member share deposits and savings deposits. Only one bank of those visited by this team offered check clearing services (Davao City CRB) to its members. CRBs are also recipients of funds from BANGKOOP and use re-discount facilities with the Central Bank. Certain government programs are also funded through the Central Bank and the Land Bank of the Philippines. These programs include guaranty arrangements as well as direct funding. BANGKOOP is also employed to channel some of these programs to the CRBs. As demonstrated by the past due loan ratio shown above the CRBs' greatest problems are in the quality of their loan portfolios, particularly in the agricultural sector with the Samahang Nayons and the Area Marketing Cooperatives which are the CRBs' principal market in the rural areas. These problems are discussed in the sections on findings and recommendations.

Although none of the CRBs are currently computerized, the United Nations' Food and Agriculture Organization (FAO) is preparing a software and training program through the Central Bank for rural banks which would include CRBs. A pilot project in the CRB in Bulacan is already underway, with savings and loans computerized. A general ledger and basic accounting system is under development, to be installed and tested by the end of this year. The CRBs are to be the first recipients of the entire package, with training at the Central Bank Institute (CBI). How the CRBs are to acquire the necessary hardware, basically a PC with a hard disk and a printer, is not yet clear. Hardware for the pilot project was donated by FAO. Both the Supervision and Examination Services Division and Human Resources Division (HRD, of which CBI is a part) of the Central Bank will be providing support for the program. System design will be done by FAO programmers Ralph Houtman and Alan Kaplan, but additional programming will also be done by CB staff. The pilot program was compiled with the Foxbase software program but future development may be in dBase III Plus or dBase IV. These programs are compatible so it is not a problem to mix them. The programs can be locally modified by each bank as needed as well. CRBs were chosen to be the first rural banks to be computerized because they are larger and are cooperative. There are no plans yet to include a communications aspect to the program, although it may be added in a year or two, once the banks become accustomed to using computers.

Philippine Federation of Credit Cooperatives, Inc. (PFCCI)

PFCCI was originally organized as the Philippine Credit Union League (PHILCUL) on October 16, 1960 and was affiliated with the international organization, Credit Unions National Alliance (CUNA) a few months later. In 1980, PHILCUL became PFCCI at which time new Articles of Incorporation and By-Laws were adopted. From that period forward, it has served its membership under that name.

PFCCI's membership consists of 83 full "participating" Credit Cooperatives (Credit Unions) and another approximate 500 "associate" members identified as credit unions to be "upgraded" before being eligible for full membership. There is no apparent common denominator (i.e., social, religious, vocational, industrial, etc.) among the various credit unions themselves; member credit unions are organized along Parish, worker, industrial, market, or community lines. PFCCI provides three primary services to its members: management assistance, training, non-interest loans for financial assistance, and interlending for liquidity purposes. At present PFCCI appears to regard upgrading the associate credit unions as its highest priority.

PFCCI's published financial statements as of December 31, 1987 reflected total resources of P309,668, liabilities of P300,265, and capital of P9,402. Separate financial statements of

PFCC I's Central Finance Facility (the inter-lending fund) at December 31,1987 showed total resources of P2,109,968 (including P1,605,214 of loans receivable) funded by share capital of P1,457,012, reserve funds of P89,588, and grants from ACCU and CUNA of P144,215 and P1894 respectively. Net savings for the year ended in 1987 were P228.

Samahang Nayon

On July 9, 1973, Letter of Implementation No. 23 was issued by the President which set forth the regulations for implementing the decree on Strengthening the Cooperative Movement. In all, 65 separate regulations were contained in this instruction including provisions for establishing Samahang Nayons, Cooperative Rural Banks and other forms of cooperative institutions. Samahang Nayons were conceived as barrio level farmer associations in order to avoid lengthy registration procedures required of cooperatives because the government felt an urgency to organize SNs throughout the country as quickly as possible. Once SNs had completed their initial development phase they were permitted to federate and using a portion of their accumulated capital to form Area Marketing Cooperatives and Cooperative Rural Banks. The SN/AMC/CRB system became the model for cooperative development in the agricultural sector.

Initially, SN business activity was restricted to the distribution of farm inputs and assembling produce for marketing. Marketing activities were reserved for Area Marketing Cooperatives. More recently, however, several SNs known as Business SNs have been given permission to involve themselves in the full range of business activity.

By 1975 17,193 SNs had been registered throughout the country with a registered membership of 640,000 farmers and combined savings of P32 million. As of 1988, however, BACOD estimates that only 4,800 SNs remain active of which 600 have business activities.

Area Marketing Cooperatives

AMCs are federations of Samahang Nayons and do not serve any other class of membership. Their purpose is to market the produce of their membership, though most are organized around input supply, rice processing and marketing activities. At their peak there were as many as 75 registered AMCs. At present, there are only 35 functioning AMCs and many of these are marginal operations.

Cooperative Marketing System of the Philippines, Inc. (CMSP)

CMSP, organized by AMCs in 1975 as a national cooperative to procure farm inputs for Samahang Nayons and market their produce had an authorized capital structure of P25 million, with initial paid-up capital P1.2 million, and assets of P44 million. During the period 1975-1980, CMSP had accumulated marketing sales of P92 million and P15 million in farm inputs. CMSP, which had received a P27.5 million line of credit from CDLF, ran into financial difficulties when it tried to subsidize the viability of the Metro Manila Consumers Cooperative (MMCC), otherwise known as the Super Palengke, which later failed. This failure, unfortunately, came at the expense of CMSP's AMC members many of which rejected CMSP's management policies which they felt were biased toward consumer interests. The subsequent unwillingness of AMCs to support CMSP led to its effective collapse in the early 1980s.

BACOD is now considering two options with respect to support for cooperative marketing structures:

(1) Revitalization of the Cooperative Marketing System of the Philippines (CMSP) which is still existing but not operational. This would need restructuring and opening the gates of its membership to other secondary and regional cooperatives.

(2) The other option is to organize a new national cooperative marketing federation whose membership will be open to regional cooperatives and other secondary cooperatives where regional cooperatives do not now exist.

The functions of such apex marketing cooperative shall be the following:

- warehousing and transportation;
- production or importation and distribution of fertilizers, pesticides and other inputs;
- agri-processing;
- marketing, imports and exports;
- market information and promotion;
- research, planning, consultancy and development;
- education and training in coordination and cooperation with the Cooperative Union of the Philippines (CUP);
- other activities as needed.

National Market Vendors Cooperatives Service Federation, Inc. (NAMVESCO)

NAMVESCO was organized in 1979 and was registered on August 29,1979. The federation was formed solely for Market Vendor Cooperatives to serve the various needs of the market vendors. It's stated mission is to institutionalize Market Vendor Cooperatives throughout the country by providing technical and management assistance and by providing linkages with other appropriate structures within the cooperative movement and other related sectors of the national economy. Among the services provided by NAMVESCO to its members include acceleration of the formation of additional market vendor cooperatives throughout the country and the continuous conduct of training and education programs concerning membership responsibility and job skills in the credit cooperatives.

A market vendor cooperative is a credit cooperative capitalized by the individual shares of market vendor members. The cooperative grants loans to members on the basis of the equity of their deposit at interest rates lower than currently offered by commercial banks. A market vendor is normally eligible to borrow up to two (2) to three (3) times his or her Fixed Deposit. At the end of the year the member receives interest on invested share capital, a patronage refund and rebates which effectively lower the cost of any borrowed funds. These cooperatives were initially organized to extricate members from dependance on existing "informal" lending arrangements with private usurious moneylenders known as "5/6

money lenders." That name graphically describes the terms of payment in such arrangements, i.e, borrow five pesos and pay back six at the end of one month producing an effective borrowing interest of two hundred forty per cent (240%) annually. The "5/6 money lender" is, regrettably, a familiar figure among many parts of the Philippines, most predominately in the poor and rural areas unable to access conventional borrowing arrangements.

More recently NAMVESCO is providing some additional services to its members including appliance and other large item procurement using the improved purchasing power of the cooperative to obtain better prices on such purchases. NAMVESCO is also now managing an interlending program among its affiliates within which the cooperatives contribute to an interlending fund of which they can avail themselves for liquidity purposes in amounts up to twice their contributions.

At present NAMVESCO has approximately 44 member organizations which in turn had a total of 12,136 individual members. At the end of 1987, the cooperative members had total assets of P133,768,428, and total deposits (fixed and saving) of P98,392,694. All member cooperatives combined had a total of 214 employees.

Cooperative Insurance System of the Philippines (CISP)

CISP is the youngest of the 24 life insurance companies in the Philippines, founded in 1974. It began by selling group term life insurance to Samahang Nayons and other agricultural cooperatives. It later added other policies including group loan payment protection, and credit-life policies (mortgage and savings). It has 257 cooperatives as members, with about 57,143 individuals insured, and about P1 billion of insurance currently in force. CISP's objectives are to provide low-cost insurance with social content, to build a strong financial base for the cooperative movement, to promote savings and self-help programs and to serve as a medium for spreading the cooperative ideology.

CISP recently formed a new tie with the Trade Union Congress of the Philippines, a labor union with 1,900,000 members and two representatives on CISP's board. CISP also recently bid to be the contractor for mortgage redemption insurance, under the Land Bank-financed CARP land transfers, which would represent a significant increase in new business. In connection with these two developments, CISP has plans to purchase and implement an extensive new computer system that would process data for both the main Manila office and incorporate data from the regional offices.

CISP had P13 million in paid-up capital as of September 1988. It also has an outstanding loan of P3 million from the CALF, through ACPC; some of this was recently converted to equity, giving the government two ex-officio seats on the board. CISP has a P360,000 time deposit at BANGKOOP, P40,000 at nine CRBs paying 9%; these in turn insure all their members and borrowers under CISP's credit-life plan. Some loans are also made to policy owners against (but not exceeding) the value of their policy, at generally below market rates with a fairly good repayment rate.

The Federation of Electric Cooperatives of the Philippines (FECOPHIL)

FECOPHIL is the service organization of the country's 118 electric cooperatives and was organized in 1979 to protect the interests of its member cooperatives. Philippine rural areas

are entirely served by electric cooperatives; the major urban areas are separately served by ten (10) private companies. Both the cooperatives and the private companies are regulated by the National Electrification Administration (NEA). In 1969, there was virtually no rural electrical program in the Philippines. Only 18% of the population received electricity. Investor-owned utilities were reluctant to extend service to rural areas because of expected low returns. As of June 30, 1983, according to published figures the electric cooperatives were serving 1,255 municipalities/towns constituting 93% of the total area to be served, and house connections were 49% of those that can be served. Among the top rated electric cooperatives, the highest percentage of house connections was 99.0% and the lowest was 71.32%. Electric cooperatives (and the private companies) transmit electric energy purchased from the government-owned National Power Corporation (NPC). NPC is the wholesaler and the cooperatives are the retailers of energy supply to the rural areas.

FECOPHIL is governed similar to other federations in the Philippines. Management rests with the Board of Directors elected by an annual general assembly of its members. The Board appoints a General Manager. Under the direction of the General Manager, FECOPHIL administers a mutual protection fund for its members, conducts training in certain on-the-job skills, maintains liaison with appropriate government and private sector organizations, assists members with collection problems, provides management services to members, and assists with material procurement and repair. FECOPHIL also operates an inter-cooperative lending of critical materials to assist members in maintaining continuous service in their areas.

Other Primary Cooperatives

About 3,161 other primary cooperatives are also registered under PD 175:

Credit Cooperatives:

1,592 credit cooperatives exist in the Philippines, by far the most numerous kind of cooperative. They belong to CUP, PFCCI, NATCCO and its regional centers, NAMVESCO, CISP, as well as other regional and national cooperative organizations. Their role in mobilizing member savings make the credit cooperatives the greatest source of liquidity in the cooperative system, some of which is tapped through NATCCO's national and regional Cooperative Inter-Lending Funds.

Consumer Cooperatives:

There are over 853 consumer cooperatives in the Philippines which sell consumer goods, primarily groceries (fresh, processed and dry goods) and appliances.

Agricultural Marketing Cooperatives:

There are about 294 marketing cooperatives which market and sometimes process agricultural products. Some of these cooperatives are FACOMAs, Farmers Cooperative Marketing Associations, at the primary level, and AMCs, Area Marketing Cooperatives at the secondary level.

Producers Cooperatives:

There are about 218 producer cooperatives, which are mainly worker cooperatives

producing some kind of manufactured goods. The team visited two cooperatives of this kind that made rattan furniture, in Bacolod and Cebu.

Service Cooperatives:

There are about 194 service cooperatives in the Philippines which provide services such as insurance.

Housing cooperatives:

There are only about 10 housing cooperatives

Multi-purpose cooperatives:

Many of the people contacted commented on the increasing number of multi-purpose cooperatives, usually arising when an established cooperative diversifies the services it provides to its members, such as a marketing cooperative also running a consumer store.

C. Government Agencies and Programs

Bureau of Agricultural Cooperative Development (BACOD)

Although cooperatives have been under the aegis of numerous government agencies and bureaus since they were first legally established in 1906, PD 1 in 1973 established the Bureau of Cooperatives Development (BCOD) within the Department of Agriculture and PD 175 of that same year gave BCOD the responsibility to "foster the creation and growth of cooperatives as a means of increasing income and purchasing power of the low-income sector of the population in order to attain a more equitable distribution of income and wealth." Although its name has recently been changed to the Bureau of Agricultural Cooperatives Development (BACOD) and it has been undergoing some reorganization and reduction in staff, its primary functions have not changed much. Its functions according to EO 116 are as follows:

1. Formulate an integrated system for development and evaluation of agricultural cooperatives;

2. Provide assistance in the establishment of agricultural cooperatives in the rural communities;

3. Evolve a program to promote the economic viability of agricultural cooperatives.

BACOD is, of course, also committed to carrying out Department of Agriculture basic policies which are:

1. On Farmer Development: To attain and sustain an increase in the real income of farmers and the farming sector.

2. On Institutional Development: To promote a more equitable distribution of income from agricultural production and agri-business by fostering institutional changes in the rural sector through:

   * Agrarian Reform;

   * The promotion and support of the privately initiated farmers' organizations as instruments for the enhancement of productivity and growth in farm income.

Central Bank of the Philippines (CB)

The Central Bank has been involved with cooperatives over the years primarily because of its responsibility to regulate and examine banks of all sorts, including Cooperative Rural Banks. The examination of CRBs is the responsibility of the Department for Rural Banks and Savings and Loan Associations (DRBSLA).

From 1978 to 1983, CB/DRBSLA was involved in the administration of the Cooperative Marketing Project with a $6 million loan from USAID and a $6.7 million equivalent counterpart funding from government. One objective of this project was to make long-term facilities loans and short-term marketing loans to Area Marketing Cooperatives and Business Samahang Nayons. During the course of the project a total of 16 loans (14 to AMCs) amounting to P20.2 million ($3 million) were extended. Within DRBSLA, a Cooperative

Finance Group (CFG) was established to analyze and recommend approval of loan applications. This group managed to acquire considerable expertise in the evaluation and monitoring of cooperative loans. At the close of the project, repayment performance was running at 90 percent. After the end of the AID project in 1983, CFG continued to be responsible for the maintenance of the loan portfolio and supervision of the program, but the level of activity slowed considerably and certain personnel were reassigned to other duties. As of September 13, 1988, there were 31 long-term loans on the books under the CMP for a total loan value of P22,036,000 of which P3,507,680 has been repaid leaving an outstanding balance of P18,528,320. Short-term loans of P27,098,000 have been made to date with a current outstanding balance of P8,186,743. Approximately P5.5 million is currently classified as being in arrears.

The CMP fund has been recently transferred to the Comprehensive Agricultural Loan Fund (discussed below) along with the Cooperative Development Loan Fund (CDLF). The CMP fund at present stands at P79 million the sources and uses of which are as follows:

			P million	
Sources:	Loan Funds	USAID	39	
		GOP	11	
		Total	50	50
	Guarantee Funds:	USAID	15	
		Borrowers	3	
		Total	18	18
	Earnings		11	11
	Total Sources			79
Uses:	Loans		26	
	Investments		6	
	Securities		18	
	Idle		29	
	Total Uses		79	79

Two policies of the Central Bank are of special relevance to the subject of this study. There is a policy to register no new banks during a moratorium period of unspecified duration. The second is a policy to go slow on debt conversion projects. There are reportedly 500 applications outstanding for debt/equity swaps.

Land Bank of the Philippines (LBP)

Enactment of the Agricultural Land Reform Code (R.A. 3844) in 1963 established the Land Bank along with the Land Authority and other administrative units for the implementation of land reform. For most of its history, the Land Bank has loaned primarily to farmers. Currently, LBP is planning to assume a critical role in the implementation of the Comprehensive Agrarian Reform Program. Its programs will still be intended primarily to improve farm productivity or to acquire post harvest facilities. Now, however, LBP intends

to direct most of its loans through various institutions like cooperatives, farmer groups, cooperative rural banks and rural banks. The strategy is to change the mode of delivery from one which is highly retail to one which is primarily wholesale.

The following types of loans are being made to cooperatives: agricultural production loans; commodity loans (secured by produce in bonded warehouse); operating capital loans; agricultural facility (fixed asset) loans; agri-industrial loans. All loans to institutions are being made at 12%. Loans to individuals are at 15%. There is also a re-discounting program for rural banks at 12% for approved agricultural loans which has been in effect since about the middle of 1988. To date, 87 rural banks have been accredited for this program of which about 15 are CRBs and about P15 million has been availed under the program.

The shift in policy is evident from the loan portfolio statistics. During 1987, Land Bank closed loans valued at P107 million of which P104 million were made directly to farmers and P3 million to cooperatives. Estimates for 1988 are that P300 million in loans will be closed of which P130 million will be made to farmers, P50 million will be made under the rediscount program, and P80 million will be made to cooperatives.

At present, Land Bank's capitalization stands at about P4 billion. Also, LBP holds about one-third of the capitalization of all CRBs in the form of P1 million investments in each of 28 CRBs. It is currently in the process of subscribing an additional P15 million investment in selected CRBs based on capital need as agreed among the CRBs.

Land Bank is not in favor of the establishment of a National Cooperative Bank because they believe the number of banks should not be increased, existing banks can satisfy the need, and special purpose banks are a dubious proposition. Furthermore, Land Bank itself intends to serve the needs and provide the services identified for the NBC.

Consolidated Agricultural Loan Fund (CALF)

This is a program administered by the Central Bank Treasury Department which has acquired resources by taking over the assets of the CDLF and CMP and from some 20 other funds.

As of July 4, 1988, the total CALF balance amounted to approximately P1.3 billion, of which P110.7 million or 8.6 percent is in cash. P557.3 million was transferred by the Central Bank and the Department of Agriculture to the CB Treasury Department.

The central thrust of CALF is to guarantee agricultural loans undertaken by commercial banks. We were unable to learn how many or what amount of loans have been guaranteed to date but we were told that so far the program has not proved to be popular with the banks. It guarantees only 85% of the principal. The banks want 100% of principal and interest. In general, the commercial banks regard any loan under P100,000 as unprofitable and regard agricultural loans as very high risk.

Quedan Guaranty Fund Board (QGFB)

The Quedan Guaranty Fund was established by LOI 696 in 1979 for the purpose of guaranteeing loans secured by palay (paddy rice) or other agricultural commodities stored in approved bonded warehouses. The National Food Authority is responsible for franchising warehouses for the program. To date only about 500 warehouses of an estimated 6,000 in-

country have been approved. A farmer, to avail himself of the program, delivers his commodity to the bonded warehouse where he receives a receipt (quedan) which is a negotiable instrument that specifies the commodity in storage and estimates its current market price at the time placed in storage. With quedan in hand the farmer may proceed to an accredited bank where he may take a loan using the quedan as security up to 80% of face value. Such loans tend to bear an interest rate about 2% below average market rate. QGFB estimates that farmers who store their palay rather than selling at harvest can receive prices that are 10% higher after two months and 20% higher after four months. The loan is guaranteed by the QGFB and the note may be re-discounted by the Central Bank, funds permitting. QGFB is a quasi-governmental corporation attached to the Department of Agriculture.

The fund began with an authorization of P95 million in 1979 and has grown to P180 million at present through earnings. Defaults on guaranteed loans have amounted to less than 1%. The guaranty fund is modestly leveraged with guarantees limited to P600 million. Warehouse space, number of accredited banks and availability of re-discount funds at Central Bank are limiting factors. There are currently 168 banks participating in the program of which 95 are Rural Banks and among these are five or six Cooperative Rural Banks.

QGFB estimates that only 1% of the total rice crop is covered by its program. To expand the program QGFB believes high priority ought to be placed on making more warehouse space available. It is estimated that the 600 warehouses operated by the National Food Authority (NFA) with a capacity of 33 million cavans (1 cavan = 40 kilograms) are less then one-third filled since NFA procures only about 10 million cavans per year. The annual rice crop is about 180 million cavans.

Comprehensive Agrarian Reform Program (CARP)

Established under the Comprehensive Agrarian Reform Law, Republic Act No. 6657, CARP is a far reaching land reform project. One objective of CARP is to organize beneficiaries of agrarian reform into cooperatives in order to pool their resources to better manage the land and enterprises they acquire and to make available to them the many support systems and government programs accessible by cooperatives.

CARP is coordinated by the Presidential Agrarian Reform Council (PARC) presided over by the President herself. In addition to the National Economic Development Authority (NEDA), the following departments are represented on PARC: Agrarian Reform (DAR); Agriculture (DA); Environment and Natural Resources (DENR); Budget and Management (DBM); Finance (DOF); Labor and Employment (DOLE); Local Governments (DLG); Public Works and Highways (DPWH); Trade and Industry (DTI); the Land Bank of the Philippines (LBP); and the National Irrigation Administration (NIA). In the provinces, there are Provincial Agrarian Reform Coordinating Committees (PARCCOMs) presided over by the governors.

V. FINDINGS

A. Banking and Finance

1. Visits and interviews with several of the cooperative federations revealed a fairly extensive incidence of well organized financial intermediaries within the cooperative movement in the Philippines. Prime examples of cooperative financial intermediaries channeling funds from capital surplus areas to capital deficit areas are the National Confederation of Cooperatives, Inc. (NATCCO), Visayas Cooperative Training Center, Inc. (VICTO) and the National Market Vendors Cooperative Services Federations, Inc., (NAMVESCO). In addition to these examples there are other organizations which were not visited by the team. From every appearance, these cooperative institutions were functioning as effective intermediaries among their member cooperatives. They extend credit to their cooperative members which in turn extend credit to their members or invest in productive capacity. The organizations mentioned and others not visited by the team are manifestly successful, effective and have good management. The negative comment is that the Philippine cooperative movement consists of a somewhat disorganized quilt work pattern of successful cooperative financing intermediaries in certain geographical regions while in other areas, similar activity is either ineffective or nonexistent. It would appear to an outside observer that the Philippine cooperative movement as a whole has not been able to maximize the efficiency of this activity and to capitalize on its successes to improve the overall mobilization and distribution of funds among cooperatives. For one thing, most inter-cooperative lending is among cooperatives of a similar kind. Credit unions lend to credit unions. Electric cooperatives lend to electric cooperatives and so on. This tends to reduce the opportunities for offsetting seasonal demands for capital. For another thing, little of the excess liquidity in the cooperative sector is moving into agriculture. This is because cooperatives with liquidity have few agricultural members and no expertise in agricultural lending. A properly managed national cooperative bank would be a potential candidate to address this problem.

2. The team visited approximately 30 cooperative organizations in the Philippines over a three week plus period including not only primary cooperatives but also federations. In each of these interviews, every cooperative organization, primary or federation, was asked if it favored establishment of a national cooperative bank. Among all these cooperative organizations interviewed, the vast majority expressed strong support for the establishment of such a bank. The Supreme Cooperative Council of the Philippines (SCCP) and the Cooperative Union of the Philippines (CUP) are leading the movement to establish such a bank.

   Enabling legislation for the National Cooperative Bank is now pending before both houses. It is contained in what is known as the Omnibus Cooperative Code (SB 513 and HB 13029). This bill also contains provisions relating to tax treatment of cooperatives, agrarian reform beneficiaries cooperatives, credit unions, and other cooperative issues.

   This proposed legislation calls for the establishment of one National Cooperative Bank with authorized capital of P100 million (compared to P500 million for commercial banks). It would also permit the establishment of regional cooperative banks with

The Supreme Cooperative Council of the Philippines believes that some version of this legislation is likely to pass by Christmas because of the interest in the provisions relating to agrarian reform cooperatives. The House has placed this legislation on its top ten priority list.

The initial (legally required) capitalization for the bank, once the enabling legislation authorizes its establishment, would be twenty million pesos of which a minimum of 25% must be subscribed and a minimum of 20% must be paid in. The organizers' goal is to raise 10,000 pesos each from 2,000 cooperative organizations throughout the Philippines thereby equaling 20,000,000 pesos (U.S. $1,000,000) or the minimum required paid-in subscriptions to establish the bank. Our observations and interviews during our visit to the Philippines gave evidence to both strong cooperative and legislative support for establishment of this bank.

Current strategy is to first organize a cooperative financial intermediary which would be called the "Central Cooperative Finance Development, Inc. (CCFDI)" since this can be accomplished with a much lower initial capital investment. This would allow operations to begin while further organization and registration procedures were under way. It appears that this will become a reality some time in early 1989.

Notwithstanding the strong support for the establishment of a national cooperative bank of cooperatives, the interviews did not reveal any commonly held concepts as to exactly the role to be played by the bank once established. There were in fact concerns among some of the cooperative organizations as to the degree and nature in which the bank would work with the various cooperative organizations. The organizers of the bank have clearly indicated that the contemplated national cooperative bank would be a "bankers bank" functioning as an intermediary between existing cooperative financial intermediaries and also play a leadership role as a national spokesman for the financial needs of the cooperative movement. It is not expected to compete with existing cooperative financial intermediaries or banks.

3. The Bureau of Agricultural Cooperatives Development favors the establishment of a National Cooperative Bank. The Director of BACOD had this to say on the subject in a recent memo:

> In the financial field, the desired goal is the establishment of a National Cooperative Bank whose membership shall be open to all types of cooperatives. This will, however, require enabling legislation.

When this is possible, one option is for the apex bank to establish regional branches. The National Cooperative Bank shall undertake the following activities:

- current accounts
- savings and deposits
- re-discounting
- inter-lending
- loans (short-, medium-, and long-term)
- foreign exchange
- floatation of debentures with appropriate guarantee
- international funding
- education and training in cooperation and coordination with CUP and RCUs.

Cooperative Financing Intermediary: In the meantime, however, that it is not possible to organize a National Cooperative Bank, an interim system can be established. This is the organization of a Cooperative Financing Intermediary.

The CFI is like an oversized credit cooperative operating on a national level whose membership comes from all types of cooperatives which would need the services of a national financing organization.

4. Land Bank of the Philippines was the only organization visited which expressed opposition to the concept of a national cooperative bank. LBP believes that no new banks, especially highly specialized banks, should be formed. LBP also believes that the expressed mission of the proposed bank overlaps its own mission and is understandably wary of such a development.

   The team has taken note of the recent shift in policy by LBP to become more of a wholesale lender by working through established institutions and its renewed dedication to support the agricultural sector. However, our view is that the scope of potential investment opportunities is adequate to absorb the best efforts of LBP and a national cooperative bank combined. These operations ought to be viewed as complementary rather than competing. Furthermore, a privately owned and operated bank for cooperatives can provide some measure of security against future shifts in government policy.

5. Visits with a few of the major Philippine commercial banks revealed a surprising lack of familiarity among these bankers with the cooperative organizations in the Philippines. The commercial banks could not identify any significant cooperative organizations among their customers, borrowers or depositors. Specific bankers within these commercial banks involved with agricultural lending were simply not familiar with the cooperative structure in the Philippines, its major organizational elements and the issues that currently confront the cooperative movement. The commercial banks have expressed interest in being more effective with credit delivery systems in the rural areas of the Philippines but currently believe that their existing structure does not render them the ability to effectively extend credit in these areas in an economically viable fashion. If existing commercial banks were to be relied upon to serve a more effective role in providing agricultural and rural credit in the Philippines, it seems obvious to these observers that a substantial educational process would be required of these banks.

6. There are fundamental problems in rural credit delivery performed by cooperative rural banks (CRBs) throughout the various regions in the Philippines. In some of the CRBs visited, loan delinquencies ran as high as 40% in loans extended to the Samahang Nayons (SN) and the Area Marketing Cooperatives (AMC). These crippling delinquencies in turn severely inhibit the capacity of the CRBs to provide essential credit to AMCs which in turn would enable the AMCs to purchase members' production with immediate cash (a necessity to most of these farmers) and also to enable the AMCs to establish crucial storage and processing facilities necessary to provide better market prices to their member farmers. In the absence of all this, the farmers, not receiving these crucial services from their own marketing cooperatives, in turn become captives of prices paid by independent traders who take full advantage of the abundance of crop at the harvest. In summary, neither the CRB nor the AMCs

are adequately serving their members because of the capital and funding problems created by the high delinquency ratios.

One AMC visited by the team had received a rice mill rehabilitation loan under the Cooperative Marketing Project. That loan is currently in arrears. Apparently, the Cooperative Finance Group of the Central Bank relied upon two key assumptions in making the loan which failed to hold up: (1) that a significant portion of the output of the AMC rice mill would be purchased by NFA; and, (2) that the AMC would continue to receive short-term marketing loans for the purchase of member paddy rice. The team heard conflicting versions of why NFA failed to purchase the volume of rice originally envisaged, but the most likely reason is simply that NFA policy responds to a much broader set of concerns than the welfare of a handful of AMCs. In any case, it points up the inherent danger in relying on government programs as opposed to established commercial channels when evaluating the market potential of proposed investment projects. The lack of short-term marketing loans is both more clear and more puzzling. The proximate cause is that the local CRB has a delinquency rate among all of its borrowers which disqualifies it for participation in the program which would allow it to supply the needed marketing loans to the AMC. The puzzling part is that the CFG at the Central Bank has apparently taken no extraordinary measures to protect its long-term rice mill loan.

Quite interestingly, however, CRBs in other regions confronted with precisely the same kinds of problems have much lower delinquency ratios (5% to 10%) and operate very efficiently. The principal distinction between two such CRBs would seem to be in the management and management attitudes of the particular CRBs. In many instances throughout the Philippine cooperative movement, managers of financial intermediaries are more sociologically oriented than business oriented when addressing the needs of their members. While empathy with the financial and social problems of their members can be an understandable and even laudable characteristic, the existence of such sentiment in lieu of sound business judgments usually leads to business failures which are a disservice to the members and everyone else concerned. There is a distinct need among Philippine cooperatives for better selection and training of business managers in cooperatives and their financial institutions where crucial economic activity is involved.

7. Interviews with a major multinational bank branch in Manila revealed the current fact that debt equity swaps originally authorized by the Central Bank just over one year ago are currently inoperative because of increasingly difficult qualifications required for such swaps by the Philippine Central Bank. The Central Bank is apprehensive about an uncontrolled and rapid increase in money supply accompanied by increases in both the inflation and interest rates. Consequently, private sector as well as public sector organizations with debts owing to external lenders denominated in external currencies must make full settlement with the Central Bank of the peso equivalent of such debt before being cleared for a potential swap arrangement with interested investors. Such qualifications are difficult to impossible for both private sector and public organizations to satisfy and therefore this activity has ground to a halt. Furthermore, the concept of debt donation by external lenders wherein tax credits would effectively make such an activity economically acceptable to external lenders is also virtually inoperative currently because of current negotiations by external commercial lenders with Philippine monetary authorities concerning re-negotiation of existing commercial bank credit to Philippine borrowers. External

commercial banks do not want to give "the wrong signal" to the Philippine Government about their expectations of re-payment of this debt and it is feared that donating debt to qualified appropriate organizations in the Philippines would give such an erroneous signal to the Philippine government. The current elimination of possible debt equity swaps and debt donation arrangements removes for the time being the potential for a private voluntary organization to develop this source of funding for some of the needed infrastructure projects; i.e., storage and processing facilities, badly needed by Philippine ag business and agricultural cooperatives.

B. Trade

1. There is a large and growing market for non-traditional exports such as Philippine handicrafts. Philippine handicrafts for export include such products as: a) rattan furniture, b) marble artifacts and statues, c) children's toys, d) ready-to-wear apparel. Philippine cooperatives, particularly worker-owned cooperatives, are strongly involved in many of these areas. In some instances cooperatives are involved in arranging export of these items but the vast majority of cooperatives involved are dealing with export traders. There is a growing market for many of these items in overseas markets. Technical assistance for cooperatives in developing exporting marketing organizations would be very useful. The team interviewed the Philippine representative of an international organization known as Cooptrade which was started in Bangkok in 1978 by the International Labor Organization (ILO). Cooptrade is now managed by the International Cooperative Alliance (ICA) and attempts to promote international cooperative trade. The Philippine representative to the permanent committee which makes up Cooptrade is working on several projects concerning cooperative trade in the Philippines. Specifically, four cooperatives are involved in the export of rattan furniture, eight cooperatives are involved in exporting seaweeds, one cooperative exports marble artifacts and three cooperatives are involved in the export of ramie fibers. Other Philippine products being investigated for cooperative export include tropical fruits, cashew nuts and prawns.

2. Prawn production has been identified as the most rapidly growing non-traditional export industry in the Philippines. A rural electrical cooperative in Bacolod informed the team that their power requirements had increased 25% in one year because of the increased power demands of new prawn farms in that area. Both the Philippines and Thailand have recently replaced Taiwan as a major supplier of prawns to the Japanese market. This development provides many opportunities for cooperatives in supporting industries relevant to prawn production though probably not in prawn production itself. Prawn farms are very capital intensive requiring construction of the ponds themselves as well as the equipment to drain and refill the ponds and to provide proper oxygen and other environmental conditions to the ponds while the prawns are growing. Moreover this production cycle is highly vulnerable to slight variations in technical processes which can destroy an entire harvest and to diseases that can also effect an entire pond. The combination of large capital requirements and business risk are not conducive to cooperative funded and managed activity. Cooperatives do, however, have potential business opportunities in hatcheries, feed mills, processing and exporting. Worker cooperatives have a definite opportunity in any of the aforementioned activities but it is not apparent during our visit that the cooperatives are moving with any decisive speed in filling these essential needs in this growing industry.

3. None of the cooperative institutions interviewed were aware of any readily accessible source for daily market data for commodities or products of interest to cooperatives. However, there was near unanimity that such a service is needed and would be used. Several mentioned that the Cooperative Marketing System of the Philippines would be a logical place to operate a clearinghouse for market data were it not in receivership. Alternatively, the Cooperative Union of the Philippines is considering a proposal before its board to establish a "National Cooperatives Marketing Secretariat" which would be a non-business unit of CUP which would strengthen the marketing capabilities of productive cooperatives by providing market information, technical assistance and other support services. Another possible alternative is NAMVESCO which has expressed an interest in becoming "the marketing arm for agricultural and producer cooperatives." It is clear that unless CMSP is rejuvenated and drastically overhauled, there will be a major vacuum in the cooperative sector with respect to marketing support. No progress can be achieved with respect to market information systems until the underlying institutional questions are answered.

   In the past, CMSP has tried to organize a market information system based on radio communication. These efforts met with only limited success. This program undoubtedly contains lessons for any computerized system that might be proposed.

   As mentioned earlier in the discussion of CMSP, that organization failed to some extent because agricultural producers came to believe it was not working in their best interests. Clearly, any marketing organization must identify producers as its primary constituency and work diligently on their behalf if it is to succeed.

C. Management and Training

1. Virtually every cooperative institution the team visited prepares annual budgets, prepares monthly financial statements which are reviewed by the board, uses standard accounting systems, has qualified accountants on staff, is regularly audited and in general has good accounting and control systems. This means that the task of designing and implementing standard accounting systems within cooperative types should be a relatively straight forward exercise, though conversion to computerized systems from manual ones is never without its costs.

2. Management skills in finance and marketing appear to be somewhat less universally good. Some managers when faced with the unavailability of government soft loan programs and guaranteed markets were able to find ways to make a profit at market rates using alternative marketing channels. Others seemed to be stymied. To be fair, some businesses are inherently more difficult, such as rice marketing, due to exogenous factors and managerial skills have been severely tested. Still there seems to be quite a variation in managerial ability among institutions at the provincial level and below.

3. In general, cooperative training is widely available. Courses are offered by many organizations, including NATCCO and affiliates, CUP, CFPI, as well as basic pre-membership seminars offered by most cooperatives themselves. An impressive amount of attention has been given to training here.

4. No training specifically on computers is given as of yet. A few organizations (CFPI, NATCCO, VICTO) expressed a desire to provide such courses in the future, but all

felt they needed to train those in their own organizations first. Although computer training is available from commercial schools (one price was quoted at P50 or $2.50/hour), courses specifically for cooperative staff, that focussed more on the needs and uses of cooperatives, would be valuable. Courses already given in cooperative accounting could add a component on computerizing accounting systems. Courses on cooperative management could include use of computer management tools, such as performance reports. Given that some cooperatives are already computerized, and others would like to be, the need to incorporate computers into basic cooperative curriculum will become more necessary.

CFPI is closest to being able to offer computer courses, in terms of having both full-time trainers and competent computer staff. They are gaining experience with a two-month course given for their own staff to increase computer literacy, beginning this fall.

The Central Bank Institute, as part of the FAO project to computerize rural banks, will be training staff from CRBs to use the standardized bank accounting software the FAO has developed. Widespread training will not begin for at least six months, since the pilot project has just begun in Bulacan, with the first two modules. The remainder of the program is still being developed and will need to be tested and revised before training and distribution for all CRBs.

NATCCO is sending its auditors to be trained on computers so that they can audit computerized cooperatives.

5. One of the ideas being explored in this study is the potential usefulness of computer based training, i.e. training which uses the computer as an interactive medium. Reception for this idea has been lukewarm at best. While such training can undoubtedly find a niche due to its inherent economies, it cannot be considered a high priority item for Philippines cooperatives at the present moment. This is due to two factors. The simplest is that the supply of available computers at present is quite scarce and other applications are regarded as higher priority for computer time. The second is that training services being provided at the moment are quite good. There is a wide variety of training being offered to cooperatives from many sources which cover the most essential training elements quite well. Nearly everyone interviewed would like to have more training available to their institutions, but basically they would like more of the same kind of training they are already receiving. At some point down the road, it will make sense to revisit the question of computer-based training, but at the moment it appears that immediate efforts would be better directed elsewhere. One exception to this general finding is noted below.

6. Because managers at all levels mention planning for the development of their cooperative or member cooperative activities as one of the most important and time consuming areas of management attention, it would appear that software designed to assist such planning would be highly productive and readily adopted. Such software would help to save time and extend the capabilities of the scarcest resource of all, top management.

   In particular, several managers have stated that the area of management they would most like to improve is the ability to analyze the performance of their cooperative or

member cooperatives relative to industry standards for that type of cooperative and to more readily spot problem areas before they get out of hand.

Software could be devised to assist in this regard by taking advantage of the knowledge of the best managers in each category. To be effective, such software would be part tutorial and part decision aid. That is to say, it would help to educate the manager in a purely pedagogical way as to the factors that are key to success for that type of cooperative and, in addition, would provide a tool by which he or she would enter key data and receive an analysis that would help him or her better understand the conditions of the cooperatives, either individually or as a group.

D. Computers and Communications

1. The state of telecommunications outside of Manila is quite poor. The Manila based **Metropolitan Computer Times** ran a special report on telecommunications in the Philippines in its August 30 and September 15 editions several articles are attached as Annex F. and one points out that the Philippines lags behind developing country standards with an average of only 1.31 main stations per 100 population as compared to the developing country average of about 3 per 100.

   The same article cites two studies which indicate considerable economic impact from improving national telecommunications services. One, in Costa Rica, suggested that the benefit cost ratio of extending telephone service to typical rural businesses was 50:1. A second study based on data from 35 developing and developed countries found that a one percent increase in the number of telephones per 100 persons over a five-year period produced a 3 percent increase in average per capita income in the successive seven year period and the effect was even greater for those countries starting with lower installed bases.

   Our team was able to connect to the international electronic mail system relatively efficiently from the CRB offices in Bacolod and Davao City and somewhat less efficiently from the VICTO office in Cebu using National Direct Dial (NDD) lines. We were unsuccessful in transmitting data via operator assisted calls from Iloilo and elsewhere. It may well be possible to communicate at 300 baud on an operator connected call, especially with an error-checking modem and provided local operators can be persuaded not to invade the line during transmission. NDD may not be absolutely necessary, although it certainly is easier. In Cagayan de Oro, the phone service is so poor we were unable to phone for hotel reservations from Manila or Cebu, were unable to reach Manila or Davao during our stay and calling across town was an ordeal.

   Many of the cooperatives we visited do not have NDD lines and prospects of acquiring them in the near future seem dim given the general shortage of facilities. From an operational point of view, it would be most efficient for those who wish to participate in national and international electronic mail and conferencing services to operate a dedicated data-only line for that purpose. However, given the shortage of NDD lines even for voice transmission, this would be extravagant. A simple A-B switch for transferring between telephone and modem would be useful to minimize the disruption of plugging and unplugging phones and modems. However, two problems we encountered while attempting to transmit data from the VICTO office in Cebu are likely to be widespread and persistent: people lifting other extensions attempting to

call out; and, people attempting to call in on what is essentially the only business number. These things, however, are merely inconveniences and are not insurmountable problems and, presumably, systems can be devised to minimize the inconvenience. None of the organizations visited currently had modems. However, at the moment, the biggest obstacle to achieving a national data network for cooperatives is the general lack of NDD services available to cooperatives in many areas.

2. Philippine telecommunications services are competitive, but subject to regulation at the national level, rather like the U.S. ten years ago. This results in a few providers of nearly identical services, at identical tariffs.

   In the Philippines, telexes are used for international communication, but hardly ever domestically. Instead, telegrams are sent by radio and microwave by the RCPI and PTT companies, from their public booths around the country. Cooperatives use telegrams frequently, but consider them costly.

   Telephone service is dominated by the Philippine Long Distance Telephone Co. (PLDT), a near-monopoly built up by the government about ten years ago. The quality of service varies widely, with the modern parts of Metro Manila receiving good service, and outlying areas and islands away from Luzon having limited and unreliable service. PLDT has a universally bad reputation for installation of new lines and repair of existing ones.

   Expansion of the phone system had slowed during the end of the Marcos era, and has begun to pick up in the last two years. Several projects are in progress:

   a. PLDT's "big bang" X-5 expansion project, more than doubling the size of its network in a few years;

   b. The government Department of Transport and Communication (DoTC) plans for a series of turnkey projects to be constructed with foreign assistance in provinces outside Metro Manila;

   c. Several very small domestic telephone companies also have expansion plans;

   d. There are public discussions of a nation-wide network using small satellite terminals to support the government land-reform program;

   e. Overseas vendors have offered used telephone switches at attractive terms to local phone companies, and US cooperatives have offered used equipment to Philippine electric cooperatives.

   Each of these efforts has substantial logistical, financial, and regulatory hurdles to cross, which will result in a fluid situation for the next five years. These changes are likely to prove important to cooperatives in many towns. However, most of the new investment is being made in towns and cities, so most rural cooperatives cannot expect service in the near future.

   In the meantime, in urban centers where PLDT does not provide or upgrade service, there is one small company that may be an alternative. Philippine Telegraph and Telephone Corp. (PT&T) operates a domestic digital telephone network in most major

towns and cities. Its phones can call any PT&T or PLDT phone, but PLDT phones cannot call PT&T phones directly (a manned switchboard operator and separate PLDT lines is required). PT&T's phone network is mostly used by large national organizations like banks or oil companies for their internal (eg, inter-branch) communications. It has been chosen by the International Rice Research Institute for their Los Banos to Manila link, after PLDT proved incapable of providing service. It could be useful to cooperatives, if enough of them moved to use it at once.

3. The team discovered a number of possible uses for computer-based communication networks. Among these are the following potential in-country electronic mail applications:

   - Inter-regional trade among cooperatives and others: general sourcing and selling, which eventually could feed into an international link. Some groups, such as the market vendors could do joint purchasing on some commodities, after collecting data on members desired amounts.

   - Market price system: gathering and distributing prices of basic commodities: rice, corn, fertilizer, feed, etc.

   - Inter-cooperative lending: exchange information, perhaps develop a funds transfer/clearing system.

   - Basic inter-organizational communication: on legislative affairs, conferences, training, sharing technical information. This, too, could feed into a future international link.

   - Software users group: share information and experiences using common software.

   Communication on these subjects already occurs through other channels but members have expressed dissatisfaction at the reliability, convenience, speed and cost of the phone, mail and telegrams.

4. International data communications services are offered by four vendors: PT&T/CapWire, Eastern (also called ETPI), PhilCom, and Globe-Mackay (see Annex D, Guide to Data Communications in the Philippines for further details). Only PT&T offers domestic (ie, intra-Philippines) data communications service. All four providers offer international packet-switched service at the same price. This price, fixed according to a government-approved tariff, is 20-30% higher than in Singapore, Hong Kong, or Australia, but less than Taiwan, Korea, and many other developing countries. It has been cut by about 40% from its level two years ago.

   Domestic electronic mail services are limited at present to PT&T's Comet message-switching service, which is old and oversubscribed. PT&T has begun to market a domestic packet switch service in many cities, plus a new electronic mail service which, by the end of this year, is said to provide both domestic and international e-mail (using x.400 to link to international e-mail services).

   Most of the international data communications providers are expanding to cities outside Manila during the next year, providing gateways to their service in cities like Cebu and Davao. This will have a very positive effect in reducing both the cost and

the line errors from these cities, which otherwise have to rely on noisy NDD connections.

Present users of international data communications reported few difficulties with the data services themselves. If a service's phone number is busy, a call back in a few minutes will usually find a free line; and if reliability is very important, it's easy to subscribe to a second service for backup.

More problems were encountered with the phone connections to the data service. Phone calls, especially from outside Manila, were so noisy that 300 bps connections were usually the best that could be used. Dedicated lines from the data service could be obtained, but only at high cost. The team heard reports that some local telephone companies, like the one in Baguio, initially refused to allow modems to be connected to their phone lines; even after a government ruling forced them to allow it, they still monitored lines for modem signals and harassed the users.

The modems themselves need to be protected, like other electronics, from variations in local power supplies. Users' modems have been damaged by power fluctuations. Simple modems made in Hong Kong and Taiwan have been easier to repair than Hayes modems, we were told.

5. Many rural-based organizations, mainly CRBs or AMCs, but also others (NATCCO and affiliates) had explored the idea of setting up a VHF radio system in order to communicate. For example, at FarmCoop, a federation of five AMCs and six farmer marketing cooperatives, only two members had telephones. But they were also too geographically dispersed for hand-held radios, being as far apart as Iloilo, Negros and Antique. However, while a VHF radio system could meet their needs, the cost was usually prohibitive for their budgets (a base and six stations would cost P100,000 or $5,000). One disadvantage of such a radio system is that it is closed, and outside people and organizations cannot communicate with it.

   Any group connected by radio, though, could use packet-radio technology (if they have at least a personal computer) to send data as well as voice by radio, which in turn could be forwarded by some center with both telephone and radio connections.

6. In most larger cities, both computer vendors and computer training schools were readily available. The vendors, whose main business seemed to be in IBM PC-compatible computers, also provided service on an on-demand basis to those who needed it, sometimes providing a loaner PC in the meantime. Especially in Manila, there is a plethora of computer dealers and repair centers. Computer equipment prices ranged from 25-80% higher than U.S. or Hong Kong prices, with some specialized items like modems as much as 150% higher. Prices outside Manila were even higher. However, repair and training services were widely available at reasonable cost.

   Many small computer training schools also exist in the larger cities, with the most popular applications being WordStar, Lotus 123, and dBase III Plus. Courses are also offered at many colleges and universities, which also apparently train people in COBOL and BASIC. Manuals and reference materials are less available - often out of stock. No software support is available locally, except for locally developed packages

(such as DataExpress, an accounting package written in dBase III Plus, developed, sold and supported in Manila).

7. The main reasons organizations were not computerized were lack of resources and lack of information. Organizations that had tight budgets had not invested in computers or trained staff. One question these organizations did not seem to broach was whether the efficiencies in using computers would offset the cost of acquiring them in a reasonable period of time. This inability to do an in-house cost/benefit analysis is tied with the second problem, lack of information. Another factor may be the soundness and level of competence in the organization in general. In order to make use of a computer the organization must first be functioning well.

   Information on the state of computer hardware, software and training is available in the Philippines, but few in the cooperatives knew about it. Those who tend to know the most about current technology are the computer vendors, who unfortunately are not the best objective source of information. When asked, most organizations said vendors were the first people they would ask about what kind of computer hardware and software to purchase. Some said they would ask a knowledgeable friend. These problems both point to the need for a central place where information is gathered, from magazines, journals and directly from hardware and software companies, all available in Manila, as well as some other major cities. A center could then also offer advice on determining the costs and benefits of computerization, as well as the appropriateness and sources of different kinds of hardware, software, specialized programming, training, and maintenance.

8. Almost all organizations expressed interest in a standardized software package for cooperative accounting, including the CRBs.

   For the CRBs, the FAO project is already in the process of developing such standardized software, although a future communications aspect may well need to be added to improve funds transfers and clearing.

   In the case of cooperatives and other support institutions, the team found no evidence of coordinated work to produce standardized accounting or other software systems. What we did find was a fair amount of individual initiative in computerizing. For the most part, such efforts have been directed to a single organization and are based on customized software. Reliance on customized software is the result of two factors: (1) cost of programming is quite reasonable by U.S. standards and (2) off-the-shelf software is not generally well suited to the needs and very little support for such software is available. While such initiative is commendable, the trend is disturbing because standarization in the future will be much more difficult, and with customized software the programmer may not be available for future support.

VI. RECOMMENDATIONS

A. Banking and Finance

1. The cooperative movement in the Philippines, as represented by its leading cooperative organizations, should form its own National Cooperative Bank (NBC). There are several reasons supporting the establishment of such an organization:

   a. Most importantly, the vast majority of leading cooperative organizations as well as every cooperative visited by the team expressed a desire for a National Cooperative Bank. Such near unanimity is impressive, reflecting a strong and widespread conviction on the part of the entire cooperative movement that such a bank is a highly needed and desirable institution for all the cooperatives. Such a pervasive notion on the part of all the cooperatives should not be ignored by the Philippine government and other concerned supporting agencies in the Philippines. The compelling motivation for the establishment of the bank is the genuine desire among the cooperatives to manage their affairs independently of government and other outside involvement. Obviously governmental assistance and support will continue to be required by the cooperatives but the notion is to minimize the political impact of such assistance.

   b. Other existing financial intermediaries excepting the two government banks, i.e., the Central Bank of the Philippines and the Land Bank of the Philippines, have shown little or no inclination to be active with cooperatives or in rural areas. The Philippine commercial banks in particular seem to be unaware of cooperatives, their financial needs, and any opportunities for economic activity that may exist for the banks in this group. Moreover, the banks have stated they do not have an adequate branch structure to properly serve the needs of remote and rural areas.

   c. From an operational standpoint the bank would be a "banker's bank" and, properly managed, should efficiently intermediate funds within the cooperative movement capitalizing on the currently successful cooperatives' activity to support a greater mobilization and distribution of funds among a broader range of cooperatives. Moreover, such a National Bank could offset and balance the peaks and valleys of differing seasonal cash flows among cooperatives with distinctly different business patterns.

   d. As it matures and becomes recognized as the National Cooperative Bank widely supported by its members, the bank should become the principal mobilizer of externally sourced funding for cooperatives whether such funding is on a "soft" basis (extended by various supporting agencies) or whether the funding is obtained on normal commercial terms. In effect, as its size and influence increases, the bank should possess a greater ability to secure external funds in greater amounts than the sum of its smaller member organizations, and should effectively channel funds to cooperative lenders in rural areas.

   e. Since it will be managed by a board of directors fully representing its cooperative constituency, the bank should function as an efficient spokesman for the financial needs of the cooperatives and could represent cooperative interests with the government and the legislative bodies.

f. The sentiments expressed by the Land Bank of the Philippines (LBP) is but one point of view and does not offset the important significance that attaches to the expressed desires of the cooperative movement itself to have its own bank. LBP should combine its efforts with the new bank by extending a discount window to fund qualified assets of the cooperatives and by otherwise supporting the bank as a major vehicle through which government financial assistance can be channeled to support legitimate cooperative needs in rural areas. Such support from LBP should coexist alongside LBP's ongoing lending to farmers and rural industries in the Philippine rural areas.

Any such newly organized bank should, of course, expand slowly and be closely regulated by the Central Bank and be assisted by other appropriate agencies. In the initial stages, personnel from the Central Bank and the Land Bank (as well as other appropriate agencies) could be seconded to assist the bank in developing initial policies and operating controls.

2. The Central Bank should reexamine its position regarding debt equity swaps. The external debt of the Philippines is one of its most obvious problems and a well-managed debt equity swap arrangement meets the dual objectives of reducing such debt and encouraging much needed equity investments. Such funds could provide urgently needed improvements to infrastructure projects essential to many elements of the Philippine community, particularly, the agribusiness economic sector.

3. The Quedan Guarantee Fund Board (QGFP) operates an effective lending program for rural agriculture. However, the program appears to be functioning far short of its natural potential. QGFP should be permitted to leverage its current fund of P180 million to a higher authorized level than the current P600 million which is extremely conservative when the history of defaults on such loans are taken into consideration. Commensurate with a higher authorized limit for such guarantees, efforts should also be made to accredit more banks into the program, increase the number of franchised warehouses from among the enormous number of warehouses available in the Philippines, and increase the availability of Central Bank rediscount funds for this program. The fact that only one percent of the total rice crop is covered by this program suggests a waste of resources available in a rural economy which urgently requires more financial support.

B. Trade

1. ACDI should work with Cooptrade to help that organization maximize its potential advantages from electronic communications. At present, Cooptrade is the most active organization in the Philippines working to stimulate international trade among cooperatives. Thus, it is presently the most fertile ground for improvements in trade-related communications.

2. Prawn production is currently the most rapidly growing non-traditional export industry in the Philippines. We recommend that Philippine cooperatives examine the potential of employee cooperatives entering the processing/exporting business activities generated by prawn production. Processing and exporting activities (i.e., cleaning, packaging, transportation) are non-technical, labor intensive, and require relatively small capital investments. Employee cooperative activities could also

embrace both the breeding and feedmill operations that support a prawn farm. However, prawn production itself is quite the opposite, i.e., highly technical and very capital intensive, and for these reasons is not conducive to a start-up cooperative business venture.

3. There appears to be a large capacity for the production of handicrafts including rattan furniture, marble artifacts, and children toys. These products will require increased efforts to secure and enlarge overseas markets. There appear to be opportunities for cooperatively structured employee-owned production and export companies in these products. While the U.S. represents a major market for these products, U.S. cooperatives do not represent the most effective vehicles to reach large U.S. consumer markets. ACDI can help Philippine cooperatives by facilitating contact with purchasing offices of large retail organizations in the U.S. and assisting with arrangements for ongoing telecommunications conveying information regarding availability, pricing, and shipping arrangements between Philippine cooperative exporters and U.S. buyers.

C. Management and Training

1. ACDI should consider developing a class of software which could help cooperative managers analyze their businesses and determine whether are they operating within industry norms.

2. ACDI should separate the basic computer training course from the subscriptions to CARINET since the team found that the recipients that could make best use of these two elements were not necessarily the same.

3. ACDI should seriously consider holding its regional training course for basic computer operation in the Philippines. The study team found adequate training facilities at reasonable prices. Also, there is an abundance of well qualified instructors who could be used in delivering the training.

4. ACDI should try to find additional resources to increase the number of participants in the basic computer course from the Philippines since the study team identified at least twice as many organizations which could immediately benefit as funds have been provided. Each additional participant costs an estimated $8,780 for the six-week course plus computer.

D. Computers and Communications

1. The cooperative sector should endeavor to establish a National Cooperative Center for Computer and Communication Technology with the following objectives:

   a. To keep abreast of the latest developments, both nationally and internationally, in computers, software, and communication technology;

   b. To regularly inform cooperatives in the Philippines of potential benefits they may derive by employing advances in computer and communication technology;

c. To monitor the development of the national telephone network, assist cooperatives in taking advantage of this expansion, and lobby with the national government when appropriate to promote the communications interests of cooperatives;

d. To act as a demonstration center for electronic mail and other computer communications, preparing disks and scripts for use of each IRC from various cities, and having documents describing the services on file to be copied for use by cooperatives as they express interest;

e. To coordinate and help standardize hardware and software systems among cooperatives and to facilitate the sharing of information and programs among them to reduce total costs to the sector as a whole and to facilitate: sharing and consolidating data; obtaining quantity discounts on equipment and software; forming a users group for mutual support; and, the creation of similar systems that are susceptible to audit;

f. To approach national computer vendors to get materials and contacts in cities around the country and consider arranging alliances with some of them, offering to actively distribute their materials in exchange for group-purchase discounts;

g. To lobby with government at all levels to ensure favorable treatment of cooperatives with respect to both policy and practice relating to computer and communication technology;

h. To seek and coordinate project efforts for the development and transfer of computer and communication technology among cooperative support institutions and donors, nationally and internationally;

i. To assist individual cooperatives to: assess computer, software and communications equipment needs; prepare requests for proposals (RFP); evaluate proposals and bids; participate in quantity discounts and special offers; prepare favorable procurement and maintenance contracts; and to otherwise ensure that cooperatives are buying equipment and software suitable to their needs and getting their money's worth;

j. To develop, participate in the development of, or promote the development of software and systems of special relevance and interest to cooperatives.

It would not be appropriate for this team to recommend to which national support institution to attach the Center. This is a decision that should be worked out among the cooperatives themselves. However, we can report that as of now, CFPI and NATCCO have the most advanced capabilities in computer technology of the national organizations we visited. We can also say that we strongly recommend that the functions set out above be consolidated into a single Center because disbursing these functions will reduce their complementary interaction and diminish their effectiveness.

2. Cooperatives should consider using domestic e-mail. Since cooperatives most often expressed a need to communicate with each other, the new domestic data services offered by PT&T may be most appropriate for them. It will have access points in many cities in the country, with staff in those cities to help users get on-line. It is also likely to have lower costs than international systems, while retaining links to

international destinations (via x.400). It may also be possible to negotiate a group discount for cooperatives.

Computer communications succeeds best when groups who already have a need to communicate move together to use a communications system. This study has discovered a few such groups, including the cooperative rural banks, the training cooperatives (NATCCO, VICTO, etc), and the electric cooperatives. Within each of these groups, many already have phones and experience with computers and they are the most likely to make use of computer communications. Future work should focus on moving members of one these groups to using computer communications.

3. Cooperatives should add communications in conjunction with other applications. It is not easy to generalize about cooperative use of computer communications, since the cooperatives have varying experience with computers. However, the ones that do have a phone which would permit computer communications also don't have the great unmet communications need that would make communications the first use of computers within the organization. So computer communications should be expected to follow other computer uses (like accounting or word processing) in cooperatives.

4. An effort should be made to develop standarized accounting software for for the Philippine cooperatives, such as is being developed for the Cooperative Rural Banks. Such software should have open source code which can be modified locally; be written in dBase III+ or dBaseIV language, for which there are many trained programmers already in the Philippines; have specialized modules useful for coops that are also integrated into a general ledger; and be based on an existing package if possible, so time is not wasted recreating basic elements such as a general ledger.

   Such standardized software can avoid some of the drawbacks of individually developed software. For example, if many similar cooperatives each contract their own software development, a great deal of potential economy that could have been achieved by joint effort is lost; the costs of joint or centralized software development, even with some individual customization are much less. Using the same software, the coops can benefit from exchanging shared experiences and joint training programs. Support for a standardized program can be institutionalized and continuous, whereas if the individual who wrote the customized program becomes unavailable to the cooperative for any reason it will be more difficult and expensive for the cooperative to find an alternative source of support. For any external audit or regulatory authority, a standard software system would make complete and comparable reviews much easier.

VII. IN-COUNTRY AND FOLLOW-ON ACTIVITIES

A. Seminar and Demonstration of Electronic Data Communications September 30, 1988

At the end of the third week of the study, a telecommunications seminar and demonstration was held at the Cooperative Union of the Philippines. Invitations had been made verbally during the first week of interviews with national organizations in Manila, with confirmations made and further invitations issued thereafter.

In preparation, a sample session on CARINET and DIALCOM were downloaded, printed out, and photocopied to hand out to those attending. The previous day, a telex and a FAX were sent via DIALCOM to the team's hotel as samples, to be shown at the seminar. The PC, modem, software and telephone lines were tested out the morning before.

The group of about 23 people were greeted by Gen. Arcadio Lozada, Secretary General of the CUP. Antonio Arcellana, ACDI Regional Representative, introduced the IAP team. Donald Crane, team leader, opened by giving the background and reasoning behind the Innovative Approaches Project, explaining how telecommunications and computer technology can be appropriate and advantageous for developing country cooperatives. Next, Ken Novak, IAP data communications consultant spoke about the different technologies that make international computer communications possible, describing the component parts and the availability and costs of different services.

Thandi Bergfalk, computer and communications specialist, explained the elements necessary elements for an organization to communicate (a computer, a modem, communications software, a telephone line, an international record carrier access account and a user account with each service provider). She then demonstrated how to access different communications services, including electronic mail and conferencing on CARINET, and telex services, and news from DIALCOM. The session ended with a question and answer period.

Below is the list of participants and the agenda:

Name	Organization
Edith C. De Leon	Baclaran Vendors Development Corp., Inc.
Leonora R. Avante	Baclaran Vendors Development Corp., Inc.
Concepcion A. Villon	Cooperative Union of the Philippines, Inc. (CUP)
Milagros J. Macaranes	Bureau of Cooperative Development, Department of Agriculture
Rod Coutana	Cooperative Foundation of the Philippines, Inc. (CFPI)
Pia Ronquillo	CFPI
Ramon Apilado	CFPI
Matias M. Valdez, Jr.	CFPI

List of participants (continued):

Name	Organization
Dennis Malbas	Cooperative Insurance System of the Philippines (CISP)
Ramon C. Alberto	CISP
Gina Rosa M. Razon	CISP
Bob Schmidt	Volunteers in Overseas Cooperative Development (VOCA)
Eustaquio M Espiritu	Cavite Farmers' Feedmilling and Marketing Cooperative (CAFFMACO)
Andres F. Estacio	CISP
Corazon P. Legaspi	CUP
Rosalind L. Giron	CUP
Arcadio S. Lozada	CUP, General Secretary
James N Roberson	National Association of Market Vendor Cooperatives (NAMVESCO)
Moises Sevilla	Paco Soriano Pandacan Development Cooperative, Inc.
Isagani M. Lucila	Federation of Electric Cooperatives of the Philippines (FECOPHIL)
Benedioto F. Caballero	Cooperative Rural Banks Federation of the Philippines, Inc. (BANGKOOP)
Al Biscocho	BANGKOOP
Rich Boni	VOCA

SEMINAR AND DEMONSTRATION OF

ELECTRONIC DATA COMMUNICATIONS

2 pm., September 30, 1988

Agricultural Cooperative Development International

Asia/Pacific Regional Office
Regional Representative, Tony Arcellana
CUP Building, Quezon City, Manila

As part of the USAID funded Innovative Approaches Project
Philippines Feasibility Study
September 9 - October 7, 1988

Team Leader: Donald Crane, cooperative management and training
Donald Temnie, trade and finance
Thandi Bergfalk, computer and communications
Ken Novak, data communications consultant

AGENDA

Welcome by Tony Arcellana, ACDI Asia/Pacific Regional Representative

Introduction of ACDI's Innovative Approaches Project by Don Crane, ACDI/Washington, Sr. Vice President for Management Services and IAP Team Leader in the Philippines.

Survey of Data Communication and Technology by Ken Novak, Consultant from CGNET Services

Demonstration of Electronic Communications by Thandi Bergfalk, ACDI Project Coordinator

1. Electronic mail and conferencing through CARINET, based in New Jersey, USA.
2. Telex and FAX services through DIALCOM, based in Maryland, USA.
3. Information services through DIALCOM:
   - Bibliographic references and articles
   - Current news
   - Statistics and financial data

B. Guide to Electronic Communications

Annex D contains the full text of the "Guide to Electronic Communications" prepared while the team was in the Philippines. This guide is designed for cooperatives, their supporting organizations and others interested in electronic communications, to provide them with basic information and step-by-step guidelines on how to begin communicating electronically. Copies of this guide will be made available through ACDI's Regional Office for all who are interested.

The information in the "Guide" was compiled from many sources. One of the team (Ken Novak) had worked with data communications in the Philippines a year earlier, including the establishment of electronic mail at the International Rice Research Institute (IRRI). Before arriving in Manila for this visit, IRRI was contacted about their experience. In addition, published sources of information were consulted, including the information services of Telenet and Tymnet in the United States, and local and regional periodicals.

Telephone and personal interviews were conducted with: the communication service providers (PT&T/CapWire, Eastern, Globe Mackay, and PhilCom); present users (the Ford Foundation, Foster Parents' Plan, and ICLARM, the International Center for Living Aquatic Resorce Management); and computer stores (ElectroWorld and Integrated Computer Systems). These computer stores were recommended by IRRI and by ACDI's local representative.

Finally, the study team used the services extensively, from several locations in the Philippines, as a tool for coordinating the project.

C. Computer Training and CARINET Subscriptions

While the IAP proposal envisioned offering a one-year trial subscription to CARINET to each of three trainees completing a basic computer training course, the team now believes that the objectives of the program can best be served by separating the CARINET subscriptions from the computer training to some extent. The reason for this is that those most likely to make good use of international communications are not necessarily those most in need of computer equipment and basic training.

The basic computer training course is designed as a six-week, full-time course in which participants assemble their own computer from components to remove some of the mystery and give them the confidence to insert cards or memory chips on their own and to provide them the basis for minor trouble shooting. After computers are assembled, the course proceeds to explain the MS-DOS operating system and several applications packages in word processing, spreadsheet and data base management. At the end there will be a session on electronic communication.

CARINET is an international electronic mail and conferencing network. It can be used domestically and may be less expensive than other available communications alternatives even though messages are routed through New Jersey or Maryland. Eventually, there will be a domestic electronic mail service in the Philippines and CARINET may lose its cost advantage for local communications at that point. In any case the international aspects of CARINET are its real advantage and the project is especially interested in promoting communications with an international trade emphasis.

Those who could best benefit from the basic computer training are those who do not now have a computer, whose operations are now at a point where computerization would be useful and where there is suitable staff available to receive this training. High on this list is the Cooperative Rural Bank of Davao City which is an active, profitable, expanding business with numerous programs to track. The Bank has two employees on staff, a secretary and bookkeeper, already familiar with word processing and spreadsheet applications. This CRB has a need, has capacity, has enthusiasm and has exhibited the kind of managerial competence that gives one confidence the equipment would be used for the purposes intended and would translate into improved efficiency for the Bank.

Two other CRBs which have received assistance from ACDI are candidates for training, but already have equipment. The CRB in Bacolod has received a computer and programming assistance from CARE and systems development assistance from an ACDI Farmer-to-Farmer Volunteer. The CRB in Iloilo was donated a computer by ACDI over a year ago and a Peace Corp Volunteer helped the Bank develop programs and trained a Bank employee. Subsequently both the PCV and the Bank employee have left and no one in the Bank knows how to use the computer. Furthermore, the Bank does not seem to have been terribly impressed by the usefulness of programs developed by the PCV. Consequently, the system is sitting idle with a dust cover over it. Both these CRBs could clearly benefit from additional training, but a more individualized program might be of more use than the basic computer literacy course.

Another good candidate for the build-your-own computer course would be SPECC/MASS which formerly owned and operated a microcomputer in common with its sister organization, CLIMBS. When CLIMBS generated more than its share of demand for the computer, SPECC/MASS withdrew from the arrangement.

Among national institutions, three could possibly benefit from basic computer training: CUP, BANGKOOP, and NAMVESCO. FECOPHIL and CISP have their own plans for computerization and the means to carry them out. CUP has had a computer for about 2 years, but has just recently begun to use it. They have basic training in Wordstar and Lotus 1-2-3 and are currently training in dBase III, but they have not yet integrated computer systems into their daily work routines. CUP's primary need seems to be in the area of systems development in order to take better advantage of equipment and staff already available to them.

BANGKOOP and NAMVESCO would be starting from ground zero. Right now, CFPI is doing various assignments for BANGKOOP where computer analysis is required including consolidating financial statements from CRBs. This arrangement seems to be working out well and CFPI is certainly among the most computer literate of the cooperative institutions we visited. If the domestic communication lines were at a more advanced stage, an electronic network of CRBs with BANGKOOP at the hub and CFPI on-line would make a great deal of sense. Whether a partial network including only a fraction of the 29 CRBs makes sense is a question which would require more study than this team was able to provide. In any case, the Innovative Approaches Project does not have sufficient resources to address the issue properly. Furthermore, it is complicated by uncertainty about the establishment of a National Cooperative Bank and the role that BANGKOOP will play thereafter.

Two other cooperatives visited by the team, Davao Fibers and CAFFMACO, appear to be ready for computerization, but both are highly successful, profitable cooperatives and should

be able to purchase whatever equipment and training they need. They would, however, be excellent candidates for assistance from a National Cooperative Center for Computer and Communications Technology should one exist.

NAMVESCO is a very lean national association with only an Executive Officer and a secretary. While they are performing accounting and statistical functions that could benefit from computerization and are candidates for international communication, it is questionable whether they could absorb and make best use of the resource. A better alternative for NAMVESCO might be to make use of computer facilities at their member, the Baclaran Vendors Development Cooperative, which is among the nicest we were privileged to visit.

In the area of electronic networking we have found more demand for local networking than for international. Two domestic networks stand out as possibilities: (1) NATCCO linked to its five regional federations/training centers; and (2) BANGKOOP and CFPI linked to the 29 CRBs. There was also considerable interest expressed by marketing cooperatives in receiving market price and availability data for various commodities and supplies around the country. This need could possibly be served by a network of CRBs. CFPI has in mind starting a more general network available to all cooperatives similar to CO-OP NET[sm], a network of cooperatives in the U.S. operated by ACDI's domestic affiliate, the National Council of Farmer Cooperatives. This is, of course a very appealing thought, but with the current situation with respect to available NDD telephone lines and computer equipment, participation will surely be spotty in the near future.

The NATCCO group has a few advantages as a test case for domestic networking. In the first place, there are only six sites that need be considered to constitute a fully functioning network. Secondly, these institutions are already communicating with each other at a significant rate so that reduction in telecommunication costs could be a noticeable factor. Due to a significant amount of lending among cooperatives within the NATCCO system and the holding of national training exercises at regional centers there is generated a considerable demand for quick, efficient, high quality communication which is best transmitted in written form to avoid misinterpretation.

In particular, the level of traffic between NATCCO and VICTO is probably the heaviest communications link we observed. Furthermore, there is a high degree of computer literacy at each end.

On the international front, there is less clearly definable communications need. The best example of current traffic is between Cooptrade, a project of the International Cooperative Alliance (ICA) and the Swedish Co-operative Centre, headquartered in Malaysia and its Philippine offices at the CUP building in Quezon City and in Bacolod. Subscriptions to CARINET for these offices could help to improve the flow of trade information among the group and might improve the chances of involving U.S. cooperatives in trade discussions.

Other organizations with potential for international market relations are NATCCO and NAMVESCO. NATCCO and its regional federations represent numerous marketing and consumer cooperatives and is interested in exploring market opportunities. NAMVESCO is interested in becoming a market channel for farm produce and is taking its first steps in that direction by organizing a farmers market in Manila. It is probably some years away from being an export channel, but its affiliated federations of market vendors could represent a potential market for processed food items of U.S. cooperatives.

On balance the opportunities ACDI would most like to explore are CARINET subscriptions for CFPI, NATCCO, VICTO to explore domestic networking possibilities with some international application and CUP, Cooptrade for international trade purposes with a domestic by-product. As recipients for basic computer training and donation of a computer the leading candidates are CRB of Davao City, Cagayan Valley Development Cooperative (CAVADECO), Cooptrade Bacolod office, and CUP. Unfortunately, the IAP has only three subscriptions and three computer training scholarships available to it. Thus, it will be necessary to either find some sort of compromise course or to chose among these worthy alternatives.

In any case, organizations which wish to receive either CARINET subscriptions or computer training will be asked to submit a short proposal naming their candidate or principal user, stating how they would make best use of the donation and explaining how they would make the benefits and knowledge available to others.

ACDI will have to follow up on these issues in the weeks following this study and prior to the selection of candidates for the regional computer training course.

D. Philippine Prospects for Regional Computer Training

There is high probability that the basic computer training course will be held in the Philippines rather than the U.S. There are good facilities in-country and costs are generally lower than in the U.S.

VICTO Cebu is a pleasant place and VICTO is a cooperative training center so that the staff is quite experienced in delivering training to cooperative personnel and understand the context in which cooperative participants seek training. One staff member of VICTO, Dodj Samson, is very knowledgeable about computers and has a very engaging delivery style and would make an excellent local trainer. On the other hand, the facilities at VICTO were the least appropriate we observed. Traveling on to Cebu would add to the difficulty of logistical support, but this should not prove to be a major factor. It is likely that additional air fare would be offset by lower cost facilities. VICTO staff expressed a willingness to arrange an appropriate alternate site. One major advantage of Cebu is access to NDD telephone lines for computer communications.

IIRR The International Institute for Rural Reconstruction is an international training center for those interested in rural sociology and institution building. The facilities are quite good and the staff is obviously used to catering to the needs of foreign students. The absence of air conditioned classrooms could pose a problem reducing maximum efficiency of computers and students alike. Dormitory rooms are also not air conditioned but this should not be a big problem because night time temperatures are somewhat cooler and fans are available. Lack of access to NDD lines is another problem.

DAP The Development Academy of the Philippines is an upscale facility for international studies. Availability of air conditioned classrooms is a plus. Dormitory rooms are not air conditioned but the higher altitude makes this less important. Fans are available in each room. As at IIRR students are normally housed two to the room. Unlike IIRR, however, bathrooms are semi-private rather than communal. Student recreation and dining facilities are quite nice. SGV, a prestigious Philippine consulting firm, has held computer training courses there. Lack of NDD lines is a problem. A possible solution would be to move the training to Manila for the last module on computer communications.

ANNEX A

SCOPES OF WORK

ANNEX A

SCOPES OF WORK

The Innovative Approaches Project feasibility study team comprised four individuals. Donald Crane, Senior Vice President for Management Services of ACDI, served as team leader and as Cooperative Management and Training Specialist. Donald Temme, Vice President of the Central Bank for Cooperatives (now the National Bank for Cooperatives), served as Trade and Finance Specialist. Christina Thandi Bergfalk served as Computer and Communications Specialist. Ms. Bergfalk was assisted in fulfilling her scope of work by Communications Specialist Kenneth Novak. Scopes of work for the assignment follow.

TEAM LEADER AND COOPERATIVE MANAGEMENT AND TRAINING SPECIALIST

SCOPE OF WORK

As Team Leader, you will:

1) Coordinate a narrowly defined needs analysis of cooperatives and their support institutions in the target country. As a whole, the team will identify current needs in the fields of trade, information and communications, and training; then the team will determine the applicability of any of the innovative techniques being explored by this project, particularly alternative financing methods, electronic communications and information, computer-based accounting and computer-based training. Given the four-weeks time limitation, it is anticipated that the team will be able to directly assess only four or five preselected cooperatives. Additional information on the cooperative sector as a whole may be derived from various reports and public records and from discussions with national level cooperative institutions.

2) Coordinate in-country travel, within the amount budgeted; any potential exceeding of the set amount must be previously discussed with the project manager.

3) Integrate the findings of each team member into a single report.

As Cooperative Management and Training Specialist you will:

1) At each cooperative, discuss the project with the coop manager, several board members and other staff significantly involved in daily operations;

2) Ask manager and staff about their information needs, what type of information do they use, what type of information they could use if it were available (e.g., information to help with marketing, exports, purchasing, finances, improved production or processing, etc...);

3) Discover what, if any, training programs are conducted by the cooperative for members and/or staff;

4) Discover what, if any, training programs are offered to the cooperative by government ministries or other institutions;

6) Find out the status of the cooperatives membership: how many members are there; has membership been steady, expanding, or declining; what is the number of people employed by the coop and has this number changed overtime;

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7) Determine what the duties of the various coop employees are;

8) Discover what the coop's primary activities and principal products are;

9) Find out whether the coop communicates with other similar cooperatives in the country and if so, by what means.

10) Determine whether the coop has had contacts with cooperatives in other countries, whether it is interested in communicating with cooperatives in the United States, and what the opportunities for movement-to-movement activities are;

11) Discover what mechanisms they use for internal and external communications;

12) Find out whether the coop imports or exports products and if so, which products, to and from which countries and via which channels;

18) Find out where the coop's markets are, how they gather market and member information, and whether the development of a regional market information system might be feasible and useful;

13) Determine whether the coop provides credit to its members and if so, to what extent;

14) Discover whether the coop or its membership use credit from outside institutions and if so, from which institutions; whether the coop or its membership could make use of additional credit and, if so, to what extent and for what purposes;

15) Identify type of accounting system the coop uses and what improvements could be made to that system; specifically, how the coop accounts for member purchases of supplies, member deliveries of produce, patronage refunds, member credit extension, etc., what type of financial reporting is required, and how this flows from the accounting system;

16) Determine whether the coop manager understands and uses financial data to control operations and make future plans, and whether the manager prepares an annual budget;

17) Examine the operating history of the coop and assess its financial condition; determine its goals, objectives and long range development plans;

19) Determine the coop's means of keeping records in various management areas;

20) Discover whether the coop uses computers, and if so, for what purposes; determine who actually operates the computer, maintains it and trains users in its operation, whether computer parts are available locally; find out about the coop's maintenance experience with computers; determine which specific software packages are used, whether the software has been customized to any extent and by whom;

21) If the coop does not use computers, discover whether the staff is familiar with the capabilities of computers and their various applications; whether they have seen a computer operate and whether they are interested in the possibility of computerizing certain aspects of their operations;

22) Discover whether the coop has a candidate to suggest for the hands-on computer course, when that person would be available and would they be able to release that person from their normal duties for a six-week period; determine how they would be able to arrange for this candidate to share what he/she had learned with others upon their completion of the course, and whether they would be willing to allow this person some time on the job for further self-instruction;

23) Determine the extent to which the cooperative mobilizes member savings;

24) Prepare a detailed draft technical report of your activities prior to departing from Honduras; the outline of this technical report should be agreed to by the feasibility study team, prior to preparation.

TRADE AND FINANCE SPECIALIST

SCOPE OF WORK

As Trade and Finance Specialist you will determine:

1) What products marketed by cooperatives are ultimately exported and through what channels.

2) Are there additional items which are good candidates as exportable items?

3) Which imported items are marketed locally by cooperatives and through what channels are they marketed? Which countries are the sources of the imports?

4) Are there opportunities for U.S. or other developing country cooperatives relative to imports?

5) How do cooperatives and other institutions customarily finance imports and exports?

6) What financial institutions and programs exist to assist cooperatives in their supply and marketing activities?

7) Are there opportunities for cooperatives to take advantage of loan funds that may become available through eligible Intermediate Financial Institutions under PL480 Section 108 in the country?

8) What role is being played by monetized funds?

9) Are there any significant barriers to trade in general or specific barriers to cooperative trade?

10) To what extent might additional information improve trade opportunities? Specifically, consider the appropriateness of:

- training in trade practices and finance whether by traditional courses, computer-based training, or on-line instruction;
- access to existing on-line services such as market reports on AgriData, Pronet and I.P. Sharp, historical and background information as available on ITIS, Dialog and others.
- access to on-line trading posts such as IDECOP (See annex for descriptions of these databases and networks and database vendors
- an on-line conference for cooperative trade.

COMPUTER AND COMMUNICATIONS SPECIALIST

SCOPE OF WORK

1) Analysis of software, hardware, communications and training needs and capabilities of cooperatives:

For the coops which are computerized:

- Conduct a general analysis of system hardware and software, current usage patterns, and primary applications;
- Summarize their process of computerization, focussing on the reasons for successes and failures;
- Determine current unmet needs, problems and bottlenecks within their system, particularly as related to training and communication and information;

For the coops which are not currently computerized:

- Conduct a computer needs analysis for internal record-keeping, communication and information, and training, based on findings of other team members and various cooperative departments;
- Explain what computerization means, and what is required for proper computer implementation;

2) Seminars and demonstrations:

- Conduct an international communications "test" at the selected cooperatives showing how CARINET and other networks work, accessing information the coop might currently need (e.g. coffee prices) or demonstrating a service the coop could use (e.g. telex);
- Conduct a seminar on international networking, database searching, implications for organizations, other services available, and provide a brief description of x.25 data-packet switching, how to budget for computer communications, and how to structure and implement international communications in their organizations, for the selected cooperatives, AID missions, the local business community and other interested parties as appropriate;

3) Postal, Telephone and Telegraph:

Meet with local Postal Telephone and Telegraph (PTT) authorities to:

- Conduct a qualitative analysis of the various services local PTTs provide to their customers in terms of technical support, availability and quality of services in rural areas, trouble shooting capabilities, and billing arrangements so that the information can be shared with the individual cooperatives;
- Find out what are the most relevant new services and standards being developed/implemented;
- Find out if there is any error checking at the packet switch or on local lines, what protocols it can handle (just ascii or also xmodem, etc.), whether modems are regulated, and whether there are any plans for upgrading local or national service (digital, binary transmission, etc.);

4) International Record Carriers:

- Conduct a cost analysis of the various International Record Carriers to determine which is the most cost effective for our project;
- Find out from the local IRC (Telenet or Tymnet) people about problems, regulations and costs of communicating electronically in-country and internationally (300 baud vs. 1200 baud, any local error checking, etc..);

5) Other computer networks:

- Identify and analyze regionally-based computer communication networks to determine the availability, range of services (particularly electronic mail, telex and database access), potential for creating linkages between U.S. systems, and typical clientele;

6) Computer hardware, software, and references:

Meet with the appropriate ministries and private computer service companies to:

- Determine the general availability and basic cost of computer hardware and user support services currently available in-country, with emphasis on availability of repair facilities and availability and types of maintenance agreements;
- Determine the general availability and basic cost of computer software, with emphasis on availability of competent programmers, and languages and applications supported;
- Assess the availability, cost and usefulness of software already available in local-language versions, if any;
- Assess the availability of reference materials and manuals in local languages for software, hardware and programming, particularly books that may be of use for the computer training course. Please provide a list of the most helpful with title, author, publisher and cost;

7) Computer import regulations:

- Find out the regulations and duties regarding the import and export of Personal Computers, such as when 9 PC's would be brought from the U.S. for a computer training course and then taken back out by some of the students to their respective countries; explore the possibility of obtaining a customs waiver for the course trainer and participants;

8) Perform other duties as may be assigned by the Team Leader, which are consistent with the overall scope of this assignment;

9) Prepare a detailed draft technical report of your activities prior to departing from the country; the outline of this technical report should be agreed to by the Team Leader, prior to preparation.

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ANNEX B

INSTITUTIONAL PROFILES

ANNEX B

INSTITUTIONAL PROFILES

The study team completed institutional profiles on twenty-three cooperative institutions visited as a means of acquiring basic data for assessing the institutional environment within which the technologies being considered in this study might be expected to exist. A copy of the profile form is attached for reference. Completed profiles are not included here in the interest of brevity but are available from ACDI upon request.

INSTITUTIONAL PROFILE

Name of Institution:

Type of Institution:

Level:

Type of Membership:

Number of Members:

Number of Staff:

Name of Highest Ranked Employee:

Title:

Organization Mission:

1987 Gross Volume/Dues & other:

Profit (Loss):

Principal Activities/Products:

Date Established:

MANAGEMENT

o Three primary activities of CEO and percent of time spent:

	%
1.	
2.	
3.	

o Does manager prepare annual budget?

o Type of Accounting System: Computerized/Manual/Partially Computerized

o How often are financial statements prepared:

o Other reports relied upon by management:

	Type	Form
1.		
2.		
3.		

o Most important external information used:

	Type	How received
1.		
2.		
3.		

o Are statistics kept on member activities? Which?

	Type	Form
1.		
2.		
3.		

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FINANCE

- What is Debt/Equity Ratio:
- Total Balance on Loans outstanding:
- Three largest loans:

Amount	Lender	Purpose
1.		
2.		
3.		

- Does institution mobilize member savings?
  How much:
- Does institution provide production credit?
  How much:
- Does Institution provide cash flow?
  How much:

TRADE

- Items marketed by coops that are ultimately exported:

Item	Channel
1.	
2.	
3.	

- Imported items marketed by coops:

Item	Channel
1.	
2.	
3.	

- Coop products marketed domestically:

Item	Channel
1.	
2.	
3.	

- Supplies marketed to members:

Item	Source
1.	
2.	
3.	

- What types of market information are received? How?

TRAINING

- What are principal training courses offered to staff:

Subjects	Taught by
1.	
2.	
3.	

- What are principal training courses offered to members:

Subjects	Taught by
1.	
2.	
3.	

- Is any computer-based training offered?_
  Type:

- Is any training on computer/software use offered? ___
  Type:

- How many people on staff are trained to:

  Use available computer applications: __
  Use computer/modem for telecommunications: _
  Trouble shoot computers/peripherals: ___
  Teach computer applications: ___

COMPUTER EQUIPMENT

- How many computers of each type are used:

Type	#	Ram	HD
IBM PC/XT (compatible)			
IBM AT (compatible)			
Apple			
Other			

- Are computers networked locally? ___
- Are computers linked to external sites? __
- How many modems?

Type	#	Ram	HD
1.			
2.			

- How many printers

Type	#
1.	
2.	

- Other computer equipment

Type	#
1.	
2.	
3.	
4.	

- Is there a maintenance agreement? ___

With whom:	Satisfied?

SOFTWARE

- Three most important uses of computer (in order):

Purpose	Package
1.	
2.	
3.	

- If accounting is computerized, what package?

  What modules are used:

  1.
  2.
  3.
  4.

- Does institution program itself hire programmers
  What Language?_

- Are you satisfied with software support?

COMMUNICATIONS

- What three external parties are most frequently contacted?

Party	Reason	Medium
1.		
2.		
3.		

- How much use is made of Telex per month?

	# of messages	Total Cost
Domestic:		
International:		

- How much use is made of Fax per month?

	# of messages	Total Cost
Domestic:		
International:		

- Are computers/modems used in telecommunications? ____

- Are databases ever accessed? Which?

1.
2.
3.

- Is telephone line quality a problem for computer telecommunications? ____

ANNEX C

ANALYSIS OF QUESTIONNAIRES

ANNEX C

ANALYSIS OF QUESTIONNAIRES

The study team used a questionnaire as a device to structure conversations with cooperative organizations, to elicit opinions on a wide range of topics, and to conveniently record the results of discussions. This questionnaire was used in discussions with 19 organizations. The organizations were chosen as a representative sample for our purposes and were not randomly selected. The questionnaire does not purport to be a statistical sample nor is this analysis based on statistical inference. We are simply reporting some of the interesting responses we received from the wide variety of cooperatives visited.

A copy of the questionnaire and an enumeration of responses is attached.

AGRICULTURAL COOPERATIVE DEVELOPMENT INTERNATIONAL

INNOVATIVE APPROACHES PROJECT
PHILIPPINE COUNTRY STUDY
OCTOBER 1988

ANALYSIS OF QUESTIONNAIRES

The following are the most interesting findings from the survey conducted by the study team. An enumeration follows.

- o Of 19 cooperative organizations responding, 15 say they favor the creation of a cooperative bank; 2 said maybe depending on how it is organized; 2 responded that it is not applicable to them. Of these, 12 said they would expect their cooperative to invest the necessary subscription capital to join and three others said they might.

- o Of 12 cooperatives responding, 6 use Cooperative Rural Banks. Principal reasons others do not are: none is available (2); required to deposit in Government banks (2); and need checking account (1).

- o Of 14 responding, all said a clearing house for market information would be useful. Most frequently mentioned as potential organization to organize such a clearing house were: Cooperative Union of the Philippines (3); National Cooperative Bank (if formed) (2); Cooperative Marketing System of the Philippines (if rejuvenated) (2); a new institution (2).

- o Most commonly cited potential exports for cooperatives were: handicrafts (7); furniture (4); fruits (3); coffee (3); toys (3); seaweed (2); and copra (2). Also mentioned were: ready to wear clothes; prawns; vegetables; spices; cocoa; marble and ramie.

- o Most commonly cited potential imports for cooperatives were: wheat/wheat flour (4); soybean meal (4); dairy products (4); processed food (2); fertilizer (2); and agricultural chemicals (2). Also mentioned were: corn, fish meal, meat and bone meal, feed mill equipment, farm equipment, flour mill equipment, electrical transmission equipment, sewing machines and shoe makers.

- o Of 19 responding, 10 said they own computer equipment while 9 did not.

- o Of 16 responding, 13 said there was suitable maintenance and repair service available for computers within their vicinity.

- o Of 12 responding, 11 said that an accounting software package especially designed for cooperatives would be useful.

- o Of 17 responding, 13 said they would like to communicate with U.S. cooperatives via electronic mail. Most frequently cited reasons were: commodity prices/trade (4); and, cooperative success/failure stories and industry standards (5).

- o Eleven of 16 responding said they would like to have the opportunity to participate in an international electronic conference on cooperative trade.

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QUESTIONNAIRE

MANAGEMENT

1. Which area of management would you most like to improve?

   How?

FINANCE

1. Are your activities constrained by lack of finance?
   Which activity is most constrained?

2. What would be the most important thing that could be done to improve the financial support of you institution?

3. Do you favor the establishment of a National Cooperative Bank? ____
   Would you invest the necessary subscription?

4. Do you deposit with a Cooperative Rural Bank?
   If no, why not?

TRADE

1. Would a clearing house for market information be useful?___

   a. regional level? ___
   b. national level? ___

2. Which institution would be most logical to organize such a clearing house?

3. The Trade and Development Mission has identified prawn production as a likely growth industry in the Philippines with strong export potential. Do you see a role for coops? ___

   Which Aspects?

4. What products do you believe have export potential for Philippine Coops?

5. What products might Philippine coops wish to source from U.S. Coops?

TRAINING

1. Which area of training would you most like to improve?

2. Would training on computers and software be useful to you? ___
   How?

3. Would computer-based training be useful?
   Which topics?

COMPUTER EQUIPMENT

1. Do you currently have all the computer equipment you can effectively use? ___
   If no, what would you do with additional equipment?

2. If you wanted advice on whether or what type of computer equipment to buy, to whom would you turn?
   Why?

3. Is there one or more reputable computer vendor in your area? ___

4. Is there suitable maintenance/repair support?

SOFTWARE

1. ACDI is considering developing an integrated software package for Multi-purpose Cooperatives that would: Have an accounting ledger as its Central Module, Have many AID-on modules such as member commodity deliveries and patronage accounts, be written in a common language such as dBase III and/or Basic, come with a source code so it could be locally modified, and be supported by ACDI and an on-line users group or Cooperatives?

   o Would such a package be useful to coops here?
   o Would your organization likely adopt it?

2. Would a similar package for Rural Farm/Coop credit be useful? ___

3. Would you like to join a users group of multi-purpose coops to discuss software used by the members for various purposes and where you could ask questions and benefit from the experience of others? ___

COMMUNICATIONS

1. What information would you like to have that you now do not?

2. Would you see any advantage in being in direct touch with U.S. coops through international electronic mail? ___ What?

3. Would you be interested in participating in an International Electronic Conference on Cooperative Trade? _____

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QUESTIONNAIRE COOP OR ORGANIZATION	MANAGEMENT AREA OF MGMT TO IMPROVE	HOW	FINANCE WHAT MOST CONSTRAINED BY FI?	HOW TO IMPROVE FI?
AMC SANTA BARBARA ILOILO	WAREHOUSING TRNG FOR BRD DIR MGMT, ACCTG	TRAINING	BUYING MEM'S PALAY	WORKING K PALAY DEPOSITS MEM SUPPORT
BACLARAN VENDORS	DELINQUENT ACCTS		NOT CONSTRAINED	
BANGKOOP	TECH ASST-CRB'S FOR FEAS.STUDS PLANNING SYS		MGMT ADVISORY	CAPITALIZATION
CAFFMACO	STAFF DEVT PRODUCTION		CONSUMER STORE, DAIRY POULTRY	MORE MEMBER SUPPORT
CENTRAL NEGROS ELECTRIC COOP INC.	SERVICE TO CONSUMERS		EXPANSION OF AREA SERVICED	SOFT LOAN
CFI CREDIT COOP, CEBU	COMPUTER USE & APPLICATIONS		NOT: IF WERE CONSTRAINED NATCCO & VICTO CENTRAL FUND	OK: ONLY 4% PAST DUE, 2% SECURED BY FIXED DEPOSITS
CFPI				
CISP	RECORDKEEPING ACCTG	COMPUTER	MKTG TO UP SALE NEED ACTUARY	CARP SOFT LOAN
CRB DAVAO CITY	PROF.STAFF DEVT OTHER CNTS MGMT, BANKING		NOT CONSTRAINED	
CRB ILOILO	BOARD OF DIR TRNG STAFF TRNG		LENDING	MORE K MORE EDUC.&TRNG FOR MORE MEMBER SUPPORT

QUESTIONNAIRE COOP OR ORGANIZATION	MANAGEMENT AREA OF MGMT TO IMPROVE	HOW	FINANCE WHAT MOST CONSTRAINED BY FI?	HOW TO IMPROVE FI?
CRB NEGROS OCC. BACOLOD	FUNDS MGMT		PROJECT DIVERSIFICATION	BANKABLE PROJECTS FI MGMT EXPAND MEMBERSHIP
CUP				
DAVAO FIBER	MONITORING PRD	COMPUTER	NOT CONSTRAINED	OK
FARMCOOP ILOILO	TRAINING: BOARD & STAFF COMMUNICATIONS WITH MEMBERS HELP MEMS WITH ACCTG/CONTROL		COMMUNICATIONS ACCOUNTING	ACCESS TO WORKING CAPITAL LOANS TO PURCHASE PALAY, ETC.
FECOPHIL	RESEARCH DATA BASE MATERIALS INVENTORY COMPUTERS		EQUIPMENT	SOFT LOAN FOR EQUIP & MATERIALS
MASS/SPECC	ACCTG	COMPUTER	TRAINING TECH TRNG	OWN BUS.DEPT TO EARN INCOME
NAMVESCO	DELINQUENCY RATE COLLECTION SYS		YES	ORG MORE COOPS
NATCCO				
VICTO	EVALUATING OWN PERFORMANCE IMPACT OF SERVICE ON MEMS		TRAINING: SOME MEMS CANT AFFORD EDPUP MEM SUPPORT	

QUESTIONNAIRE	FINANCE (cont'd)			TRADE	
COOP OR ORGANIZATION	FAVOR NCB?	INVEST IN IT?	DEPOSIT IN CRB?	FOR MARKET REGIONAL	CLEARINGHOUSE INFORMATION NATIONAL
AMC SANTA BARBARA ILOILO					
BACLARAN VENDORS	YES	YES			YES
BANGKOOP	MAYBE		YES IF SERVE AS PRIMARY		YES MAYBE AT CUP
CAFFMACO	YES	YES	NO: NOT AVAIL.	YES	YES
CENTRAL NEGROS ELECTRIC COOP INC.	YES	YES	NO: NO CHECKING REQ'ED TO DEPOSIT WITH GOVT: PNB		
CFI CREDIT COOP, CEBU	YES	FORM AT NATCCO WHERE ALREADY DEPOSIT	NO		
CFPI	YES	N/A			YES
CISP	YES	AS INSTIT INVESTOR	YES	YES, EVEN FOR INSUR. & REG. DEVT	YES
CRB DAVAO CITY	YES	YES	(ARE)	YES: CRB DOING BY WORD OF MOUTH	YES
CRB ILOILO	YES	YES: DEPENDS ON AMOUNT OF K REQ'ED, NCB'S LOAN PRIORITIES	YES BANGKOOP	YES	YES

QUESTIONNAIRE	FINANCE (cont'd)			TRADE CLEARINGHOUSE FOR MARKET INFORMATION?	
COOP OR ORGANIZATION	FAVOR NCB?	INVEST IN IT?	DEPOSIT IN CRB?	REGIONAL	NATIONAL
CRB NEGROS OCC. BACOLOD	YES	YES	(ARE)	YES	YES
CUP	YES	YES			YES
DAVAO FIBER	YES	YES: EVEN P100,000	YES		YES
FARMCOOP ILOILO	YES	YES	YES	YES	YES
FECOPHIL	YES	YES	NO: URBAN, GOVT SAYS ONLY GOVT BANKS		
MASS/SPECC	YES	?YES LACK INFO ON IT	YES -SM.AMT IN CRB IN DAVAO	YES: ALREADY DOING IT	YES
NAMVESCO	YES	NO -ONLY MEM COOPS COULD	NO	YES	
NATCCO					YES
VICTO	AMBIVALENT		NO: URBAN SAFE IN COMMBANK	YES	YES

QUESTIONNAIRE COOP OR ORGANIZATION	TRADE (CONT'D) WHERE CLEARINGHOUSE?	COOPS INVOLVED IN SHRIMP?	POTENTIAL EXPORTS?	IMPORTS FROM US COOPS?
AMC SANTA BARBARA ILOILO				
BACLARAN VENDORS		N/A	READY-TO-WEAR HANDICRAFTS STUFFED TOYS	SEWING MACHINES SHOE MAKERS PROCESSED FOODS POWDERED MILK
BANGKOOP	BUR OF AG STATS BACOD NEW NATL MKTG COOP	YES BUT CRBS CAN'T AFFORD TO FINANCE	DON'T KNOW	
CAFFMACO	DON'T KNOW	YES: FEED IMPORT INGREDIENTS	COFFEE FRUITS COPRA	SOYBEAN MEAL CORN, MILK FISH, MEAT & BONE MEAL
CENTRAL NEGROS ELECTRIC COOP INC.				ELECTRICAL TRANSMISSION EQUIPMENT
CFI CREDIT COOP, CEBU				
CFPI	? WOULD BE CMSP	MAYBE ON CONTRACT CAPITAL	HANDICRAFTS PRAWNS	
CISP	? THINKING INS. ORG	K INTNSIVE WORKERS, CRB	TOBACCO FURNITURE HANDICRAFTS	
CRB DAVAO CITY	CUP OR NCB WHEN OPEN	YES ALL ASPECTS	CUCUMBERS, BAN'S GINGER, COCOA PEPPER, COFFEE COCONUT, HANDICRAFTS	DAIRY, WHEAT SOYMEAL PRAWN FEED
CRB ILOILO	AMC'S	YES WORKERS COOPS MKTG/DISTRIB	HANDICRAFTS FURNITURE TOYS MARBLE	EQUIPMENT: FEED MILL FERTILIZER CHEMICALS

QUESTIONNAIRE COOP OR ORGANIZATION	TRADE (CONT'D) WHERE CLEARINGHOUSE?	COOPS INVOLVED IN SHRIMP?	POTENTIAL EXPORTS?	IMPORTS FROM US COOPS?
CRB NEGROS OCC. BACOLOD	NATL COOP BANK CRB AT REG. LEVEL	DEVT&OPERATIONAL FUNDING FOR PRDUCERS	MANGO GUAVA	NFA LINKED TO JAP. GOT RICE MILL & DRYER
CUP	CUP HAS PROPOSED	TRANSPORT PROCESSING	RAMIE	PROCESSED FOOD PRODUCTS
DAVAO FIBER	CUP	K HIGH MKTG/SUPPLY	FRUIT: MANGO ORANGES	WHEAT DAIRY
FARMCOOP ILOILO	CFPI WOULD BE CMSP BUT NOT BUS.TYPES	YES: NEGROS SUGAR MONEY GOING INTO IT	DAIRY HERE FOR IMPORT SUBSTITUTION	FERTILIZER CHEMICALS SMALL EQUIPMENT SPRAYERS, ETC.
FECOPHIL				
MASS/SPECC	NO OPINION	MAYBE: IN PRD MIX FISH/PRAWNS	COFFEE SEAWEED HANDICRAFTS RATTAN TOYS	WHEAT: BUY OR BUILD MILL FOR DAV. BAKER'S COOP
NAMVESCO	NATL AG & FISHERIES COUNCIL GOVT SPONSORED			MAYBE
NATCCO	NEW INSTITUTION	YES	RATTAN SEAWEED	FEEDS FEED INGREDIENTS FLOUR
VICTO	NATCCO	YES	HANDICRAFTS SHELLCRAFT	DON'T KNOW

QUESTIONNAIRE	TRAINING			
COOP OR ORGANIZATION	AREAS TO IMPROVE	COMPUTER TRAINING USEFUL?	CBT USEFUL?	HAVE COMPUTER?
AMC SANTA BARBARA ILOILO				NO
BACLARAN VENDORS	OK	YES	NO: VENDORS NOT READY	2 PC'S
BANGKOOP	STRAT.PLANNING PROJECT APPRAISAL	YES: CRB'S UP & LINKED TO BK	YES	NO
CAFFMACO	COOP MGMT	YES: ACCTG INVENTORY	YES: BASIC COOP TRNG	1 FEED FORMULATOR ONLY
CENTRAL NEGROS ELECTRIC COOP INC.	MGMT TECHNICAL ACCTG	YES: TO EXPAND SYSTEM ASKING IBM		IBM 1024 MINI 5 TERMINALS
CFI CREDIT COOP, CEBU	COMPUTERS	YES	YES COMPUTER APPLICATIONS	2 PC'S
CFPI		YES	MAYBE	6 XT'S 1 30MB HARD
CISP	SALES: VIDEO	YES NEW HARDWARE SOFTWARE	ON INS., RECORDKEEPING	3 PC'S 1 30MB HARD
CRB DAVAO CITY	MKTG FOR BANK COLLECTIONS PROF.SERVICES PROJECT MONITORING	YES	YES LOAN TRNG ACCTG PROCEDURES	NO - ONLY KEY PUNCH MACHINE
CRB ILOILO	FOR DIRECTORS NEW MEMBERS LOCAL FOR STAFF	YES	YES: ACCTG MGMT	YES

QUESTIONNAIRE	TRAINING			
COOP OR ORGANIZATION	AREAS TO IMPROVE	COMPUTER TRAINING USEFUL?	CBT USEFUL?	HAVE COMPUTER?
CRB NEGROS OCC. BACOLOD	TECH TRNG BOARD TRNG	YES IMPROVE BANK OPERATIONS		1 PC:GRANT FROM CARE,20MB 1 FOR WP (A DIRECTOR'S)
CUP				1 PC
DAVAO FIBER	PROF. STAFF DEVELOPMENT	YES: NEXT YR COMPUTERIZING		NO
FARMCOOP ILOILO	MEM/BOARD AG FOR FARMERS TECH & MGMT ORG/COOP PRINCIPLES	YES: DATABANK HAVE PERSON TO TRAIN	YES: ACCTG	NO
FECOPHIL	MANAGEMENT	YES	YES	NO
MASS/SPECC	TECHNICAL OJT TYPE	YES; SEVERAL MEMS HAVE THEM	YES ACCTG, AUDITING	NO
NAMVESCO	MANAGEMENT	SOON	MAYBE	
NATCCO	COMPUTER LITERACY	YES	NO NOT YET	5 PC'S 1 40MB
VICTO	TRNG NEEDS ANAYLSIS	YES: STAFF DEVT SYS ANAL/DES 4GL NEW SW/HW	YES USING COMPUTER	YES

QUESTIONNAIRE	EQUIPMENT				
COOP OR ORGANIZATION	HAVE ALL CAN USE?	DO WHAT WITH MORE?	WHERE FOR ADVISE?	VENDOR IN AREA?	MAIN-TENANCE IN AREA
AMC SANTA BARBARA ILOILO					
BACLARAN VENDORS	NO	1 MORE FOR ONLY COMMUNICATION ?	MEM/FRIEND	YES	YES
BANGKOOP	NO	HAVE NONE	VENDOR: IBM EAST.TELCOM (DO BANK TRANSFERS)	YES	YES
CAFFMACO	NO		LOCAL VENDOR	NO MANILA	NO MANILA
CENTRAL NEGROS ELECTRIC COOP INC.	YES		IBM CUP BETTER BECAUSE OF SCOPE	IBM CEBU	IBM CEBU TOO FAR
CFI CREDIT COOP, CEBU	NO	NEED TERMINAL FOR TELLERSOR GENERATOR	VICTO	YES	YES
CFPI	NO	MODEM: NETWORK OF COOPS AND CRBS	PEOPLES ACCESS	YES	YES
CISP	NO WANT FILE SERVER	MKT TRACKING NETWORK PC'S VENDORS	OTHER INS.CO'S	YES	YES
CRB DAVAO CITY	NO		VENDOR, CHECK WITH FRIEND	YES	YES
CRB ILOILO	(YES)		(ACDI)	YES	YES

QUESTIONNAIRE	EQUIPMENT				
COOP OR ORGANIZATION	HAVE ALL CAN USE?	DO WHAT WITH MORE?	WHERE FOR ADVISE?	VENDOR IN AREA?	MAIN-TENANCE IN AREA
CRB NEGROS OCC. BACOLOD	NO	ACCOUNTING	ACDI/CARE	DON'T KNOW	DON'T KNOW
CUP	(NO)	?			
DAVAO FIBER	NO		FIGURE OUT SELF	YES	YES: VENDOR
FARMCOOP ILOILO	NO	DATABANK FOR MEMBERS ACCOUNTING	GREENHILLS VENDORS FRIEND, CFPI	YES	YES EVEN LOANER
FECOPHIL	YES		VENDOR	YES	YES
MASS/SPECC	NO	PC'S, NETWORK (CLIMBS HAS 1, SPECC 0)	AUDITORS WHO KNOW	YES	YES
NAMVESCO	NO		VENDOR	YES	YES
NATCCO	NO	MODEMS TO CONNECT CENTERS			
VICTO	YES		MEDIA, FRIENDS CONFERENCES VENDORS	YES - 1	YES

QUESTIONNAIRE	SOFTWARE			
COOP OR ORGANIZATION	STAND. ACCTG USEFUL?	FOR YOUR COOP?	FOR CREDIT?	JOIN SW USERS GROUP?
AMC SANTA BARBARA ILOILO				
BACLARAN VENDORS				YES
BANGKOOP	YES		YES ESP. CRB'S	YES
CAFFMACO	YES	YES	YES	YES
CENTRAL NEGROS ELECTRIC COOP INC.				YES
CFI CREDIT COOP, CEBU	MAYBE			YES
CFPI	YES	YES	YES	YES
CISP	YES, MUST CONVINCE COOPS	MAYBE NON-LIFE ACT.	YES	YES NEED COMMUNI-CATIONS
CRB DAVAO CITY	YES		YES	YES
CRB ILOILO			(YES)	

QUESTIONNAIRE	SOFTWARE			
COOP OR ORGANIZATION	STAND. ACCTG USEFUL?	FOR YOUR COOP?	FOR CREDIT?	JOIN SW USERS GROUP?
CRB NEGROS OCC. BACOLOD	YES	YES	YES	YES
CUP				
DAVAO FIBER	YES	YES	YES	YES
FARMCOOP ILOILO	YES	YES	YES	YES
FECOPHIL				
MASS/SPECC	YES	YES	YES	YES
NAMVESCO	YES	N/A		
NATCCO	YES DEMAND THERE THEY GET INQUIRIES	HAVE DATA EXPRESS	YES	INQIRIES MAINLY FROM CRB'S AND CU'S
VICTO	YES		YES	YES

QUESTIONNAIRE COOP OR ORGANIZATION	COMMUNICATIONS INFO THAT DON'T HAVE BUT WANT	USE: E-MAIL TO US COOPS	E-CONF ON TRADE
AMC SANTA BARBARA ILOILO			
BACLARAN VENDORS		YES THROUGH NAMVESCO LINK COOPS IN PHI	YES
BANGKOOP	DONOR LIST	YES: SUCCESSES HOW-TO ADVISE	N/A
CAFFMACO	PRICE INDEXES ON RAW MATERIAL	YES: RAW MATERIALS	YES
CENTRAL NEGROS ELECTRIC COOP INC.		NO BUT YES WITHIN PHILIPPINES	
CFI CREDIT COOP, CEBU	SUCCESSES & FAILURES OF OTHER COOPS	YES SEE <--	N/A
CFPI	MKT INFO FI &PRD STANDAR MEM.PROFILES	YES STATS ON BANKING & TRADE	YES
CISP	INS.MKT INFO CLIENT PROFILES	YES, NEW TECH, SOME STANDARDS	ADVANTAGES
CRB DAVAO CITY	MKT PRICES FOREIGN EXCHANG	YES WORLD PRICES COOP PRACTICES	YES
CRB ILOILO			

QUESTIONNAIRE COOP OR ORGANIZATION	COMMUNICATIONS INFO THAT DON'T HAVE BUT WANT	USE: E-MAIL TO US COOPS	E-CONF ON TRADE
CRB NEGROS OCC. BACOLOD	HOW-TO ON BANKING OPERATIONS FI MGMT	BUSINESS DEVT HOW TO GET ASST.	IF CAPABLE
CUP	YES	YES	
DAVAO FIBER	COOP SUCCESSES IN OTHER PLACES	YES	YES
FARMCOOP ILOILO	UP TO DATE MARKET INFO	YES: SO KNOW ABOUT RICE IMPORTS ADVERTISE PHI EXPORTS	YES
FECOPHIL	WANT SAME FASTER	NO - MAYBE SISTER COOP PLAN	N/A
MASS/SPECC	COMMOD IMP/EXP PRICES/VOLUMES MKT TRENDS	MAYBE: NOW MAINLY CANADA MALAYSIA, IDN	YES
NAMVESCO	DONOR FUNDING NON-GOVT	YES SHARE IDEAS	YES
NATCCO	COOP STANDARDS CMM PRICES, NATL & INTL, CMM STANDARDS	INTERCOOP TRADE (YES)	
VICTO	INFO OM MEMS BUSINESS	NO WHAT TO TALK ABOUT?	YES

ANNEX D

GUIDE TO ELECTRONIC COMMUNICATIONS

ANNEX D

GUIDE TO DATA COMMUNICATIONS FOR COOPERATIVES IN THE PHILIPPINES

If you have a personal computer and a telephone line, you can communicate with computers all over the world. You will need four additional items:

1. A modem: a device that connects your computer to your phone line.
2. Communications software: a program which runs on your PC when you are communicating.
3. A Network User Identifier (or NUI): an account with a national communications company that will link you to other computers.
4. An account on any computer system which you want to use.

Each of these items is described more fully below.

1. THE MODEM

Local computer stores can supply modems. Prices at this date are around P4000-5000.00. The modem you buy should be "Hayes compatible", with both "V.21" and "V.22" modes.

Modems can be supplied either in their own case (called "external modems"), or on a card that is inserted into your PC (called "internal modems"). Either will do. If you have a voltage regulator on your PC, and you use an external modem, be sure to plug your modem into the voltage regulator as well.

Your modem will plug into three places: a PC, a power point, and a telephone line. The first two are relatively simple, and the computer dealer who sells the modem should be able to show you how to do it (or better, he may do it for you). The telephone connection may be tricky, however, since most modems use a special plastic connector, called an "RJ-11" or "modular" connector. Your modem should be supplied with a cable that has this connector on it.

On this connector, the center two wires are all that matter to the modem. They should be colored red and green. They must be connected to two telephone wires on your telephone line. If your telephone line has more than two wires, you will have to find the pair that carry the telephone signal. They will have about 45 volts across them (which you can test with a voltmeter).

2. THE SOFTWARE

Once your modem is hooked up, you will need to run a program on your PC to command the PC to talk to the modem. Many such programs exist, with names like ProComm, Crosstalk, Relay, Qmodem, and SmartCom, all of which will do the job. The ACDI office in Manila uses ProComm. Because ProComm is a "shareware" program, it can be copied freely for trial use; contact the ACDI office if you need a copy.

3. THE NETWORK USER IDENTIFIER (NUI)

The communications software will tell your modem to dial the telephone and to send data over the telephone line to another distant computer. If you wanted to, you could phone that distant computer directly, for example with an international phone call. However, that's usually very expensive. An alternative is to call a computer that is in the Philippines and have it relay your data to the distant computer. This is usually much cheaper.

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Now for some alphabet soup: the companies that run these intermediate relay computers are called International Record Carriers, or IRC's. When they offer such a computer for public use, they call it Packet-Switched Service, or PSS. To be allowed to use this service, you must have an account with the company. When they give you the account, they will give you an account name, called a Network User Identifier, or NUI.

So your next step is to contact an IRC and ask for an NUI on their PSS.

There are four IRC's which offer PSS in the Philippines. Each can issue you an NUI. Each has the same price for the service. (At this date, those prices are fixed by the National Telecommunications Commission.) Since any PSS service may not be totally reliable, and since an NUI costs nothing when it is not used, you should get an NUI from each of two IRC's: if one seems not to work for any reason, you can use the other.

The PSS services from each IRC are nearly identical. You should choose the IRCs that give you the most help, or who are closest to your office. There is a complete list of IRC's below. At present, PT&T/CapWire and Philcom may be the best choices, since they have offices in more cities than the others.

Remember that your computer will tell the modem to make a phone call, to an IRC's PSS computer. The IRC will have several "access numbers" for to make a telephone connection to its PSS, usually in both Manila and Cebu. You should experiment, calling each of the numbers, to see which works best. Some numbers may give busy signals, or may produce garbage characters on your screen, more often than the others; you should avoid using these numbers.

If you are outside Manila or Cebu, you will have to call long distance to one of these cities. If you do not have NDD, you should try to get it. This will make the calls much easier to make. It may also result in connections with fewer garbage characters.

Once your computer completes a call, the PSS will display something on your screen, and ask you for your NUI. Each PSS has a slightly different display so you should ask someone in the IRC to demonstrate how to use your new NUI, preferably at your office, or at least at their office. Using the information supplied below for CARINET and other services, be sure that the NUI works.

4. THE DISTANT COMPUTER SERVICE

Everything done so far has been for the purpose of getting your computer to communicate economically with another, distant computer. To complete the connection, you must identify with which of the many computers in the world you'd like to communicate. The number of the distant computer is called the Network User Address, or NUA.

For the purposes of illustration, consider the CARINET computer. It is located in the United States; its NUA is 311020100025. When you speak to the IRC, let them know that number, and ask them to tell you how you would reach it. Each IRC will do it a slightly different way. One might show a prompt on your screen, and expect you to enter a number like "20125". Another might tell you to enter the full NUA after a semi-colon; another might use a dash. Some will demand that you put a zero in front of the number. Unfortunately, while the distant computer system has just one NUA, there are many variations in HOW to type that one number. So have someone at the IRC show you.

One special NUA which you can try is 3106004743. This is the Tymnet information bulletin board in the US. It is a free service that does not require you to have an account. The reason it is free is that it only provides advertising and other information about Tymnet and related services. Once connected, you will see menus of options that you can choose.

Most distant computer services require you to have an account, so that you can be billed for the service. Before you can use the service, you must tell it your account. For example, as soon as you are connected to CARINET, it will ask you for your account number and password. This account will be charged separately from your local NUI account.

These distant computer services allow you to submit and pick up electronic mail ("e-mail") messages, to send telexes or faxes, to participate in conferences, or to find information in data bases. There are many such services, mostly based in the U.S., Japan, or Europe. The PT&T company plans to introduce a service based in the Philippines this year. PhilCom and Eastern are also resellers in the Philippines of the US-based MCI Mail and EasyLink services. And ACDI will be able to help if you want to use the CARINET service.

5. WHAT IT WILL COST

Telecommunications costs are measured in a variety of units (characters, words, segments, minutes, etc.), which can be difficult to compare directly. In this section, these charges will be reduced to "volume charges," measured in pesos per thousand characters, and "minimum call charges", measured in pesos per call. This corresponds to the charges for telephone use. For example, a telephone call might cost 4 pesos per minute with a minimum of 12 pesos per call (i.e., 3 minutes per call).

For data communications, however, the best unit for measuring volume charges is not the minute but the "kilocharacter" or "kc". One kc is one thousand typewritten characters, including spaces and carriage returns. It is a unit that is usually pictured as a half-page; for example, a short, half-page business letter contains one kc, as does a telegram of 150 average words, or a telex of about 3 minutes.

Like telephone, data communications has a minimum call charge. For telegram, telex, and fax, the minimum is applied to each message; for computer communications, the minimum is applied to one connection, during which many messages may be sent.

It is difficult to compare costs precisely, because many assumptions must be made. Any comparison will necessarily be approximate, and should be considered a "ball park" estimate only. Given that, here is a table comparing different methods of sending a one kc message from the Philippines, in pesos:

	Per 1000 characters	Minimum call
By telegram to another country	P 750.00-2250.00	P 35.00-105.00
By telex to another country	180.00-240.00	60.00-80.00
By telegram within the Philippines	90.00	6.00
By telex within the Philippines	60.00-84.00	20.00-28.00
By fax to another country (pay booth)	100.00-240.00	200.00-240.00
By fax to another country (own fax)	20.00-50.00	60.00-100.00
By fax within Philippines (own fax)	3.00-10.00	3.00-10.00
By e-mail to another country	12.00-22.00	20.00-29.00
By e-mail within Philippines (planned)	5.00-18.00	3.00-12.00

As you can see, fax and e-mail are the least expensive, with e-mail much cheaper for international communications. E-mail has other advantages as well: it doesn't need its own phone line (it can share one with other uses); it is much less expensive when many people should get the same message; it's cheaper to install if you already have a PC; and the same equipment works for other computer services (like data bases and conferences). And, the costs of computer communications has been dropping in the last few years, and shows signs of dropping further. (In fact, two years ago, e-mail communications costs in the Philippines were two to three times as high as they are today.)

The numbers above show a wide variation in the costs of e-mail. Part of the variation is due to NDD costs. Presently, your computer must phone either Manila or Cebu to connect to an e-mail service. If that call is NDD your costs will be on the high end of the scale.

Another source of variation is the choice of which distant computer service to use. Some charge a high subscription fee per month (P800 or more), with a small extra charge per kilocharacter. Other services charge less to subscribe (as little as P100 per month), but several pesos per kc. Which service you choose will usually depend mostly on your intended use; who you want to communicate with, whether there are data bases you want to use, and how much you expect to use the service.

A final note: the costs for the "planned" Philippine e-mail service are based on preliminary price information from PT&T.

6. TYPICAL PROBLEMS AND SOLUTIONS

One advantage of computer communications is that it can be done on your normal PC, sharing your normal phone line, without requiring either a special computer or a dedicated phone line. The computer and modem act just like another extension on your exisiting phone line. Furthermore, it never expects to receive a call, but only to originate them; so it can share a line with a fax machine or an answering machine without any problem.

When the computer shares an ordinary phone line, you should take care that no one will try to make a call while the computer is using the line. Like a person making a phone call, the computer doesn't like to be interrupted by someone else trying to call on the same line; and in addition, any time someone picks up the phone while the computer is online, garbage characters will appear on the computer's screen.

It's easy enough to prevent this potential problem. You can place a manual switch on the telephone line where it enters your building. Throwing the switch one way will give the computer the line; the other way gives the line to the usual telephones. Since the computer will use the line only occasionally during the day, this won't present much of an inconvenience. Alternatively, many modems have two plugs, one for "line" and one for "phone". If you connect the "line" plug to the phone line, and the "phone" plug to the usual telephones, the other phones will be prevented from using the line when the modem is operating.

Another common problem with computer communications is that computers don't tolerate noisy telephone lines well. When noise occurs, strange characters (like { or ~) will appear on the screen. Persistent noise can make the commmunications very difficult. On some networks, there are special types of modems, or special computer software, which effectively eliminates the noise. These are called "error-correcting modems" or "error-correcting protocols". None are currently available on the Philippine networks (although something may

be provided in future). If you have a problem with noise, just hang up and try your call again; that may eliminate the problem. Alternatively, you could try each of your network's different telephone numbers, and find which one gives you the least noise. If all else fails, try to call the number at a lower communication speed (for example, use 300 baud "V.21" communication instead of 1200 baud). Lower speeds usually have fewer errors. You could also try to issue a "kill character" (often a control-x) before each command you send from your computer, telling the host to disregard any noise that might have reached it in the meantime.

When you first start to use computer communications, you may find problems you don't understand, or you may find something that confuses you. There are several places to go to find help. One is your network's technical help number; they may have some suggestions. Local computer stores also have technical people who can explain things, and who may be able to visit your office to help you. And you can also call other users, like Agricultural Cooperative Development International (ACDI) in Manila.

7. IRC CONTACT INFORMATION

Philippines Global Communications Network Name: WORLDNET
8755 Paseo de Roxas St.
Makati, Metro Manila, Philippines
Contact: Alfredo Bacolod telephone: (2) 819-0706
Tito Llamado, Jr. telephone: (2) 816-2851
Fax: (2)818-9720
Telex: 23012

Other offices: Cebu, Davao, Baguio
Markets MCI Mail. Affiliated with MCI.
Hours of Operation: 0800 - 1700

City/Territory	Modem/Speed	Access Number
Manila	V.21 /300 BPS	(2)817-8811
	V.21,V.22,103,212/	(2)817-1581
	300-1200bps	(2)817-1791
		(2)817-1796
Cebu	V.21 /300 BPS	(32)61949
	V.22 /1200 BPS	(32)61948

Globe Mackay Cable and Radio Corporation Network Name: UDTS
669 United Nations Avenue
Ermita, Manila, Philippines 1000
Contact: Jesus Romero or Mr. Curanan telephone: (2)57-1550
Arnie G. Tiangco telephone: (2)521-3550
Telex: 40022 or 40280
Fax: (2)521-7225

Other offices: Baguio, Cebu, Davao, Cagayan de Oro, Angeles
Affiliated with ITT.
Hours of Operation: 24 hrs 7 days/wk

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City/Territory	Modem/Speed	Access Number
Manila	V.21	(2)521-7901
	Bell 103	(2)521-7908
	V.22	(2)521-7905

Eastern Telecoms Network Name: EASTNET
Telecoms Plaza
316 Sen Gil J. Puyat Ave.
Makati, Metro Manila, Philippines
Contact: Jose E. ("Chito") Geronimo telephone: (2) 815-8921
Richard Platte telephone: (2) 815-9829
Telex: 63322

Other offices: Baguio, Cebu
Markets EasyLink and MCI Mail. Affiliated with Cable and Wireless.
Hours of Operation: 0800 - 1700 M-F and 0800 - 1500 SAT

City/Territory	Modem/Speed	Access Number
Manila	212A/300-1200	(2)815-1553
	212A/300-1200	(2)815-1555
	V.21,V.22/300-1200	(2)819-1011
	V.21,V.22/300-1200	(2)819-1009
	V.21,V.22/300-1200	(2)819-1550
Cebu (planned)	V.21,V.22/300-1200	(32)71138
	V.21,V.22/300-1200	(32)71235

Philippine Telephone and Telegraph (PT+T) Network Name: DATANET
(Note: **Capitol Wireless** is name of international branch; PT+T is name of domestic branch.)
Spirit of Communications Center
106 Alvarado St.
Legaspi Village
Makati, Metro Manila, Philippines
Contact: Leo Villarosa telephone: (2) 815-0653
Dick Dela Rosa (Capitol Wireless) telephone: (2) 817-4228
Telex: 2217
Fax: (2) 816-0693

Other offices: Baguio, Cebu, Davao, Cagayan de Oro, Zamboanga,
Iloilo, Bacolod
Will market domestic "Easymail" early 1989.
Plans access numbers in all office cities in 1989.
Hours of Operation: 24 hrs 7 days/wk

City/Territory	Modem/Speed	Access Number
Manila	V.21,V.22,103,212/	(2)817-0070
	300-1200bps	(2)817-0043
Cebu	same	(call Cebu office)

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ANNEX E

LIST OF AGENCIES, ORGANIZATIONS AND INDIVIDUALS VISITED

ANNEX E

LIST OF AGENCIES, ORGANIZATIONS, AND INDIVIDUALS VISITED

The following is a complete list of the organizations, agencies and individuals visited by the project team. The cooperative organizations visited for which questionnaires and profiles were completed are marked with an asterisk (*).

*Area Marketing Cooperative, Sta. Barbara, Iloilo
Bernardita L. Barranco, General Manager

*Baclaran Vendors Development Cooperative, Inc
Leonora R. Avante, Manager
Angelita Calasanz, Treasurer
Victorino C. Olivares, Vice Chairman

Bureau of Agricultural Cooperative Development
Department of Agriculture (BACOD) Manila
Clemente E. Terso, Jr., Director

BPI Agricultural Development Bank, Manila
Rodrigo B. Supena, General Manager
Edgardo O. Madrilejo, Manager

Bureau of Domestic Trade Promotion
Azucena (Nanette) Mendoza

*Cavite Farmers' Feedmilling and Marketing Cooperative (CAFFMACO) Cavite
Eustaquio M. Espiritu, Manager

Capitol Wireless, Inc., Makati
Dick Dela Rosa, Marketing Officer

*Cebu CFI Capitol Community Credit Cooperative, Inc., Cebu
Esperanza F. Garcia, Chairman
Priscilla U. Paez, Manager

Cebu I Electric Cooperative, Toledo City
Cebu III Electric Cooperative, Dumanjug
Fr. Francisco G. Silva, General Manager

Central Bank of the Philippines, Manila
Rene Quinto, Assistant Director

*Central Negros Electric Cooperative,(CENECO) Bacolod
Jose V. Ramos, CPA, President
Jofionigo Rodrin, Active General Manager
Benedecko Balo, Manager, Finance
Herman Gonzales, Head, EDP

*Cooperative Foundation Philippines, Inc. (CFPI) Manila
Ricardo Foronda, Deputy Executive Director
Myron A. Gawigawen, Manager Organizing and Training

*Cooperative Insurance System of the Philippines, Inc.,(CISP) Manila

Eduardo Espejo, General Manager
Andres F. Estacio, Assistant General Manager

*Cooperative Rural Bank of Davao City, Inc., Davao City
Atty. Josefito A. Guillermo, General Manager
Lorna A. Llamas, Assistant Manager

*Cooperative Rural Bank Of Iloilo, Inc.
Abelardo S. Velete, Manager

*Cooperative Rural Bank of Occidental Negros, Inc.,Bacolod
Perfecto E. Marzona, Chairman
Leo Doloso, Manager
Willie Derequito, Training Director

*Cooperative Union of the Philippines, Inc.(CUP) Manila
P/B Gen (Ret) Arcadio S. Lozada, President & Secretary General

*Cooperatives Rural Banks Federation of the Philippines, Inc.(BANGKOOP) Manila
Benny F. Caballero, CPA, Chief Operating Officer
Engr. Benjamin A. Cruz, Executive Assistant

Cooptrade
Modesto P. Sa-Onoy, Philippine Committee Member

Credit-Life Mutual Benefit Services Association,Inc. (CLIMBS) Cagayan De Oro City
Silvano Bausing

*Davao Fibre Producer's Cooperative, Inc.
Catalino P. Mendex, CPA, General Manager

Davao Oriental Area Marketing Cooperative, Inc., (DORAMCO) Banaybanay
Concordio I. Baquial, Chairman

Eastern Telecommunications, Makati
Jose E. ("Chito") Geronimo, Manager, Selected Accounts
Richard Platte, Manager, Applications Support/Marketing

ElectroWorld (computer dealer), Makati
Griselda P. Izon, Market Specialist

*Federation of Electric Cooperatives of the Philippines, (FECOPHIL) Manila
Francis T. Nacianceno, Jr., General Manager

Ford Foundation, Makati
Solita del Castillo, Administrative Officer

Foster Parents Plan International, Manila
Oben Oliva, Management Information Systems Regional Coordinator

Globe Mackay Cable and Radio Corporation, Ermita, Manila
Jesus C. Romero, Area Sales Executive

Danny Cunanan, Supervisor Systems Engineering Group

Integrated Computer Systems, Inc. (computer dealer), Makati
Duke C. Eustaquio, Sales Manager

International Institute of Rural Reconstruction,(IIRR) Cavite
Dr. Juan M. Flavier, President
Conrado S. Navarro, Director Of Field Operations

International Rice Research Institute, Los Banos
Robert Bourquein, Director for Administration

K-Cube Woodworkers Cooperative, Inc., Bacolod City
Alejandro V. Ozoa, General Manager

Land Bank of The Philippines, (LBP), Manila
Deogracias Vistan, President
Jesus F. Diaz, Executive Vice President

*Mindanao Alliance of Self-Help Societies, Inc.
Southern Philippines Education Cooperative Center, Inc.
(SPEC-MASS) Cagayan De Oro City
Silvano Bausing

Morgan Guaranty Trust Company, Manila
Michael C. Stephen, Vice President

*National Confederation of Cooperatives, Inc.,(NATCCO) Manila
Romulo M. Villamin, General Manager

National Federation of Sugarcane Planters, Bacolod
Modesto P. Sa-Onoy, Executive Officer

*National Market Vendors Cooperatives Service Federation,Inc., (NAMVESCO) Manila
James N. Roberson, Executive Officer

National Telecommunications Commission, Quezon City
Lingouy Alcaraz, Commissioner

Philippine Commercial International Bank
Joey A. Bermudez, Vice-President

Philippine Federation of Credit Cooperatives,Inc
(PFCCI) Manila
Fr. Benedicto A. Jayema, Managing Director

Philippine Global Communications, Inc. (PhilCom), Makati
Tito N. Llamado, Jr., Senior Area Manager

Philippine Telephone and Telegraph (PT&T), Makati
Leo Villarosa, AVP Systems

Quedan Guarantee Fund Board, ROP, Manila
Galo B. Garchitorena, Executive Director
Candelario L. Verzosa, Manager-Program Operations

Security Pacific National Bank, Manila Offshore Banking Unit
Robert R. Davis, Vice President and Manager

South East Asia Rural Social Leadership Institute,
College of Agriculture, Xavier University, (SEARSOLIN) Cagayan De Oro
Antonio J. Ledesma, S.J., Director

Sugbo Rattan Workers Cooperative, Inc.
Frank Jaca. Manager

Supreme Cooperative Council of the Philippines
(SCCP) Manila
Luis Manuel C. Corral, Executive Director

University of the Philippines Computer Center, Quezon City
Luis Alarilla, Jr., Director

U.S. Agency for International Development (USAID) Manila
Malcolm Butler, Mission Director
John Blockton, Assistant Mission Director
Kenneth A. Prussner, Rural Development
Robert Jordan, Capital Development
Roger Garner
Charles R. Rheingans, Rural Development Division
Bryant George, Private Voluntary Organizations
Michael E. Hauben, Capital Development
Paul R. Deuster, Ph.D., Program Economist

*Visayas Cooperative Development Center,Inc. (VICTO) Cebu City
Cresente C. Paez, Executive Director
Edgar V. Comeros, Assistant Executive Director
Audie Joseph V. Samson, EDP

*Western Visayas Federation of Marketing Cooperatives (FARMCOOP) Iloilo
Melinda B. Aricaya

Western Visayas Union of Cooperatives, Inc., Iloilo (WVUCI)
Pura L. Librodo

TELECOMMUNICATIONS

PLDT responds to increasing telephone demands

Amid a current backlog of 400,000 telephone line applications, the Philippine Long Distance Telephone Co. (PLDT) announced recently that it has definite plans to invest P24-billion for another two million telephones nationwide after 1993.

The plan, which is part of PLDT's "Big Bang" project will take eight years to implement.

Beyond 1993, PLDT will be able to install more telephone lines at less investment because PLDT's X-5 expansion program would have provided the groundwork or infrastructure for any succeeding expansion program.

The plan still needs some funding, however. "We are working on the funding," said PLDT assistant vice-president for marketing Alfonso P. Guilaran.

But according to PLDT statistics, the company may still find it difficult to meet the forecasted demand for telephones despite this plan. The demand for telephones by the year 1995 would already be 2.2 million units. By 2,000, or a year before this new plan of PLDT is through, the demand for telephones is forecasted to reach 2.9 million units. Presently, the demand is 400,000, a number that is increasing geometrically every year.

PLDT's contract with Cincinatti Bell Information Systems, Inc. (CBIS-I) is expected to reduce by 10 per cent the pending 400,000 applications for telephones. The CBIS-I is handling the computerization of PLDT's records to enable PLDT to find cable facilities more easily to serve more subscribers.

Meanwhile, PLDT has developed several ongoing programs to improve its services as it marks its 60th year of service.

For 1985 to 1987, more than P152 million were spent in plant rehabilitation. This year, nearly P270 million have been earmarked for 319 plant rehabilitation projects.

PLDT has also invested P997.9 million in plant facilities during the first six months of 1988, bringing its total assets to P22.00 billion as of June 30. This was made possible through increased earnings as indicated by its reported net income applicable to common stock of P1,035.7 million. Of this amount, P964.8 million or about 93 percent was reinvested to increase shareholders' equity to P7.3 billion.

A computerized system for handling subscriber complaints has been installed in Metro Manila called the Line Condition Report (LCR).

The system enables PLDT repair, testing and dispatch to:

- speedily analyze the nature of the subscriber's trouble report;
- pinpoint its cause;
- immediately send repairmen to their work assignments; and
- monitor restoration work.

At present, Metro Manila has a total capacity of 481,213 lines or about 680,000 telephones while provincial exchanges have 120,786 lines or 180,000 telephones.

Of total facilities, 200,000 lines in Metro Manila and 16,000 lines in five principal provincial areas have been installed using electronic analog switches. Computer-controlled, these provide telephone users such conveniences as push-button telephones, direct distance dialing (DDD) both national and international, and abbreviated dialing among others.

PLDT has just completed the fourth major stage of its expansion program called the X-4 program which has provided for an increase in toll capacity in most areas. This means that the telephone system can now handle more long-distance calls in more places.

The principal link, Manila to Cebu, will soon have 1,800 circuits—three times the number in 1978. This will enhance the PLDT's capacity to process more national and international calls at a faster rate. Already, 1,200 circuits are in place.

Toll stations have been increased from 69 to 140, and 18 rural exchanges have been put into operation. PLDT has also provided 25 additional links to interconnecting companies and has increased the circuits to 60 independent telephone companies. Since long-distance calls contribute substantially to lowering telephone rates, PLDT is exerting effort to sustain efficiency of toll facilities and quality of service for long-distance calls.

The X-4 program has also facilitated the introduction of the Cellular Mobile Telephone System which, when fully operational will have 10,000 lines.

So far, the National Telecommunications Commission (NTC) has approved an initial 500 cellular lines for test operation. Seven cellular base stations are now in operation between Batangas and Baguio City. This enables a traveler along this route to make national and even international calls without need for the long-distance operator.

PLDT is also starting its fifth phase of expansion or its X-5 project which seeks to provide an additional telephone lines to meet the requirements of tol and traffic, business sector and a substantial number of residential subscribers. Investment requirements are about P7.3 billion for 130,000 lines.

Investments in submarine optic fiber cables have also been drawn up. These include the Guam-Philippines-Taiwan trans-Pacific cable and, if found economically feasible, the Brunei-Philippines link.

TELECOMMUNICATIONS

PT & T gears for digitalization

The name Philippine Telegraph and Telephone Corporation may not ring a bell, but say PT&T and that covers it.

PT&T is one of the country's privately-owned franchised carriers operating under a predominantly "privatized" telecommunications industry.

In such an environment where sources are offered on a "regulated competition" basis, PT&T has emerged as one company to reckon with, striving to overcome the limitations of the country's telecommunications technology.

The Metropolitan Computer Times sought an interview with PT&T assistant vice president for systems Leo Villarosa to bare PT&T's current operations and pains. Below are excerpts of the interview.

Leo Villarosa, AVP-Systems of PT&T

METROPOLITAN COMPUTER TIMES: How would you relate computer technology with telecommunications?

Leo Villarosa: It's come to a point wherein the two, computers and telecommunications, are thought of in the same vein. In other words, a knowledge of computer technology is essential for an expertise in telecommunications. It's that the line dividing the two is becoming quite thin. If you want to be proficient in telecommunications you have to be more or less familiar with how computers work, what their interfaces are and what programs and applications are applicable in the telecommunications medium. The case for transparency wherein you could put any type of equipment on the link and the carrier just didn't care, and the assumption was it would work at any time and at any application — well, those things are hardly true now. Right now, you just don't throw anything — in the data communications equipment — you have to have a thorough knowledge of what computers can do, what their limitations are so that proper networking design can be done.

MCT: How fast do you think can our local telecoms advance in the next five years?

Villarosa: Truthfully, I don't think we can advance that fast. Let's put it this way, the whole advancement of telecommunications is more or less dependent on the human resources we have. We can have the latest equipment strung all over the country but if we don't have the people to maintain it or even be aware of the capabilities of such an equipment, then the advancement is restricted. Although we are willing to pay for the expertise, we just don't have that many experienced people and the rate of turn-over is quite high. Not only do we have to compete with the foreign companies but even among the local environment, you lose engineers. There is still a lot to be desired in the kind of training our engineers get right now. We get engineering students, fresh out of school and they really know nothing. For one thing, most schools employ professors or instructors who are not really exposed to the day-to-day activities of data communication unlike in a carrier wherein the engineers are exposed to the latest equipment, the hardware, the day-to-day activities. I think there has to be some way to improve the educational environment of the country so that our own telecommunications advancement can become a faster reality in the next five years.

MCT: What possible future directions will be taken on by telecom?

Villarosa: I believe that telecoms can only take one direction and that is in upgrading the existing backbone, providing more communication facilities and really getting the best from suppliers. There is one thing that can't be denied and that is the future direction is towards digitalization. We know for a fact that an analog backbone really have no proper place in future advancement. When higher speeds and a lot of network rerouting and switching capabilities are demanded by clients, the only possible way to take this on is complete digitalization of the circuits.

MCT: Can you give us a brief background on your company?

Villarosa: PT&T is a communications carrier primarily in the service of data communication. We provide data, voice and recently, we have started providing packet switching data service . And within this year, we will be providing the universal electronic mail system X400. The bulk of our services are really in telex. We provide about 90 percent of the nation's telex requirements and about 45 percent of telegraphs. But we are now more or less concentrated in the provision of online digital data services and the packet-switching data networks (PSDN) for companies. We also have the X400 universal E-mail which allows, let's say, an E-mail system of IBM to communicate with an E-mail system of DEC. To take a comparison, it allows you to receive a letter written in Chinese and translated for you in English, something like that.

(Continued to p. 16)

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the introduction of ISDN. Siemens is well up with the front-runners; a total of eight ISDN exchanges have so far been installed worldwide, and a further 21 exchanges are on order.

"The Telecommunications Networks and Security Systems Group invests each year around DM 950 million, i.e. about 12 per cent of its telecommunications sector turnover, in research and development, and of a third of this abroad.

Olex leads in cable technology

Rapid advances in communications have been matched by improvements in telecommunications cables and associated equipment.

Olex Cables, claimed to be the largest Australian company in the cable industry, has managed to keep up with the times and meet the increasing demands of the advancing communication technology.

Olex has achieved numerous advances in communication technology, among them the creation of paper insulated cables, cellular polythelene insulated cables and the most modern optical fibre cables.

The company manufactures a full range of optical fibre cables which are marketed individually or as part of a total communication systems package tailored to customer requirements.

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JS meets telecom needs of rural areas

With the world's increasing dependence on telecommunications networks, rural areas can not afford to lose out on its economy because of telecommunication inefficiency. Responding to the needs of rural areas, France-based JS Telecommunications specializes in the design of small and medium capacity digital exchanges.

Its JISCOS family of digital exchanges, allows the adaptibility of installation to existing national networks. Owing to their compactness, JISCOS systems can be supplied in container configuration. Maintenance is fully automated, with local or remote operation capacity. The systems have been successful in Colombia, Congo, Gabon, Lebanon, Mali, Polynesia, Senegal, Tunisia and Uruguay.

JS Telecommunications also offers Private and Railway Telephony with ISDN capabilities.

PT & T . . .

(Continued from p. 13)

lows you to receive a letter written in Chinese and translated for you in English, something like that.

MCT: Specifically, are there any major projects that your company is involved in?

Villarosa: Right now, we are in the process of upgrading our backbone from Makati to the South, in the sense that we are converting our analog circuits to digital. Our X25 packet-swtching data network, because of the higher speed that it acquires and the extreme reliability that's needed for any X25 packet-swiching data network, really calls for nothing short of a digital network. So from Makati to Bacolod right now has just been recently converted to pure digital mode. Before, we were lucky to get anywhere from 1200 to 2400 bits per second on the linked speed. Now, with Bacolod completely digital we can run speed up to two megabytes. In fact, we offer the customers trunk speeds of as high as 64 kilo bits. That's 64,000 bits per second which just shows you what digital transmissions can do. You can get involved with very high-speed circuits, include digital voice and fax into the circuit in one trunk. Next month, Cagayan de Oro follows, then Iloilo, Davao and Zamboanga. One of the things we are reviving is our public facsimile service. We introduced this sytem about two or three years ago. We put up industrial-type facsimile machines in the key cities of the Philippines and we were anticipating that we'd get a lot of traffic out of this from people sending documents by facsimile. But the project did not take off because we didn't anticipate at that time that the facsimile system required a very extremely clean line because it was running at 9600 bit. With the digital circuit cut in, we can guarantee you will have only one bit in error for every million bit characters sent which is more than enough than what is needed for a facsimile service. And of course with X25 now existing, we would be making use of the PSDN or what we call our data net as the vehicle for transporting or creating a network of E-mail services.

MCT: So far, what are the major achievements of your firms as a private player in the field of telecom?

Villarosa: We have more than enough capacity to serve most of the major players and it's just a question of if they are willing to pay for a higher grade service. We have all kinds of services they need: switching services, dedicated circuits, X25 circuits and now even X400 circuits. So I don't want to hear any more complaints that there are not enough services. I guess my question to them is "Are you willing to pay for this kind of service?"

MCT: What do you expect to achieve in the next five years?

Villarosa: Domination of the telecom field we hope (laughs). Especially in the area of digital circuits. I think we have about a four-year lead as it is. In the area of X25, we're the only carrier that has the main CPU engine of the PSDN right here in the country. All the other carriers that claim to have X25 service are simply extensions of a remotely-located system.

- by Myra Candari

TELECOMMUNICATIONS

Telecommunications: the missing link

by Chin Yu Ming
Exclusive MCT Correspondent

"President Aquino will not appoint a caretaker when she leaves next week for Brunei, and will run the government by a telephone and a telefax communication system....."

This presidential press statement comes as no suprise as she leaves for Brunei on August 29, her sixth overseas trip since she took power two years ago. Cory's confidence in a remote telecommunications system reflects her full government endorsement of the current Medium-Term Plan (1987 - 1992) which places telecommunications as the top priority for expansion and renovation. The telecommunication development program highlights the urgent need for an adequate, efficient and cost-effecive infrastructure to bolster the country's overall development and economic recovery. An appropriate telecommunication strategy would surely enhance business climate for investment promotion, regional development of agri-processing industries, domestic trade promotion, export trade promotion and of course the implementation of CARP.

ASIA SITUATIONS

Telecommunications in Asia had an 11 percent growth rate, the highest in the world. Burma has planned to borrow about US$220 million to increase international communication links and to expand the domestic telephone network. Gearing towards industrial expansion and export development, the state-run Posts and Telecommunication Corp. is placing high priority on upgrading its low telephone density, about 0.13 per 100 population. China, on the other hand, has committed US$40 billion up to the year 2000 to expand its telecommunications network.

The biggest spenders, however, are Japan, Korea, and Taiwan, who are among the top 20 in the world. The US$24.1 billion that Japan will spend in 1988 represents a 13 per cent increase over the last year. While Korea and Taiwan are spending less than Japan, the increase over 1987 is 20 per cent and 28 per cent, respectively. Korea spends up to US$1.8 billion dollars and Taiwan, close to US$1 billion.

ECONOMIC IMPACT

The role of telecommunications in socio-economic development has already been recognized by both industrial and developing economies in Asia. There is a very close link between the number of telephone main station in a country and its general standard of living, i.e. the greater the telephone density, the higher the national Gross National Product(GNP), and vice versa. Thus for a country to become economically efficient, it must first have a powerful and reliable telecommunications network.

In October 1987, the International Telecommunications Union published the results of a study in Costa Rica on the economic benefits of expanding the telephone network. A residential subscriber, the report says, can expect the benefits to outweigh the expense by at least 5:1. For a typical rural business user, the economic returns are 50:1 while for big commercial enterprises, the benefit-cost ratio could reach 80:1.

Another detailed quantitative analysis of telecommunications data from 35 developing and developed economies revealed a staggering impact. In these countries, a 1 per cent increase in the number of telephones for every 100 persons over a period of 5 years contributed to a 3 per cent increase in average per capita income in the successive 7 years. This impact on the national income was greater in countries with the lower telephone densities.

For developing countries, moving towards industrial expansion, the establishment of a reliable telecommunications infrastructure is therefore absolutely vital. As for the developed economies, they will find that quality of their telecommunications infrastructure will largely determine their future competitiveness on world markets.

PHILIPPINE SITUATIONS

These global situations suggest that for a recovering economy with a disparate income distribution, investments in the rural areas of Philippines where the majority of population live can have a dramatic redistribution effect.

However the local telephone development is lopsided resulting in a terribly low average. Data from Department of Transportation and Communication show that as of 1986, telephone density in the country averaged only 1.31 main stations per population. In Metro Manila, telephone density is 7.37, in other urban centers it is 2.96 while for the rural areas it is 0.31.

Comparative figures given by National Telecommunications Commission showed that the Philippine lagged behind the average of the developing countries which is 3 per 100 population.

"For developing countries, moving towards industrial expansion, the establishment of a reliable telecommunications infrastructure is absolutely vital."

Currently, about 927,000 telephone lines are spread throughout the country. Of these, nearly 94 per cent are owned and operated by the privately owned Philippines Long Distance Telephone Company (PLDT), which dominates the telephone sector; the rest are operated by the government, and 22 private operators.

FRAGMENTATION

These highly fragmented systems are interconnected via a microwave radio carrier toll network with a total capacity of 5,225 channels. There are about 220 central exchanges, 70 per cent of which is distributed in Luzon, and the remaining in the Visayas and Mindanao.

In addition to telephone services, there are six private domestic record carriers and the Telecommunications Office providing about 2,200 stations in all major cities and municipalities and three domestic private telex operators with about 20 telex exchanges combining about 4,000 lines capacity. Some of these domestic record carriers also provide other services which include leased voice/data switchable services, facsimile service, packet switching, coastal and aeronautical radio telegraph service.

Four international record carriers are currently serving external communications needs using fully computerized exchanges linked to major cities of the world.

The Domestic Satellite Philippines, Inc. (DOMSAT) operates 12 earth stations; the master central station in Metro Manila and eleven earth stations in Cagayan, Cebu, Iligan, Iloilo, Laoag, Davao, Palawan, Tacloban, Tuguegarao, Iriga and Zamboanga. Currently it uses only 1/2 transponder on the Indonesia Satellite PALAPA for message service.

A recent conference organized by People in Communication summarized the state of telecommunications as follows: " bad: poor service quality and coverage; antiquated facilities, high charges; and slow program of development."

NEW DIRECTION

Two years since the revolution, the Department of Transportation and Communications is putting a much higher priority on telecommunications and injecting fresh direction in it, realizing this infrastructure if underdeveloped could be the missing link to the overall national development.

The DOTC has recently updated a nationwide telecommunications study done in 1982-83 with consultancy assistance by Arthur D. Little, Telecoresult and SGV & Co. The creation of National Telephone Program is compatible with the country's economic development especially the rural regionalization of industries. Credit must be given to DOTC Secretary, Raineric Reyes, for having started what has been the most concerted effort yet at developing telecommunications in the country. Secretary Reyes, on his third month of office, approved the new policy guidelines (DOTC Circular No 87-188) which spelled out four objectives and fourteen basic provisions that would set direction for the industry rationalization and development.

The 1987 circular's four objectives are as follows: to provide universal essential services at reasonable rates; to foster innovation particularly in advanced information services; to encourage the participation of private enterprises in a regulated, fair and competitive environment; and to accelerate the development and expansion of an efficient and adequate telecommunications infrastructure as a catalyst for socio-economic upliftment and political stability, under a system of free enterprise.

The fourteen basic provisions of DOTC Circular No. 87-188 can be summarized to eight policy guidelines, as follows: National Telecommunications Network; Telecommunications Standards; Mobile Radio Communications and Value-Added Telecommunications Services; Transmission Network Facilities; Rules and Regulations Governing Equipment provided by Subscribers of Public Networks; In-country Manufacture of Telecommunications Equipment; Radio Frequency Spectrum Management; and Rates and Tariff.

Another key development is the formation of a two-year National Telecommunications Development Committee (NTDC) mandated under Memorandum Order 163. The formation of the policy body is surely a step in the right direction to improve NTC primary function as a the regulatory body.

"...for a recovering economy with a disparate income distribution, investments in the rural areas of the Philippines where majority of the population lives can have a dramatic redistribution effect."

As approved by President Aquino, the NTDC is represented by all the major sectors involved in telecommunications and national policy-making.

GOVERNMENT AND INDUSTRY

The recent approval by the Cabinet Committee for Infrastructure (CCI) on the DOTC's P12.5 billion Medium-Term Investment Plan for communications highlights the country urgent drive towards an adequate, efficient and economical telecommunications system. In addition, the government will take full measures to complement the concurrent private sector investment in telecommunications.

With this approval, DOTC believes that the National Telephone Program (NTP) and Rural Telecommunications Development Program (RTDP) will be implemented as fast, and as cost effectively as possible. Its overall objective is mandated by House Bill No.3452 which seeks to provide at least one public telephone outlet for each barangay. Most significant of all is the establishment of the digital backbone on the economically backward eastern portion of the country.

Without doubt, this active stance by the government will benefit the rural socio-economic development. By taking this giant stride in installing telephone lines in the countryside, the government can stimulate economic activity, accelerate the growth of the less developed regions and even expedite the implementation of CARP.

Furthermore, this rural telecommunication development will hasten the regional dispersal of industries and therefore, of employment and income opportunities. The lack of telecommunications facilities in the rural areas is one major reason why business firms are reluctant to start operations outside Metro Manila.

SUBSCRIBER RADIO TELEPHONE

Numerous developmental programs have rolled of since the Cabinet's approval which will certainly raise the quality of telecommunication service by 1992.

One of the most significant developments is the implementation of the Bantay Subscriber Radio Telephone (SRT) Field Trial Project. SRT, which will install radio telephones in sixteen municipalities

(Continued on P. 20)

Telecommunications: the missing link

(Continued from P. 10)

in Bantagas costs P8.2 million. The Canadian International Development Agency provided about P7.2 million for the project which TELOF of DOTC will allot about P1 million.

To date, the detailed engineering design and site acquisition have already been completed. The installation of radio telephone equipment and pole line material is now about 90 per cent complete. It is targeted to be completed before the end of the year. This trial project, if found feasible, will be duplicated in other parts of the country.

NATIONAL TELEPHONE PROGRAM

Under NTP Phase 1, the DOTC's agency, Telof will furnish 138,000 lines to about 150 municipalities. These projects are being implemented with some funds coming from other countries. Japan's Overseas Economic Cooperation Fund (OECF) is for RTDP and Tranche 1.1 of NTP; the French Protocol of Understanding for Tranche 1.2; and last, the Italian Protocol of Understanding for Tranche 1.3.

Tranche 1.1 will provide 61,700 additional digital telephone lines for Regions 3,4 and 5, Tranche 1.2 for Regions 6,7 and 8 with 30,500 lines while Tranche 1.3 will furnish 45,800 lines for Regions 9,10, 11 and 12.

According to DOTC, benefits to be expected from the implementation of NTP include: additional foreign reserve, existence consumer surplus, enhanced interaction of economic sectors and development of international commerce.

The NTP's eastern digital backbone will be coordinated with PLDT's western analog backbone to evolve into an integrated network. There are plans to interconnect the transmission systems in the key cities of Metro Manila, Cebu, Cagayan de Oro and Davao.

The NTP also seeks to establish 14 microwave links, five ultra high frequency links and 35 cable links and an international gateway with ISD service and local call observation facilities.

RURAL TELECOMMUNICATIONS DEVELOPMENT PROGRAM

Phase A of RTDP has already been implemented for Regions 1 and 2 furnishing 11,000 digital telephone lines. Within the next 4 years, Phase B of RTDP will be implemented with an additional 8,000 digital lines in 32 municipalities in Region 1 and 2.

To encourage the participation of private sector in a regulated and fair rural telecommunications development, the maintenance and operation of the Phase A will be managed by Philphone, a subsidiary of PLDT.

MARITIME TELECOMMUNCATIONS

Efforts have been also directed towards maritime communications. It is very deplorable to recall that the Dona Paz disaster which happened off the coast of Mindoro was only reported about eight hours after the accident. This clearly indicates that concrete action must be taken to improve the country's marine telecommunications system.

The Maritime Communications for Manila Coastal Station (Phase 1) called for the construction of the Manila Central Coastal Station to provide a system for the Philippine Coast Guard with ship to radio communications. This phase has already been approved by NEDA under the 15th Yen Credit Loan. Once completed, the Manila Central Coastal Station will provide interisland and international communications services such as maritime telegraphy and telephony utilizing high-frequency single-side band radio.

Phase 2 involves the establishment of two first-class coastal stations each for Cebu and Davao, second-class stations for Puerto Princesa and Zamboanga and seven third-class stations in other parts of the coastal regions.

The NTC is also seeking to install marine radio monitoring equipment among its facilities to enhance the government's capability to respond to emergency situations at sea. This project would be implemented in coordination with the Philippine Coast Guard. At the same time, a program of having compatible equipment for both Coast Guard and the shipping companies, especially the mutual availibity of voice high frequency system, is currently being pursued.

The implementation of the maritime communications projects will certainly provide adequate, efficient and consistent public communications service to Maritime Districts of the country.

TELECOMMUNICATION TRAINING INSTITUTE (TTI)

The new priority of DOTC has also identified the human resource development programs offered at TTI in Bulacan as the strategic realignment of the technological transfer in the modernization of the telecommunication services. The best investment countries can make in telecommunications is to train people, with the aim of creating an indigenous expertise to ensure the right choices are made when buying systems.

The training of staff will help increase the country's computer and communications engineers and make it more technically independent. Investments in telecommunications will only bear fruit if backed by sufficient manpower development to operate, service and maintain newly installed systems.

It is interesting to note in 1987, the ITU sent more than 300 microcomputers - equipped with Singapore developed software training packages - to the training centers in Latin America in a bid to overcome the shortage of teachers. Maybe the country should also seek advising assistance from Singapore which has recently formed Singapore Telecommunications International to provide consulting and facilities management services to the developing countries.

OTHER PROJECTS

To cope with existing, as well as forecast need in major population growth centers, Telof will install 48 new telegraph stations and 47 more telegraphic transfers (TT). Some of these form part of the Cordillera peace commission project. The Cebu-Manila interim backbone has also resumed operation this year.

ARISING ISSUES

Although the industry is charging ahead full steam, the projected 1.63 main stations per 100 population in 1992 still falls way below the 3:100 telephone density average for developing economies. The 1.63 ratio is tabulated by aggregating the X.5 expansion program of PLDT, the NTP and Phase B of RTDP of DOTC. On a comparative basis, the 1992's ratio falls further away from the average telephone density of ASEAN countries which is an enviable 8.27:100.

".. the government and the private sector should seek additional fund to refuel the capital intensive telecommunications infrastructure development."

To bridge the gap, the government and the private sector should seek additional fund to refuel the capital intensive telecommunications infrastructure development. The Government could raise the fund by a government-to-government financing scheme through Overseas Development Assistance (ODA) or debt-for-equity conversion. The estimated tax revenue about P2 billion from overseas communications tax and franchise tax could be ploughed back to the sector investment.

The problem of inadequate foreign reserve could be avoided if transnationals set local plants to manufacture equipment. The Swedish company, Ericcson has already set up factories in Brazil, Venezuela and Mexico. Promotion of the manufacture of communication equipment, support service of expansion, operation and maintenance should complement the development of the telecommunication industry.

It is crucial to note that the Third World will be absorbing about 57 per cent of global investments in telecommunications by 2000, compared with 8 per cent today. Already China, Mexico, India, Brazil and Argentina are in the world's top 30 markets. To prevent overdependence on big manufacturers, telecommunication development should take place with judicial application and integration of appropriate technologies to the needs of the countries.

Industry Insights

Satellite Communications for CARP and Country

By HR Estrella, Jr.

Satellite-based telecommunications offers a secure and highly reliable infrastructure that addresses the unique geography and information needs of the country in the most cost-effective and timely manner.

Telecommunications is an indispensable component of CARP. Without facilities for easy and effective day-to-day communications between CARP's top body, the Presidential Agrarian Reform Council (PARC) and its implementing national government agencies, their nationwide offices, 75 provincial governments, around 1,560 municipal/city governments, and 42,000 Barangay Agrarian Reform Councils (BARCs), no coherent program of implementation is possible.

Everyday, the myriad of instructions, guidelines, reports, consultations, follow-ups, etc., that must be exchanged among these offices and their hundreds of thousands of personnel and the millions of people affected by CARP must be carried by a network that must be able to "deliver the goods" at all times, under all conceivable conditions.

Moreover, an effective communications network is needed to transmit, disseminate, store and exchange—from Metro Manila to and from the remotest CARP operations, and in a timely and error-free manner—information on inventories, prices, costs, and other vital information on farm commodities and inputs, the weather, shipping data, etc.; the delivery of corresponding support and social services; and economic and other relevant developments.

At the moment, the government intends to alleviate the country's paucity in telecommunications (and, consequently, meet CARP's communications needs) through DOTC's National Telephone Plan.

The NTP intends to link by 1993 selected rural commu-

(Continued on P. 17)

exhibit organizers

President Corazon C. Aquino recently lauded Meeting and Exhibition Planners, Inc. (MPI) and SHK International Services Ltd. of Hong Kong for holding the International Exhibition and Conference on Telecommunications Systems, Equipment and Technology, PHIL TELECOM 88, on August 30 to September 3, 1988, at the PICC.

Pres. Aquino said that the establishment of a strong democracy and a healthy economy is contingent upon a nation's capacity to facilitate exchanges of vital information which defines our operational efficiency, particularly business, citing that telecommunications is the most important link with the rest of the world.

Pres. Aquino also stressed that efforts from the private sector, such as holding of PHIL TELECOM 88, enhances the country's economic development and productivity. Aquino hoped that SHK and MPI, will always be supportive of government programs for expanded telecommunications links. better technology, efficiency, ar J productivity in the system.

To complement the exhibition, a conference will be held side by side with the exhibition with the theme, "Rural Telecommunications Development; The Catalyst for Investment Explosion and Economic Growth".

Exhibitors for PHIL TELECOM 88 both foreign and local, include: PLDT, Eastern Telecommunications Phils., Inc./ Cable & Wireless, Philippine Global Communications, Inc., Globe-Mackay, Corona International Inc., Island Telecommunications & Engineering Philippines Inc., AT & T, Ericsson Telecommunications & Computer Technologies, Inc., GEC Plessey Telecom, Olex Cables, Philips Telecommunications & Data Systems, Standard Elektrik Lorenz, Seba Dynatronic, Krone, Canon Hongkong Trading Co., Ltd., British Telecom, Siemens, Australian Trade Commission, Cincinnati Bell Information Systems Inc., Bell Associated Agency and Vetronix, The Departments of Trade and Industry, National Transportation and Communications, and Tourism will also have their booths during the exhibition.

Satellite Communications... ●

(Continued from P. 9)

nities in Luzon, the Visayas, and Mindanao through a digital transmission network using microwave radio links as the infrastructure's backbone. Because microwave is a land-based technology, it is subject to the difficulties of terrain and construction inherent in an archipelago situation— not to mention the widespread insurgency problem— and the consequent high costs of installation and maintenance, and the long lead times resulting from such difficulties.

In addition, the choice of the initial areas to be serviced are severely limited since microwave networks must be strung together as an integrated, continuous system.

Indicative of the high costs, long lead times and service restrictions inherent in a microwave network, NTP's initial facility, designated as Tranche 1-Phase 1, will provide only 61,700 telephone lines in only 42 key development and urban centers in Central Luzon, Southern Tagalog, and the Bicol region at a cost of P2.968 Billion (US$ 139.364 Million). Roughly, this translates into about P48,111 (US$ 2,258) for every telephone installed. Our opinion is that US$139.364 Million is still too hefty a sum to spend for such a meager coverage.

If the government can project only 61,700 telephones serving 42 municipalities costing P2.968 Billion as its initial program, we feel that a more cost-effective approach is a system that will solve simultaneously CARP's communications requirements and provide immediate communications to areas not presently served by the public carriers.

The alternative system we propose will only cost US$ 37.0 Million, will serve ALL 1,560 municipalities in the country, and can be implemented within three (3) years instead of five.

Such alternative system will utilize state-of-the-art satellite transmission and reception. Such a system, considering existing satellite facilities will result in a much better yet realistic price/performance ratio compared to microwave and other land-based communications technologies.

The latest satellite technology involves, among others, the use of transportable small-size microearth stations to cover remote areas. These are easily installed and can service remote areas in a fraction of the time needed to provide comparable microwave services. The more modern terminals are capable of handling data, facsimile, video at high transfer rates for improved response times. They provide error-free transmission and are more easily protected from land-based interference and physical disruption wrought by natural and man-made causes.

"...satellite based telecommunications offers a secure and highly reliable infrastructure that addresses the unique geography and information needs of the country in the most cost effective and timely manner."

In short, satellite-based telecommunications offers a secure and highly reliable infrastructure that addresses the unique geography and information needs of the country in the most cost-effective and timely manner.

OVERVIEW OF CARP ORGANIZATION

An overview of the CARP organization is needed to give the reader of the immensity of the Program's communications requirements.

The top implementing agency for CARP is the Presidential Agrarian Reform Council. PARC, which is headed by the President herself, is composed of all Department Secretaries and heads of semi-autonomous government agencies whose functions are necessarily involved in or affected by CARP.

Among the key offices in PARC are the Office of the Executive Secretary, the National Economic Development Authority (NEDA), the Departments of Agrarian Reform (DAR), Agriculture (DA), Environment and Natural Resources (DENR), Budget and Management (DBM), Finance (DOF), Labor and Employment (DOLE), Local Governments (DLG), Public Works and Highways (DPWH), Trade and Industry (DTI), the Land Bank of the Philippines (LBP), and the National Irrigation Administration (NIA).

To underscore PARC's importance in the government's scheme of things, it holds offices essentially in Malacanang. The Executive Committee and the Secretariat are located at the DAR Head Office in Diliman, Quezon City.

In the regions, the coordinating offices are the Regional Development Councils and the Regional Offices of each of these CARP departments and agencies.

In the provinces and chartered cities, the field implementors are the provincial governors (also representing the Provincial Development Council or PDC) and city mayors, and the provincial offices of the CARP departments and agencies, and the Provincial Agrarian Reform Coordinating Committees (PARCCOMs).

The Economic District Management System (EDMS)' institutions are also the basic field organizations of CARP, each institution with an Economic District Office.

Within the Economic Districts are the offices of the Municipal and Provincial City Mayors (also representing the Municipal Development Councils).

At the barangay level, the operative CARP office is the Barangay Agrarian Reform Council (BARC), under the supervision of the Municipal Agrarian Reform Officer (MARO) of the DAR.

OVERVIEW OF CARP COMMUNICATIONS NETWORK

The structure of the CARP Communications System (CCS) network is of necessity based on the CARP organizational and procedural set-up.

(To be continued in the next issue)

Aquino lauds..

(Continued from P. 9)

tegrated telecommunica- ippines aims at upgrading

guaranteed repatriation investments, preferential credits, tax and import concession.

PHILTELECOM 88 is

Satellite Communications for CARP and Country Part II

By HR Estrella, Jr.

The Economic District is the basic field organization and territory manageable CARP activities, and is therefore the focal point of the CARP communications. In the Economic District, two communications sub-networks, one internal, and the other, external to the Economic District.

The internal sub-network will cover the Economic District Office, the Market District Offices, and Municipal and Provincial City Government Offices (including the MDCs), and the Barangay Government Offices (including the BDCs) and the BARCs.

The external sub-network will connect the Economic District Office to other Economic Districts within the Province, the Provincial and Chartered City Government Offices (including the PDCs), and the Provincial Offices of the CARP agencies.

The Provincial/City Governments and CARP Agencies Provincial Offices are in turn connected to those in the other Provinces, the RDCs, the Head Offices of the CARP Agencies, the PARC Executive Committee and Secretariat, and to the President.

Channels to communicate with other locations in the country (not covered by the CARP offices) using local operating companies and public-switched networks; and to points outside the country using international common carriers, are available on a restricted basis.

This network therefore allows communications between, and among, the various levels in the whole CARP organization, and with other points and locations in and outside the country.

COMMUNICATION MODES: Communications can be conducted on an individual basis, in conference, and in broadcast mode.

Communications can be made on real-time mode or on a delayed basis (such as in store-and-forward and electronic mail, including voice mail, applications).

Communications may be done with voice, data, text, facsimile, slow-scan graphics, and full-motion video (on a receive-mode only).

INFORMATION TYPES: The CCS can handle information types needed for day-to-day operations, financial transactions, marketing and trading, statistics and management information and reporting.

Such information types can be inputted, and received by telephones, radio, telex, facsimile, microcomputers and mainframe computers of various make, whether already installed (in the CARP agencies offices) or planned for installation.

SECURITY AND INTEGRITY: The CCS has a high level of error-free transmission, security and integrity.

TECHNOLOGY: The CCS utilizes satellite communications using Very Small Aperture Terminals (VSAT) for the remote CARP offices.

(Continued on P. 10)

Fujitsu recently introduced a technology that will deliver thousands of cinema-quality video programs and all the world's libraries at your fingertips. It is called coherent lightwave communications and the company has already developed a demonstration system.

The system uses light as waves that can be joined and separated easily, so that many optical signals can travel together through the same fiber. When fully developed, the technology will let a single fiber carry as many as 2,000 separate optical signals. In human terms, this works out to some 2,000 high-definition (HDTV) channels, 20,000 regular TV channels, or 10 million telephone circuits — reducing the cost of long-haul communication.

Simply stated, the basic principle of coherent lightwave communications is: Lightwaves of different frequencies should be able to carry information independently through the same space, just as radio broadcasts of different frequencies can share the airwaves. The idea is attractive because light traveling in silica fiber can theoretically carry approximately 200,000 times more information than the radio-frequency band, and 20,000 times more than the microwave band. This is because silica is transparent to light and this transparent window is very wide, corresponding to a frequency range (bandwidth) of about 20,000 GHz. This translates to a total of 2,000 channels which the system would support. The wider the bandwidth, the more different signals can be carried.

Present optical fiber communication technology lacks this tuning capability and therefore cannot easily separate more than a few signals.

A cousin of the FM radio

The coherent lightwave communication system imposes information on light in a manner similar to the way an audio signal is imposed on a radio-frequency carrier in FM broadcasts: An electrical signal (an HDTV signal, for example) is used to modulate (i.e. to alter) the phase or frequency of a narrow-linewidth laser. Optical signals differing in frequency and information content can be combined and sent down a single optical fiber. The receiver has its own tunable laser, and it is tuned close to the frequency of one of the incoming signals. When mixed together, the local and incoming signals interfere. This creates amplitude variations called beat tones that are equivalent to the signal originally imposed on the selected carrier.

Fujitsu's prototype system

At present, Fujitsu is the only company to have demonstrated a coherent lightwave communication system that simultaneously transmits several high-definition TV signals. Fujitsu has continued to improve its prototype system since it was first exhibited in September 1987. The biggest advance is a combined scheme of a balanced receiver and a "polarization diversity reception" design that makes the receiver immune to the effects of fiber vibration.

Polarization diversity reception prevents changes in the polarization axis of optical signals — induced whenever a fiberoptic cable shakes — from affecting the received signal levels. This problem plagued previous attempts at coherent lightwave communications because the polarization state of the local laser had to be readjusted whenever the polarization axis of the received signal shifted.

A niche in broadcast-style communications

How does coherent lightwave communication technology stack up against other communication systems? A single channel microwave link, a conventional fiberoptic communication system, and a single-channel coherent communication system will all carry data at about the same rate — approximately one gigabit per second (1 Gbps). However, optical systems are much cheaper to build and maintain, because the repeaters used to boost the signal can be spaced at further intervals than in microwave systems.

But the greatest strength of coherent integrated services digital network (ISDN and cable HDTV systems. Coherent light wave communication would ease preser communication bottlenecks by transm uting each channel on a separate optic signal combined in a single opucal fibe One fiber to each dwelling would be suff cient to supply a household's entire info mation needs. Subscribers would hav their own "tuners" that they would use select programs or data sources. Bidire tional communication would also be fe sible.

Many telecommunication compani are now installing an optical-fiber ne work. Coherent lightwave communic.

(Continued on P. 1

Fujitsu sent multiple HDTV signals over a single fiber Fujitsu Technology '88 in May, using the coherent lightwav communication system.

Satellite Communications ...

(Continued from P. 9)

This is the only approach that best meets all of CARP's communications requirements. Equally important is that a VSAT network is less expensive, and can be installed faster and more easily than any terrestial-based communications system (such as that planned under the National Telephone Program).

Essentially, the network is of the "star-type" topology where communications "hubs" are positioned at strategic locations and lines connected to such hubs in a radial design.

INSTALLATION: Again, assuming that the proper arrangements can be made, the CCS Network Control Center (NCC) will be co-located near the DOMSAT Master Earth Station in Antipolo, Rizal. (If arrangements cannot be made with DOMSAT, a new master earth station would of course have to be installed and operated as part of a much bigger network.)

The NCC will be provided with the necessary equipment to handle the VSAT network and a switch to interconnect to local operating networks, international common carriers, and the computer networks of CARP agencies.

In all of the foregoing, expert manpower, whether from DOMSAT or those to be supplied by the VSAT supplier, will install, commission, operate and maintain the CCS NCC.

The current DOMSAT space segment on the Indonesian Palapa satellite will be used, with DOMSAT charging CARP for the CCS-utilized communication channels.

VSAT STATIONS: For each of the locations of the CARP organizations, a VSAT-configurated station will be installed.

A VSAT station can have any of these configurations:

* Two trunk lines, each line connected to either a voice digitizer with a telephone set on a microcomputer. Voice communications may be done during the day using the telephone set and data transfer/receipt can be done at night.

* Two trunk lines hooked up to a computerized switch or PBX, at the other end of which are telephones and microcomputers for use in the facilities of the station.

* Any of the above two configurations but with a Television Receive Only (TVRO) for receiving video signals on a broadcast mode from the CCS Network Control Center (NCC).

"CARP now constitutes the country's primary economic development effort. As the main beneficiary of funds and the focus of the government's livelihood activity, CARP is now virtually THE PROGRAM for our nation's economic survival."

IMPLEMENTATION SCHEDULE: Assuming that the needed financing can be made available in a timely manner, a full-scale nationwide satellite-based communications network consisting of a little more than 1,500 VSAT terminals— or one each per municipality no matter how remote— can be completed within three (3) years. This type of schedule, which would be impossible for a land-based microwave system, can be achieved because satellite terminals do away with the need for constructing transmission towers and poles and stringing lines.

INDICATIVE COST: A more startling aspect is that the cost of putting up 1,500 satellite terminals— one each per municipality no matter how remote, we repeat-- will only come to some US$ 40.0 Million. This is less by almost US$ 100 Million than the US$ 139.364 Million that is estimated for Tranche I, Phase I, of the National Telephone Plan which, as earlier stated, will only be able to service 42 municipalities out of the 1,500 nationwide.

COMPARISON BETWEEN NTP AND VSAT NETWORKS

Lest we be misunderstood, we hasten to add that a satellite-based VSAT network is not meant to be a substitute for the NTP. The satellite-VSAT approach, we wish to stress, is intended to fulfill two functions:

a. as a short-term alternative to meeting the woefully inadequate communications requirements of the greater portion of the country; and

b. as the main communications network for CARP and large-scale users (such as the government, the armed forces, big business houses, mining companies, trading firms, etc.) in view of the VSAT's extraordinarily low-cost data transmission capabilities.

"Once the CARP telecommunications network is installed, the same can be expanded to handle the over all communication needs, not only of government, but of certain other important segments of the economy."

The NTP, on the other hand, is primarily oriented towards providing telephone services to the general public in the country's remoter areas. This will be provided in the manner that PLDT and other telephone carriers do at the moment. This explains its extremely much higher capital costs and an implementation period of at least 5 years, assuming no problems in raising the foreign funds to install the whole system are encountered, or man-made obstacles and delays caused by insurgency intervene.

The two systems, in short, are not incompatible with each other but actually serve to bolster each other in improving the country's woefully inadequate telecommunications services.

EXPAND THE CARP NETWORK TO BOLSTER THE COUNTRY'S OVERALL TELECOMMUNICATIONS CAPABILITY

As presently conceived, CARP now constitutes the country's primary economic development effort. As the main beneficiary of funds and the focus of the government's livelihood activity, CARP is now virtually THE PROGRAM for our nation's economic survival.

To support CARP's nationwide operations and ensure that the program does not fail, the government must have to install at the earliest a nationwide communications system oriented towards data transmission with voice capabilities added only as a support capability.

Our opinion is that once the CARP telecommunications network is installed, the same can be expanded to handle the over-all communications needs not only of the government but of certain other important segments of the economy as well such as big business houses with far-flung operations.

A truly nationwide telecommunications network continues to elude us in spite of the universal acceptance that such a facility is indispensable to the efficient conduct of all types of business operations, and economic development efforts being mounted by all segments of the economy.

CARP, recognizing this, has accepted the fact that its operations to succeed must be premised on its having a cost-effective nationwide communications network utilizing a satellite-based technology.

While not originally intended, once the CARP satellite-based network is installed and operating, the facility can actually be expanded to serve areas that are not being serviced by present carriers or are being serviced at unduly high, and completely unjustifiable, rates.

In short, without initially meaning to achieve such an objective, CARP's satellite network will bring the country nearer to the goal of establishing a nationwide telecommunications "highway" that can more adequately meet the needs of agricultural, commercial and manufacturing firms, as well as those of the government and its armed forces.

Satellite communications, using low-cost Very Small Aperture Terminals (VSATs), is capable of providing a secure, efficient, and readily installed system even in the country's remotest locations.

Compared to any terrestial or land-based links, whether in the form of land lines, cables or microwave, satellite-based systems constitute a more cost-effective alternative from almost all standpoints. To demonstrate:

SECURITY: Cables can be cut, stolen, destroyed and will deteriorate through exposure to the elements. Microwave repeater stations usually have to be located in isolated areas, are mostly unmanned, and thus, vulnerable to attacks by vandals and insurgents.

The satellite main hub is in Manila and can be very easily and adequately protected. VSATs, likewise, are located where the business is, and therefore can also be better protected.

Security, aside from the inherent superior transmission and receiving characteristics, make it a prime candidate to "leap-frog" our development difficulties.

COST OF SYSTEM: The latest VSATs, represent the leading edge in low-cost, state-of-the-art satellite technology. On a point to point basis, and specially for remote or across-water locations inherent in an archipelago like the Philippines, there is just no way of comparing installation costs with microwaves and other land-based systems. Most surely, the VSATs lower cost per point serves is a formidable argument in favor of its use.

EFFECTIVE TEMPORARY FILL: But more important, the use of VSATs is an immediate and extremely effective fill-in for the telecommunications needs of our more remote locations where there the service is grossly inadequate or unreliable or no facilities are presently available.

The National Telephone Program and the PLDT X.5 Program are long-term solutions to the country's serious lack of communications. But while such programs can definitely provide the type of mass-oriented services the general public needs, they just as definitely cannot deliver such services within the next five years. Such facilities are oriented towards high-density use of telecommunications, specially of telephones, and can be justified only for highly populated areas to justify the tremendous capital and maintenance costs involved. Most surely, the cost of expanding these Programs to the point where they can fulfill our Congressmen's dream of providing "one telephone for each municipality" is just economically impossible. A different approach, a different type of technology, such as that indicated by the use of VSATs, must be utilized.

Utilizing VSATs as an initial system to meet our lawmakers' goal of at least one telephone per municipality is a more practicable and economically feasible short-term solution.

The encouraging thing about this approach is that subsequently, when enough telecommunications business can be generated in the area being served by VSATs, PLDT- or NTP-type facilities can now be installed in place of or to supplement the VSAT network. In many of the more remote areas, the VSATs can be relocated without much fuss to other locations requiring immediate communications. Alternatively, the VSATs are retained and their use directed to data transmission for the big-volume users for which they are definitely much more efficient and cost-effective than those that can be provided by microwave or radio systems used by other carriers.

VSATs, therefore, can be used to blaze the communications trail and bring telecommunications to unserved areas until the time that the entry of the NTP or the X.5 can be justified.

COMPATIBILITY: One noteworthy advantage of VSATs is that they are compatible with these existing Programs. Interfaces to telephones, computers, and other communications terminals can be built into the VSAT stations.

"CARP'S satellite network will bring the country nearer to the goal of establishing a nationwide telecommunications highway that meet the needs of firms, as well as those of the government and its armed forces."

This complementation compatibility means that with VSATs acting as precursors, no conflict or danger of wasted resources will intervene if the X.5 and NTP are speeded up. The technical integrity of these large-scale, long range plans and projects remain completely intact when the time comes to replace or reorient the use of the VSATs to data transmission after they have performed their job of providing immediate communications to remote areas.

CAPABILITY OF CARP NETWORK: To disabuse the reader who might have gotten the impression that CARP's VSAT network is a small operation, the potential capacity of the system (assuming continuous modular upgrading of the central earth station) is 16,000 VSATs, which is more than adequate to handle full data transmission for the whole country.

Considering the total capacity to which the CARP satellite-based VSAT network can be expanded, it is important that the system be considered in the country's overall telecommunications development planning. Or, stated otherwise, that in such an effort, our telecommunications authorities MUST factor in satellite communications in its total program.

PLDT's numbers change

Philippine telephone group embarks on an expansion programme

By Jonathan Friedland in Manila

If there is one thing Filipinos can readily agree on it is that their telephone service is rotten. Barely audible connections and frequent busy signals are the norm. An estimated 400,000 applicants are currently waiting on average for three years to get a connection. And that is just in Manila. In the rest of the country getting a telephone is near impossible.

To blame is the Philippines Long Distance Telephone Co. (PLDT), a 60-year-old, highly profitable private company that controls 94% of the country's phone lines. Protected from competition during the Marcos era through close ties to the former dictator and used to cashing in on its lucrative long-distance franchise, PLDT is now being shaken out of its complacency by government attempts to reduce its near monopoly.

While Goliath is not exactly under siege, the spectre of tougher times ahead is being reinforced by harsh public questioning of its dismal service record, its ownership and the ability of its current management to end abuses that gave the 13,500-employee company a reputation during the Marcos years as being among the most corrupt in the Philippines.

To counter its critics and to ensure continued dominance, PLDT's 37-year-old president Antonio 'Tonyboy' Cojuangco, a cousin of president Corazon Aquino, has initiated a hugely ambitious ₱40 billion (US$1.88 billion) expansion programme that seeks to modernise service and to increase the number of lines from the current 866,000 to 2 million.

Over the next 20 years, PLDT hopes to expand domestic telephone services from 18% to 38% of all Philippine municipalities. The "Meet Demand" programme aims, in effect, to redress PLDT's long-standing indifference to domestic phone users.

Cojuangco: ambitious.

In funding "Meet Demand" the ₱9.52 billion capitalised PLDT will have to incur a costly foreign debt load running into the hundreds of millions of dollars. It will also eventually have to sup at the shareholders' trough through a substantial rights issue.

The financing burden, made all the more difficult by Aquino government decisions to reduce long-distance rates and to increase utilities taxation, is likely to depress the value of PLDT common stock, 51.69% of which is held outside the Philippines, mainly by US institutional investors. In a February report, the Asian Development Bank (ADB) warned that because of the expansion programme, PLDT will face "a tight liquidity situation through 1992."

Raising money is not easy for PLDT despite its reputation among foreign shareholders as the Philippines' blue-chip stock. PLDT has achieved this distinction largely because its listing in both Manila and New York gives it reasonable liquidity and because its earnings performance — by virtue of its monopoly status — has been consistently good.

First-half results for 1988 showed net operating income climbing by a more-or-less historic 12%, a performance likely to be repeated for the rest of the year. PLDT's net profit increase for 1988 is expected to be four times because of a windfall attributable to foreign-exchange losses that will offset this year's tax bill.

This long-standing upward trend in profits is soon to suffer a hiccup. Without a similar foreign-exchange juggle or a change in tax treatment, PLDT's 1989 earnings are likely to slump under the weight of initial "Meet Demand" outlays.

Start-up costs on the first phase, dubbed X-5, are made all the more expensive because of a four-year delay in completion of the 1979-84 X-4 programme. It fell behind because of political turmoil and PLDT's inability since 1983 to borrow abroad because of the Manila's moratorium on debt repayments.

The moratorium has had a substantial impact on PLDT. Its access to long-term commercial loan financing, for long almost automatic, has been hobbled by the Philippines' poor sovereign risk reputation. Further, the privately owned PLDT has no access to the kind of soft-loan financing eagerly supplied by industrial countries to government-owned telephone companies in other Asian countries.

The National Economic Development Authority recently refused PLDT access to a concessional loan offered by West Germany's export credit agency on the grounds that a firm about to report ₱1.9 billion in profit this year should not have access to scarce development funds.

Recourse to equity financing is limited by both practical considerations and a desire by the Cojuangco family to maintain control of the company. PLDT's ₱221.3 million of issued common shares have, like the stock of most other

PLDT IN FIGURES

(₱ million)	1983	1984	1985	1986	1987*	1988*	1989*	1990*	1991*
						24,377.00	28,852.40	31,453.50	30,655.00
Operating revenues	3,469.20	4,311.10	4,718.40	6,058.10	6,531.50	6,975.40	7,335.30	8,304.80	9,062.00
Operating expenses	1,696.80	2,113.90	2,387.70	3,024.40	3,771.10	3,996.70	4,435.50	4,566.40	5,004.70
Operating income	1,168.70	2,197.20	2,330.70	3,034.70	2,760.40	2,979.70	2,899.90	3,738.40	4,057.30
Other expenses	770.40	1,627.80	1,551.70	1,138.30	1,075.10	1,114.50	1,135.30	1,607.50	1,439.90
Pre-tax income	398.30	569.40	779.00	1,896.40	1,685.40	1,865.20	1,764.60	2,130.90	2,617.40
Tax	—	—	—	—	435.30	629.00	540.80	535.00	732.50
Net income	398.30	569.40	779.00	1,896.40	1,250.10	1,236.20	1,223.80	1,595.80	1,884.90
Earning per share (fully diluted)	4.10	4.73	7.70	25.46	22.49	23.39	23.06	28.21	32.62

Source: Asian Development Bank.

Filipino firms, traditionally traded at a modest premium to net asset value, making it likely that a big rights issue in a bearish market would result in considerable dilution of shareholder value.

More to the point, a rights issue might also break the tenuous grip on management held by the Cojuangco family and its close associates on the PLDT board. While controlling only 1.87% of total shares, they have managed to keep nine of the 11 directorships. Antonio Cojuangco and PLDT board chairman Alfonso Yuchengco, who was an early Aquino supporter and her administration's first ambassador to Peking, have over the past two years occasionally relied on their connections to the Malacanang Palace to maintain this status quo.

With conventional financing avenues closed, PLDT is racing to get its expansion effort under way by utilising an uncertain hodge-podge of resources. In March, PLDT bought its way out of an onerous debt hump, made worse by the government moratorium, and gained three years of breathing space with a US$235 million syndicated refinancing of some existing debt obtained from 23 international banks.

That month the firm also secured US$48 million in loans from the ADB's private-sector lending unit and from the

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International Finance Corp. so it could begin work on a US$100.5 million digital exchange in the Ortigas district of Manila, essential if the ADB's new headquarters is to open.

The bulk of the US$173.3 million in foreign exchange financing for X-5 will come from whichever foreign supplier wins the contract for the three-year ₱7.4 billion effort. The five bidders that have been short-listed, AT&T, Northern Telecom, Siemens, Alcatel and NEC, have all offered financing packages with a minimum 10-year repayment period, according to PLDT chief financial officer Ricardo Zarate. None require Manila to guarantee the loans.

The local financing part of X-5 might, ironically, will be more difficult for PLDT to obtain. According to Zarate, most Filipino banks have reached their credit limits with PLDT and while a few outstanding lines are available, the company will have to go to market to raise ₱500 million. In the past, PLDT has financed the local currency costs of expansion and maintenance through ploughing back its earnings (shareholder dividends have been modest) and by forcing subscribers to buy preferred shares when their phones were installed. This programme, known as the Subscriber Investment Plan (SIP), is now threatened with abolition by congress.

Even if PLDT could, as in the past,

tap into SIP funds, the resources would still be insufficient for a programme the size of X-5, according to company officials. Last year, they point out, ₱1 billion out of ₱1.3 billion in earnings were ploughed directly into operations.

PLDT is still hoping to raise additional money through a debenture issue carrying an interest rate of 17%. Company officials admit, though, that they may have missed their opportunity as rates are heading higher.

While most expect the company to get through its immediate financing dilemmas — even eventually relying on some cleverly formated common stock rights issue if need be — other bottomline pressures are building. A collective bargaining agreement now being hammered out among management and the Free Telephone Workers Union will likely result in a wage bill increase as stiff as the 30% rise agreed in 1986. Further, maintenance costs are rising substantially as much of PLDT's mixed bag of international plant and equipment reaches middle age.

The most immediate threat to profitability, though, has been posed by government. The opening shot was the November 1986 executive order which for the first time subjected the company to corporate income tax on gross profits. The order also raised the franchise tax that PLDT has to pay from 2% to 3% of gross revenue. While the tax is likely to be repealed by Congress on the grounds that it amounts to double taxation on earnings, the timing of the repeal is uncertain. In any case, the 35% income tax now in effect is likely to be replaced by a tougher franchise tax.

Even more critical to the future health of PLDT is the government's attitude to its stranglehold over the long-distance business. Currently, PLDT derives 70% of its ₱6.5 billion in revenues from toll calls, most of which are overseas. Last year, National Telecommunications (NTC) Commissioner Jose Luis Alcuaz approved a reduction in the rates charged by the Philippines Communications Satellite Corp. (Philcomsat) to increase the motivation for PLDT to provide better domestic service. By manipulating rate structures, he told the REVIEW, the Aquino government hopes to reduce the availability of easy long-distance fees to PLDT, thus shaking the company out of its lax attitude towards local phone users.

Alcuaz' has another weapon in his regulatory arsenal besides rate setting — the power to award additional franchises for long-distance service. A potential second international "gateway" is being used by the NTC and its parent, the Department of Transport and Communications (DoTC), as a lure to investors.

One serious contender has emerged — the 40% Cable & Wireless–owned Eastern Telecommunications Philippines Inc (ETPI). ETPI has formally filed an application. But its domestic operations counterpart, Digitel, will have to negotiate with the NTC over how much local service it will provide — and at what cost — before it secures a piece of the long-distance business.

The government's National Telephone Programme (NTP) also represents a threat of sorts to PLDT. While an increase in the archipelago's telephone network can only help PLDT (it may even pick up some ready-to-use infrastructure if DoTC cannot find other takers), the fact that the government is spending what could amount to hundreds of millions of dollars, in part, to encourage de-monopolisation cannot be comforting. Nor can the frequent anti-PLDT jibes that emanate from the DoTC and the NTC. "PLDT were ok with the Marcos Administration," says DoTC secretary Rainerio Reyes. "Things are different now."

Government hostility towards PLDT has not just been limited to those agencies with direct responsibility for the telephone system. The now-embattled Presidential Commission on Good Government (PCGG) has also fired its shots. A 1986 report prepared by PCGG

Reyes: hostility.

[illegible] Inc., a Marcos [illegible] corporation [illegible] Philippine Telecommunications Investment Corp (PTIC), which in turn holds 26.9% of PLDT.

While only the Marcos stake was sequestered, Sison vigorously questioned the role of the other three PTIC shareholders — then PLDT president Ramon 'Monching' Cojuangco, Yuchengco and PLDT general counsel Antonio Meer — and argued that their shares ought to be seized as well.

The Sison report also found evidence that PLDT monies were being systematically siphoned off by management and that kickbacks on procurement decisions were legion. Its most controversial claim was that West German telecommunications giant Siemens had won a US$412.3 million X-4 contract in 1978, in part, by entering into arrangements profitable to Marcos. According to the Sison report, one channel for largesse was Electronic Telephone Systems Industries Inc. (ETSI), a joint venture Siemens entered into with Marcos. ETSI was sequestered for a while by the PCGG. Siemens was also accused of overpricing already substandard equipment.

Siemens vigorously denies the charges in the Sison report, a position

Keeping it in the family

Dispersal of stock allows Cojuangcos to maintain control

When Ramon "Monching" Cojuangco engineered the purchase of a majority stake in PLDT from the US telecommunications giant GTE Corp. in 1967, it was seen as a triumph of Filipino nationalism. By bringing control of this utility into the hands of local investors, PLDT would no longer be at the mercy of profit hungry foreigners. Filipinos, not a US corporation, would then reap most of the benefits of PLDT's near monopoly.

Two decades later, Filipinos from housewives to executives of big local firms are theoretically benefiting from Cojuangco's play for PLDT. As a result of authority granted by former president Ferdinand Marcos in 1973 that allows PLDT to require new telephone subscribers to acquire preferred shares, it has one of the broadest public-ownership bases of any Philippine company.

Of the 105 million PLDT shares — valued at roughly ₱1.49 billion — Filipinos control 91.37%. This keeps the company well inside the 60-40 foreign-ownership rules stipulated under the Philippine Constitution. It also, technically, allows Filipinos to profit greatly from the company's strong earnings growth.

What Filipinos do not control, however, is a voting majority in PLDT. Ironically, that remains in the hands US institutional investors. Only [illegible] of issued PLDT stock carries voting rights. Of that common stock, 51.69% is in the hands of a changing cast of US investment banks and portfolio managers. According to Manila brokers, two-thirds of the PLDT common stock trading daily changes hands in New York, not in Manila.

The US shareholders, who appear to be mainly interested in PLDT as a token Philippines portfolio holding, are [illegible] effective at pressing whatever advantages they have over the company. Only the blue-chip Boston investment house Brown Brothers Harriman and Co. controlled more than 5% of PLDT common stock, as of February 1988, while five smaller US firms — Sigler & Co., Kray & Co., Grace Church Co., J. C. Orr

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backed by a subsequent PCGG study undertaken by Mario Locsin and Benjamin Guingona. The Locsin-Guingona report only supported Sison in his findings that PLDT had deliberately failed to remit foreign-exchange earnings in 1985, a common practice among Philippine companies at that time. "Sison's people extrapolated evidence," claims one source close to the Locsin-Guingona investigation. "They didn't bother to check their facts."

One senior Aquino government official has another explanation for the extreme differences in findings. He told the REVIEW that the Locsin-Guingona report was orchestrated by Antonio Cojuangco as part of an effort to maintain control of PLDT. Another well-placed official close to the presidential palace said that when all of PLDT was briefly sequestered in 1986, Cojuangco "pulled out the stops" to use family connections to convince Aquino that despite questions over his father's relationship with Marcos, current management was the only one capable of running PLDT. Despite numerous requests, Cojuangco refused to be interviewed for this article.

While its pedigree is probably enough to ensure that PLDT would have problems with any post-Marcos regime, Aquino government officials argue that a number of abuses related to procurement and customer service continue. The culture of privilege that evolved during the Marcos era is going on more or less unabated, they say.

A number of companies related to major PLDT shareholders, such as the Yuchengco family-controlled Malayan Insurance Co., still benefit from contracts granted under Monching Cojuangco. So do sequestered firms that supply equipment to PLDT, such as Southeast Asia Corp. PLDT officials insist that these are arms-length deals.

Suspect business practices flourish at the lower echelons. If anything, the cost of obtaining a phone without standing in line is going up. Immediate service requires a bribe of ₱15,000 on top of the regular charges. With demand outstripping supply, says one senior government official, "the potential for graft remains practically unlimited."

Despite the catalogue of complaints about it, PLDT's future dominance over the telecommunications sector is not really threatened. Post-Marcos efforts to directly eviscerate the firm have failed, apparently because of Cojuangco and Yuchengco's skill in diminishing the bureaucratic threat by appealing to the president herself.

Further, with the bridgeheads it holds in Manila -- where 85% of all the phones are currently located — and other important regional centres like Cebu City and Davao, PLDT remains able to fend off — or at least make life very expensive for — NTP interlopers. The lack of trained manpower also works to PLDT's advantage. It commands virtually all the skilled telecommunications workers who have not migrated in search of higher pay. ■

& Co. and Hare & Co. — held 2-5%.

The largest block of issued voting shares held by other than Filipino and US stockholders was in the hands of Hongkong & Shanghai Banking Corp. nominees — just 2.75%. This overseas diffusion of common stock has allowed the Cojuangco family and associates to maintain their grip over PLDT through the Philippine Telecommunications Investment Corp. (PTIC). The PTIC owns 24.95% of PLDT common stock — a mere 3.69% of the total shares outstanding — but controls all 11 board seats.

Oddly enough, only five of the 11 directors are appointed by the Presidential Commission on Good Government (PCGG), despite the government watchdog body having control of the largest single stake in PTIC. The PCGG seized control of Prime Holdings Inc., the registered owner of 46% of PTIC shares, after Marcos associate Jose Y. Campos admitted in 1986 that the firm was a Marcos front company.

The other nine board members remain appointed by the three shareholders who together have majority control of PTIC: the Cojuangco family (44%), PLDT board chairman Alfonso Yuchengco (7%) and PLDT chief counsel Antonio Meer (3%). The PCGG has also failed to press for a role in management — all of PLDT's top officials were appointed before the transfer of the Prime Holdings stake to government hands.

While some Filipinos besides the Cojuangcos and their associates are benefiting from the current share structure — those who hold the remaining 16.15% of the common stock -- the vast majority are receiving little from their required preferred PLDT shares.

Holders of preferred shares have no representative in management or say in company affairs. While they do receive a 10% semi-annual dividend on their Subscriber Investment Plan (SIP) required holding, the value of these shares has not appreciated. PLDT common stock with a par value of ₱5 is selling at around ₱208, yet the preferred shares remain valued by the market at their par value of ₱10.

Three members of the Philippines' House of Representatives have introduced a bill to abolish the SIP, arguing that it has allowed PLDT forcibly to raise cheap money from its subscribers while providing an insufficient return on investment. — Jonathan Friedland

Dialling up rivals

Government encourages competition to spread network

By Margot Cohen in Manila

Among officials of the slow-moving Philippine bureaucracy, those of the DoTC exude an uncommon sense of urgency. They seem determined to meet the pressing demands for telephone services from foreign investors and phone-starved Filipino residents in the provinces.

The Philippines has one of the lowest telephone densities among Asian countries — less than one telephone for every 100 people — of which most are concentrated in and around the profitable Manila urban area.

"We have to move," said DoTC undersecretary Josefina Lichauco. "We are not going to sit around and scratch our tummies and wait for the private sector to develop the countryside."

While Lichauco and other Aquino administration figures seem sincere in their quest to improve the average citizen's access to telephones, they also relish the prospect of manhandling a monopoly long shielded by Marcos.

"They had a head start of 20 years and they haven't done anything — they've screwed up, in fact," said Francis Ganzon, executive director of the Telecommunications Office (Telof), operator of government telephone and telegraph systems. "People are just fed up."

DoTC has plunged into a US$369 million National Telephone Programme (NTP) aimed at providing 138,000 state-of-the-art digital exchange lines in 85 areas throughout the archipelago. Split into three turnkey projects in the Luzon, Visayas and Mindanao regions, NTP will be implemented by Japanese French and Italian firms respectively, with finance from bilateral concessional loans. Extra finance is anticipated from the World Bank. The French and the Italians are poised to embark on trial projects that alone carry a price tag of US$22.5 million for 4,400 lines, or roughly US$5,100 a line. DoTC plans to complete NTP by 1992.

There is one hitch: no one knows who will operate and maintain these expensive exchanges once they are built. DoTC hopes the private sector will step in. It remains unclear which private company, or consortium of companies, will have the financial and technical capabilities to run these government-owned systems. DoTC secretary Rainerio Reyes told the REVIEW he would oppose any PLDT bid to operate most of them. "I'm not sure they have the management capability," he said, adding that by the year 2000, he hoped to see the telecommunication group's national share of telephone services fall from 94% to 50%.

DoTC officials envisage the Japanese-, French- and Italian-built systems spinning off into three regional telephone companies — with partners from those countries probably getting first crack at taking up the maximum of 40% foreign equity that will be allowed. Local investors may prove elusive, however. Reyes suggested that existing small companies merge or work together with larger prospective domestic carriers such as Digital Telecommunications Philippines Inc. (Digitel), which is 40% owned by Cable & Wireless.

Maintenance workers: phone-starved provinces.

Yet many of the existing provincial telephone companies, which hold 6% of the national telephone market, are little more than mom-and-pop operations, saddled with outmoded equipment, strained finances and few trained engineers. Digitel has mustered a group of heavyweight investors — including Henry Ng of Makati Supermarket Corp., Wilfredo Tecson of Consolidated Bank & Trust Corp., and real estate developer Jose Tuason — and has recently applied to the Securities and Exchange Commission to increase its capitalisation to US$100 million, but the company has no operational record.

"PLDT is the only company that has the manpower," concluded one foreign [illegible] manpower [illegible] three to four years.

Even if PLDT were allowed to benefit from government-financed development, experience shows it probably would not jump at the chance. Over the past two-and-a-half years a PLDT subsidiary called Filphone Management Corp. has managed a government system spread over eight northern provinces, including Marcos' home province of Ilocos Norte. In 1985, the Japanese built and financed 11,100 digital exchange lines for "twice to three times what we would have paid if the project had been properly bidded," said one Filipino consultant.

PLDT predicts that the northern system would not turn a profit for 10 years. The experiment shows just what the Philippine Government is up against in its bid to provide rural telephone services.

But DoTC projects a sunny profit picture for its new programme. "The project is expected to yield positive net income on the sixth year of operations. The project will then be capable of supporting itself and thereafter generate a substantial build-up of excess funds," a DoTC report said.

Private telecommunications specialists are sceptical. While PLDT subsidises its domestic service with revenues from overseas calls, regional companies may not have the luxury of controlling a second international gateway. Even if they did, their small-town customers would make far fewer international calls than Manila residents.

In addition, regional telephone companies looking to subsidise rural services with revenues from major provincial cities will run into PLDT, which has already gobbled up the few profit centres outside Manila.

The DoTC rate of return forecasts are based on the modest interest rates charged by the World Bank. An appraisal mission from the bank two months ago looked over the NTP and the bank is eager to funnel money to the project, but approval of a loan is far from certain. Even if Manila obtained funding, bank officials said disbursements would not begin until 1990.

If both foreign and local investors conclude that the new system is unlikely to generate profits, one option remains. "The worst thing that will happen is the government will have to run it," Telof executive director Ganzon said blithely. Worst, indeed. Starved of financing and manpower during the Marcos years, Telof is in no position to run such a telephone system by 1992. □