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**CONTRACTING OUT:
A STUDY OF THE HONDURAN EXPERIENCE**

by

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ACRONYMS

AID	Agency for International Development
BANDESA	National Agriculture Development Bank
BANMA	Autonomous Municipal Bank
CABEI	Central American Bank for Economic Integration
CICH	Honduras Civil Engineer College
CMDC	Metropolitan Council of the Central District, Tegucigalpa
COHBANA	Honduran Banana Corporation
COHDEFOR	National Forestry Development Corporation
CONADI	National Investment Corporation
DGC	General Directorate of Roads-SECOPT
DGCE	Directorate General for School Construction
ENEE	National Electric Company
FINAVI	National Housing Finance Agency
FOVI	National Housing Fund
GOH	Government of Honduras
IDB	Inter-American Development Bank
INVA	National Housing Institute
MSPS	Municipality of San Pedro Sula
RHJUDO	Regional Housing and Urban Development Office
SANAA	National Water Supply and Sewer Company
SECOPT	Ministry of Communications, Public Works, and Transportation

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EXECUTIVE SUMMARY

This study was conducted by the National Association of Schools of Public Affairs and Administration (NASPAA) at the request of USAID/Honduras under the terms of NASPAA's Technical Cooperative Agreement with USAID. The study examined the experiences of USAID/Honduras and the Government of Honduras with the contracting out of construction activities in three sectors. The purpose of the study was to document empirical evidence regarding the performance of contracting out as a policy measure to increase private sector initiatives in Honduras.

Specifically, the question of the study was:

To what extent have any changes in the institutional arrangements--the shift to a system which encourages delivery by the private sector of publicly financed goods and services--succeeded in improving the quality of outputs, in reducing the time of delivery, and in decreasing the cost to the public sector?

The study made comparisons among AID-funded and other projects in which there have been changes in the method of service delivery. A shift from direct administration to contracting out was analyzed for the following three sectors:

Housing Shelter and Urban Upgrading Programs
Rural Primary School Construction Programs
Rural Road Construction Program

The study generated several important findings about the nature of contracting out which would prove useful in initiating policy reform toward privatization in developing countries. First, there was little difference in the quality of outputs between direct administration and contracting out. This observation is contrary to the widespread belief that contracting out leads to higher quality. The comparable quality can be attributed to the fact that both methods relied on virtually identical construction techniques and material. In the case of rural school construction, the direct administration produced comparable quality due to active community participation.

Second, the time needed to complete projects was about the same for the two methods. There was some evidence which indicated that the private contractors were slightly faster. However, private construction was delayed by bureaucratic regulations such as long period of awarding contract.

Third, contracting out did not result in substantial reduction in cost of construction. Cost reduction by the private sector is usually brought about by competitive markets, technological or managerial

innovations, and lower compensation outlays for private sector employees. However, in the Honduran case, there are questions about the competitiveness among contractors. It also appears that the private sector had little incentive to introduce technological or managerial innovations for cost reduction. This is because contract awards were guided by the reference price system set by the government. In addition, the private sector paid a similar amount of compensation costs and conformed to the 13th month salary law.

For policy makers in Honduras the study provides important observations about the design of policy measures intended to privatize publicly funded services. Most of all, it should be noted that the performance of contracting out depends heavily on the institutional environment of the nation. In Honduras the 1985 Contracting Law provided a positive legal background for potentially stable and reasonable relationships between the government and the private contractors. However, if the government wants to improve the performance of contracting out, it must continue to initiate further institutional changes. Among the important tasks include the following:

To realign the bureaucratic procedures required for awarding contract in order to shorten the contract award period.

To alter the reference price system so that private contractors can have incentives to reduce costs of inputs.

To encourage more use of manual labor and labor intensive techniques in contracting out.

To restructure public sector employments in order to remove duplication of efforts when projects are contracted out.

To use performance standards in place of specification codes for construction projects for the purpose of encouraging technological or managerial innovations.

To make markets more competitive.

Whether the government should pursue privatization effort or not must be determined in the light of the overall national policy objectives. This is because the effort to provide public services more efficiently by privatization creates multiple impacts on political and economic dimensions. The public sector may be able to reduce the cost of producing services and decrease the time of construction by contracting out. But, these results will be accompanied by a lower level of community participation in certain projects and resistance among public employees who want to keep their jobs. Therefore, if the government's key objective is to encourage community participation and to maintain political stability, a sudden transition to privatization is not necessarily desirable. On the other hand, if the government is interested in creating new jobs in the construction industry, contracting out is a viable alternative to pursue.

In sum, this study reveals that the policy decisions about contracting out in particular and privatization in general must be made in consideration of broad policy objectives at the national level. At present the knowledge basis to help policy makers deal with this issue is severely limited. We propose at least three areas for further work. First, there is a need to conduct similar studies in other sectors and other countries. These additional studies will be able to provide clearer evidence about the factors affecting the effectiveness of privatization efforts. Second, it seems crucial to investigate how different national policy objectives are served by privatization of public service delivery. It would be particularly important to examine the realities of the political objectives which are often hidden in a typical economic analysis of public policy. Third, for practical purpose, it would be useful to prepare an implementation manual for privatization which can be readily used by officials of developing countries. Such a manual will greatly improve the process of actual policy dialogue and serve as an efficient means to facilitate policy reform.

CHAPTER 1

FRAMEWORK, OBJECTIVES, AND METHOD OF ANALYSIS

A. Conceptual Framework

Over the past few years, there has been increasing attention paid to alternative mechanisms for relieving the fiscal burdens of the public sector and for promoting efficiency, innovation, and incentives through activity within the private sector. While much of the emphasis has focused on government-owned enterprises, there are a variety of alternatives to this approach. The continuum of private to public alternatives in ownership, decision-making authority, and the production and delivery of goods and services is wide indeed. These alternatives range from complete divestiture to partial divestiture to variations in the public/private relationship in the delivery of services. Within the context of alternative service delivery options one can include the following possible mechanisms: contracting-out of service delivery, franchising, subsidizing private sector execution of a service, voluntarism, self-help, alterations in tax and regulatory policies or other inducements to private sector action, reducing service demand, the use of temporary help from private firms, and the application of user fees and charges to adjust demand (2.H- Hatry, 1983: 3).

This study focuses on one subset of these choices: contracting out for the construction of infrastructure. As USAID Administrator Peter McPherson noted, contracting out principally is the transfer of decision-making authority:

...in which the responsibility to provide certain public services (and, in some cases, ownership of the assets) is retained by the host government, but the implementation of certain functions (typically operation and maintenance of facilities and equipment) is delivered by private entities through such mechanisms as service contracting, franchise agreements, or lease, or reliance upon such instruments as a voucher system or regulatory and tax incentives (1.A- USAID, June, 1986: 3).

Traditionally, the argument for the decision as to whether the public or private sector is more appropriate for the provision of services and production of goods has rested on the assumption of potential "market failures" as well as the nature of "public goods." Generally, the assumption is made that where private markets function effectively, both consumer preferences and production efficiency are well served. Potential problems in the market would include:

- 1) the existence of "natural monopolies;"
- 2) increased production is associated with "decreased costs;"
- 3) where there are externalities which are not reflected in the private cost;
- 4) where it is difficult to charge for a good/service, or to

- exclude those who do not pay;
- 5) where some form of merit good, as determined by society, exists.

However, in recent years the increasing burden of reliance on the public sector and the increasing recognition that government failure may be as pervasive and onerous as market failure, have led to a rethinking of the nature of a "public good" and the appropriateness of public sector delivery/production of even these goods. Again, as AID Administrator McPherson has noted:

The conventional approach to providing many services is for government to collect the revenue needed to support the service and to deliver the service as well. The implicit premise in this view is that local public services are all "public goods"...Yet, most local public services have few attributes of pure public goods. Most of them...have specific identifiable users, who are the service's principal beneficiaries...Even for services that are closer to being pure public goods, it is not at all clear that government must be the deliverer of the service (1.A- AID, 1986: 4).

Among the advantages generally associated with the contracting out of services, the following have been identified: lowers costs or improves performance for the same service, provides for specialized skills, promotes the transfer of those skills to the private sector, limits the expansion of government, avoids initial large-scale costs, permits greater flexibility in adjusting program size and term, may provide a yardstick for cost and efficiency comparisons, and may produce (and transfer to the private sector) better managerial skills. Among potential disadvantages, the following have been identified: the reduction of costs issue is not clear; it may result in poorer or discriminatory service to citizen/consumers; it may increase the potential for corruption; contractors may default on completion of contracts; it may displace public employees; it may prove to be difficult to design needed contract statements; depending on the context there may be administrative and allocative inefficiencies because of legal and institutional problems; enforcing public policy and monitoring contract performance may be affected; it may not provide adequate competition (2.K-Hatry, 1984:15).

B. Objectives

This study attempts to examine some of these potential advantages and disadvantages within the context of Honduras. Contracting out should not be thought of as a panacea for accomplishing privatization of services. It is not necessarily the case that "the more the private sector does, the better." Policy makers are often caught in the dilemma of strategic choices among multiple goals. Each approach must be considered within the context of the goals of the program in order to evaluate when and under what conditions which approach is more appropriate. Competition, employment generation, consumer access,

distributional equity, reduction of public sector burdens, expanding private sector capabilities (technical and managerial) are all worthwhile goals; however, these and others may not be pursuable within the context of a single answer as to whether one approach or the other is "better." Better for what is a more appropriate question. Also, it is not a case of "either/or"; a number of intermediate positions where both direct administration (public sector provision) and contracting out (private sector provision) can be utilized in tandem.

The main objectives of this study are to assess the problems, advantages, and disadvantages associated with contracting out and direct administration. By assessing the experiences of USAID/Honduras in the three areas of shelter housing and urban upgrading, primary school construction, and rural road construction, there may be some important insights and caveats as to the appropriateness of approaches and potential changes in the current administration of these approaches.

C. Method of Analysis

The central question of this study on the "contracting out" in Honduras is the following:

To what extent have any changes in the institutional arrangements--the shift to a system which encourages delivery by the private sector of publically-financed goods and services-- succeeded in stimulating private sector activity, in improving quality and speed of delivery, and in reducing costs of the public sector?

The study attempted to compare systematically the delivery of goods and services of different institutional arrangements. In general, there are a number of key questions relevant to the evaluation of contracting-out experiences. These include:

- 0 Macro-Economic factors. How do "contracting" out arrangements affect the macro-economy of a country?
- 0 Contextual Environment. How do economic, political, legal conditions of a nation affect the private sector's capacity for involvement in contracting out with the public sector?
- 0 Efficiency of Contracting Out. How efficient is the contractual arrangement in terms of costs of production, timing of production, and quality of output?
- 0 Effects on Public Sector Employment. To what extent have there been changes in public sector employment levels and roles as a result of contracting out?
- 0 Legal and Institutional Issues. To what extent have the legal and institutional factors affected contracting out?

- 0 Consumer Input and Choice. To what extent does contracting out affect consumer input into decision-making and choice in Honduras?
- 0 Distribution Issues. Are there any distributional or access implications in contracting out?
- 0 Facility Maintenance. To what degree have there been changes in facility maintenance as a result of contracting out?
- 0 Public Sector Vs Private Sector Relationships. To what extent have public and private sector relationships changed as a result of contracting out procedures?

For specific projects, three sets of issues need to be analyzed in order to assess the advantages, disadvantages, and problems associated with contracting-out: 1) institutional, 2) technical and engineering, and 3) economic issues.

The major institutional issues are:

- 0 Legal issues of contracting out
- 0 Bidding procedures for contractors
- 0 Government-contractor relationships
- 0 Government responsibilities of projects/ contractor
- 0 Performance by contractors
- 0 Institutional implications of private contracting
- 0 External market conditions and impacts

The major technical/engineering issues are:

- 0 Design techniques
- 0 Construction techniques
- 0 Management techniques
- 0 Government oversight
- 0 Environmental impacts
- 0 Engineering legal issues

The major economic issues are:

- 0 Analysis of efficiency
- 0 Financial analysis
- 0 Distributional impacts
- 0 Employment and labor issues
- 0 External and market conditions and impacts

In this study we deal selectively with these key issues. We focus on institutional arrangements, costs, timing of construction programs in housing, primary schools, and roads. AID/Honduras has supported various programs in each of these areas with differing levels and types of contracting out arrangements. Table I-1 presents the programs

examined by this study. The programs are classified in terms of relative degrees of direct administration and contracting-out.

Each sector was studied separately as the designs, planning, administration, implementation, and use of contractors were sufficiently different. Overall generalizations and conclusions are made for the individual sectors within their separate chapters. In addition, overall conclusions and recommendations are made in the final chapter. The variables studied necessarily shifted in each sector studied. Thus, although there are overall general variables, they may be treated differently in each sector.

Information was collected from existing documents available in Honduras during the period from October to December, 1986. In addition, the study team interviewed USAID officials, public sector officials, and private sector persons. Field trips were made to housing construction, rural school construction, and rural road sites. (See Appendix for bibliography of documents and people interviewed)

The study represented a 150 day work effort by NASPAA. It included a 15 work day planning effort in Washington prior to arrival in Honduras; 130 field work days in Honduras; and 5 work days editing in Washington.

TABLE I-1

CLASSIFICATION OF PROGRAMS STUDIED

Sectors	Direct Administration	Contracting-Out
Housing	Urban Upgrading by DIMA and CMDC (AID funded)	Urban Upgrading by CMDC (AID funded)
		Low-income Housing Construction by INVA (AID funded)
Rural Primary Schools	Rural Classrooms by MOE (AID funded)	Rural Classrooms by MOE (AID funded)
	Rural Classrooms by MOE (GOH funded)	
Rural Roads	Road Rehabilitation (Manual labor) by SECOPT	Road Rehabilitation by SECOPT (AID funded)
	Road Construction (Manual labor) by SECOPT	Road Construction by SECOPT (AID funded)
		Road Construction by SECOPT (IDB funded)
		Road Construction by SECOPT (World Bank funded)

CHAPTER 2

HOUSING AND URBAN UPGRADING

A. Background

It is estimated that the population of Honduras as of 1985 was 4.2 million with over 700,000 housing units, of which 21% are found in the metropolitan areas of Tegucigalpa and San Pedro Sula, 9% in other urban areas, and 70% in rural areas. (10.C- Rourk, 1986: 1-4) Over 70% of the urban population of the country was unable to obtain conventional housing finance in 1974. (11.K- AID, 1985) A survey conducted by USAID/Honduras in 1979 concluded that 55% of the families in marginal barrios did not have access to piped water services, 66% did not have sewer connections, and 25% did not have access to electricity. The estimated populations of these marginal communities totaled 31,000 households in Tegucigalpa and 19,000 households in San Pedro Sula. (11.K- AID, 1985) Several general characteristics of the condition and tenure status of housing in Honduras are described in Table II-1.

Honduras does not have a population problem as such with only 4.2 million people or 32 inhabitants per square kilometer. However, the population growth rate was approximately 3.3% in 1985. The urban population growth rate is double that, or 6.2% per year. Consequently, the nation's urban population increased from 29% of the total population in 1970 to 39% in 1985. The rate of increase of the urban "marginal" (poor) population has been increasing at a rate of four times that of the nation as a whole and twice that of the urban centers. That is to say, the urban poor of Honduras are increasing at the phenomenal rate of 12% per year. Should this rate remain unchanged, the urban poor can be expected to double in size approximately every six years. A significant consequence of this explosion of the urban poor population has been an increasing number of land invasions: twenty-seven in Tegucigalpa alone in 1980-1981. (11.K- AID, 1985)

Honduras' National Development Plan for 1982-1986 estimated that approximately 100,000 substandard housing units are found in the urban areas. (10.E- CONSUPLANE, 1980) About 90% of these units are occupied by low income families, these families earning less than the median family income. (11.M- AID, 1985) Prior to the emphasis made by AID's Housing Guaranty (HG) programs, Honduras private sector housing construction supplied the high income end of the market and there was little public sector production of low income housing or few public works for the low income "marginal" population. In addition, there was little housing financing available to low income families.

B. Housing Programs

During the 1960s and 1970s Honduran housing policy was geared

primarily to direct government-built and subsidized housing units. These activities benefitted middle-income households primarily. Recent policies for low-income residents have evolved through collaboration among AID and various Honduran institutions such as INVA and the National Housing Finance Agency (FINAVI).

Once a program has been developed, AID and the Honduras government enter into an implementation agreement that defines the use of the loan funds. The borrower obtains a loan at the prevailing interest rate from an eligible private U.S. lender of its choice. Upon signing the loan agreement, AID executes a contract of guarantee for the U.S. lender indicating that loan repayment is guaranteed against all risks by the U.S. government. At the same time, AID obtains a full-faith and credit guarantee of repayment from the host country. In 1977, the Government of Honduras, in its National Housing Policy, committed itself to "focus on low income persons". AID presently has three shelter programs in operation: Shelter for the Urban Poor (522-HG-005); Private Sector Shelter (522-HG-007), and Urban Upgrading (522-HG-006). The first two provide low cost housing and home improvement loans targeted for the urban poor and the last one provides public services, such as potable water and sewage disposal systems for the same population. The ambitious goal of these three programs was stated in the Private Sector Shelter and the Urban Upgrading Project papers:

At the peak production level, the three AID shelter projects in Honduras will improve 5,000 existing housing units in marginal communities and will finance 4,500 new housing units per year. This level of production, if sustained, would satisfy the basic shelter needs of the urban poor residing in Tegucigalpa and San Pedro Sula within twenty years, that is, by the year 2002. (11.M-AID, 1985)

It [urban upgrading] is designed to increase assistance substantially to the more than 60% of the population in the two major cities who live in settlements with inadequate or no basic urban services... (11.F- AID, 1981)

A fourth project (522-HG-008), Shelter for the Urban Poor, is scheduled to begin in 1987.

A summary description of the USAID/Honduras housing projects is as follows: (11.A- AID, 1986)

Shelter for the Urban Poor I - On November 20, 1980 AID and the Government of Honduras (GOH) signed an Implementation Agreement for HG Loan 522-HG-005. The purpose of the project was to develop within (INVA) a capability to produce and deliver approximately 2,000 low-cost shelter units and 1,000 home improvement loans annually to families below the median income level in certain urban centers of Honduras. The project was to finance 4,340 new housing units and 3,000 home improvement loans.

The project was estimated to cost \$15.8 million of which the HG loan was to finance \$10.5 million, INVA \$5 million, and an AID grant \$300,000. The estimated completion date for the project was September 30, 1983.

Urban Upgrading in Marginal Communities - On June 6, 1980 AID and the Government of Honduras (GOH) signed an implementation agreement for HG loan 522-HG-006. The purpose of the project was to improve the capacity of the municipal governments of Tegucigalpa and San Pedro Sula to implement cost-recoverable programs to upgrade marginal urban communities by providing infrastructure, such as water and sewer services, and by financing home improvement loans. The project was to provide basic infrastructure to about 80 marginal communities in Tegucigalpa and San Pedro Sula with an estimated population of 31,000 families. The home improvement loans were to benefit between 2,000 and 2,500 families.

The implementing agencies for the project were the municipalities of Tegucigalpa and San Pedro Sula, with \$7.5 million allocated to Tegucigalpa and \$2.5 million to San Pedro Sula.

The estimated cost of the project was \$12,850,000 of which the HG loan was to finance \$10 million, AID grants \$350,000, the municipalities of Tegucigalpa \$2 million, and San Pedro Sula \$500,000. The estimated completion date for the project was April 30, 1984.

Private Sector Shelter Program - On September 28, 1981 AID and the Government of Honduras (GOH) signed an Implementation Agreement for the Loan 522-HG-007. The purpose of the project was to establish a functional system for expanded private sector involvement in the provision of shelter affordable by the urban poor in Honduras. The project was to finance Phase I of the government's Emergency Housing Plan. It was to consist of the construction, sale and mortgage financing by the private sector of approximately 6,721 housing units in the urban areas of Tegucigalpa and San Pedro Sula. Projects included housing developments in the neighborhoods of La Mora II, La Planeta, Satellite, San Jorge, and Centroamerica Oeste.

FINAVI was the implementing agency for the project. FINAVI was the regulatory agency for the savings and loan system in Honduras. AID assisted in the establishment of FINAVI in 1975 with a \$4 million seed capital loan. FINAVI was to provide construction financing to the developers through its affiliated savings and loan associations. AID authorized a revolving advance for up to \$7.5 million in HG funds for construction financing. After the housing units were sold, FINAVI was to purchase eligible mortgages from the associations and use the mortgage to support the AID guaranteed disbursements under the HG loan.

The estimated cost of mortgage financing for the project was \$27 million, of which the HG loan was to finance \$25 million and FINAVI \$2 million. In addition, AID agreed to provide a grant of \$75,000 for technical assistance. The estimated completion date for the project

was March 31, 1983.

C. Institutional Analysis

1. AID Management of Housing Guarantee Projects

All three programs are expected to be completed in 1986. Table II-2, Item 3 below shows that the three programs are far behind schedule. Presently Urban Upgrading (005) has less than \$225,000 to disburse, Private Sector Shelter (007) has \$80,000 remaining to be spent, and Shelter for the Urban Poor (005) has \$1,635,000 in the account with \$543,000 approved for disbursement but which is being held in escrow because the GOH is in arrears in its payments to AID. The Private Sector Shelter Program (007) had \$10 million reprogrammed from its \$25 million original budget when FINAVI was abolished by the GOH on November 5, 1985. The completion of all three projects is a condition for the new housing loan, Shelter for the Urban Poor II (008, as amended by the Implementation Agreement). The \$10 million reprogrammed from the Private Sector Shelter program (007) will be augmented by \$15 million for a total of \$25 million plus a \$7.5 million GOH contribution. This new housing loan has not yet been implemented. It is anticipated that the new \$42.5 million Shelter for the Urban Poor II (008) will begin in 1987 - after the completion of the three existing programs.

2. Urban Upgrading Project

Of the three programs presently in operation, Urban Upgrading (006) is the most simple in design, has had the least problems, and is generally considered successful. The manner in which this program is implemented is designed to include community involvement, private sector participation, and cost recovery.

The Urban Upgrading Project began with the identification of project areas. Social promoters in the two cities, Tegucigalpa (CMDC) and San Pedro Sula (MSPS), identify those low income neighborhoods that are interested in installing potable water, sewer, or pavement in their communities. Once the priorities are set and a commitment is made to proceed, the eligibility of the project is determined based on technical and social criteria. Social criteria include income, environmental soundness, conformity to the city's urban plan, and a resolution of any land tenure problems. Technical criteria include engineering and economic feasibility and efficiency.

The Municipality of Tegucigalpa contracts-out the construction phase of the project to private firms. The Municipality in San Pedro Sula has used both contracting out and direct administration, although the recent experiences of the city have been with direct administration only. The municipality's Implementation Unit then requests bids from a list of pre-qualified private construction firms. The bids are analyzed by an independent committee which receives no compensation for its work. The committee judges the bids and awards the contract, on the

basis of technical reports prepared independently by the engineering office of the municipality and a private contractor, to the lowest bidder. The legal department of the municipality then prepares the contracts. Separate contracts are awarded for the construction and the supervision of the work. The engineering department of the Implementation Unit monitors the contracts and performs periodic inspections. This latter function is supported by technical assistance provided by an AID/RHUDO engineer.

Once the work has been completed and the final costs are known, the Cadastre Department provides the basic data (land areas, current property values, etc.) to the Betterment Tax Unit which then reassesses the properties benefitting from the project in accordance with agreed upon formulas. The Betterment Tax Unit then distributes the final costs to the property owners in accordance with the benefits received as evidenced by the reassessment. The final cost per property owner is then sent to water utility for billing in conjunction with the regular water bill. Terms are 12 years to pay at an annual interest rate of 17%. The beneficiaries pay the bills to the Autonomous Municipal Bank (BANMA) in the case of Tegucigalpa or to the Water and Sewer Authority (DIMA) in San Pedro Sula. AID reimburses the municipalities for about 75% of the total cost of these projects.

3. Housing Programs

(a) Housing Construction

The other two programs, Shelter for the Urban Poor (005) and Private Sector Shelter (007) are housing loans designed to build low cost housing in urban areas for sale to the poor (less than median income). Shelter for the Urban Poor (005) has been the more successful of the two, but has experienced many serious setbacks which have rendered the program less than a total success.

The housing programs are implemented by INVVA. Initially, INVVA selected the site for a low-cost housing project, determined the type and number of units to be built, designed the project, prepared the technical reports, and called for bids from a list of previously pre-qualified private construction firms. Once the low cost bid was accepted, construction of the project was undertaken with financial advances from AID and interim financing provided by INVVA. Upon completion, INVVA assumed the task of financing and selling the units. The Hato de Enmedio and the La Paz projects were financed in this way. This procedure proved unsatisfactory since the private construction firm incurred no risk whatsoever, nor did they put up any front money, such as bid bonds or performance sureties. Profits were obtained without monetary investment or risk.

Beginning with the El Sitio project in Tegucigalpa, the implementation of the delivery system was modified to remedy this situation. INVVA, with AID assistance, instituted a "turnkey system". Initially, INVVA designs the program under this system, identifies localities for

prospective projects, and determines the type and number of housing units to be built. It then advertises that it will accept proposals from private firms to develop and build a project along the lines specified. INVA evaluates the proposals and selects the lowest cost proposal for implementation. A contract between INVA and the developer/builder is negotiated, which stipulates the terms and conditions under which the project is developed and built. The private developer/builder selects the site of the project, obtains the land, designs the project, obtains his own construction financing, and builds the project. INVA monitors and inspects the work throughout the term of the project. When the project is completed, INVA receives the housing units, sells them, and provides mortgage financing. Twenty year mortgages are given to eligible low-income families at a 12% annual interest rate. As of September 30, 1986, the Shelter for the Urban Poor has provided these outputs: 801 serviced lots, 1,623 basic houses, and 550 one bedroom units.

(b) Home Improvement Loans

In addition to providing low-cost housing, the program also provides home improvement loans to those low-income families who have purchased a lot or housing unit from INVA. These loans have been available in three forms: cash loan; material loans from INVA warehouses; material loans at fixed prices from private suppliers. The loans are made for 5 years at 15% interest. As of September 30, 1986, INVA has made 1,496 home improvement loans under this program.

(c) Private Sector Shelter Program

The least successful of all three housing programs has been the Private Sector Shelter Program (007). This program was initially administered by FINAVI. The program was initiated by the Government of Honduras providing interest-free financing of \$5 million to private construction companies in order to produce low income housing in Tegucigalpa and San Pedro Sula beginning March 1981. The financing passed through FINAVI and then through two savings and loan associations - La Constancia and La Vivienda de Sula. The GOH requested AID assistance after construction was already in progress in San Pedro Sula and the project sites and plans were completed elsewhere in the country. AID assistance began in December 31, 1981 when the loan agreement was signed. RHUDO/CA required that the private contractors provide some of their own construction financing.

The principal institutions and their responsibilities are:

- | | |
|--------|--|
| FINAVI | <ul style="list-style-type: none"> - Project coordination, supervision and policy. - obtaining both short- and long-term financing for the Project. - liaison for the Project. - monitoring of HG loan repayment. - regulatory agency and refinancing |
|--------|--|

facility for S&Ls

S&L Associations

- mortgage lending to project beneficiaries.
- work-in-progress inspections.
- construction lending management on behalf of FINAVI.
- supervision of sales program.

Developers

- construction of units.
- sales of units, under contract to S&L associations.
- obtaining approval by municipal and public utilities of units and infrastructure networks. (11.M-AID, 1985)

Mortgages to the purchasers of these low-cost housing units were provided by the S&L associations for 20 years at 19.5% annual interest charges. As of 9/30/86, 3,308 houses were sold whereas more than 5,500 were constructed. (11.N- AID, 1986) Consequently, the amount of money authorized for this program was reduced to \$15 million from the original \$25 million with the approval of the amendment to the New Shelter for the Urban Poor II loan (008). FINAVI has been terminated by the GOH due to poor performance and financial problems resulting from the government's involvement in the poorly planned emergency shelter housing program launched in 1980. Liquidation is being administered by the Fiduciary Housing Fund (FOVI) of the Central Bank.

D. Economic Analysis

1. Overall Performance of Housing Programs

This section provides economic indicators of the performance of three programs. More specifically, we will attempt to provide measurements of changes in quantity, quality, and speed of delivery of the various contracting-out experiences. Indicators of efficiency- least cost, clearing the market, and goal achievement- will also be considered. Competition as well as changes in public and private sector activity will be evaluated utilizing the data and information available for such purposes. It must be borne in mind throughout that none of these programs used direct administration (public) construction. All three programs contracted-out their construction to private firms. To expedite the analysis, the salient variables and indicators are presented in summarized form in Table II-2.

(a) Private Sector Shelter Program (007)

Table II-2, Item 3 indicates that all three programs required more time to complete than planned. The Private Sector Shelter Program (007) required more than two and a half times as long to complete than anticipated. The Shelter for Urban Poor (005) required twice as much time to complete as programmed and Urban Upgrading needed 63% more time

than planned to complete. None of the three were, therefore, delivered on schedule. Moreover, the Private Sector Shelter Program was reduced by nearly 40% and required more time for completion than the other two programs.

How is this inability to deliver on schedule explained? Looking first at the Private Sector Shelter Program (007) we see that the program was successful in constructing the units at a rate exceeding that of the other two program (item 4, table II-2). Whereas this program had produced 82% of its programmed housing units as of September 1985, it was unable to sell them as fast as the other two programs (item 5, Table II-2). Among other things, the sale prices for units in 1985 were higher than anticipated in 1981 (item 7, Table II-2). Its mortgage interest rate was also higher than that of the other two programs (item 6, Table II-2), and consequently it was obliged to sell 25% of the housing units constructed to families which did not qualify -- families with incomes higher than the regional median (item 8, Table II-2). Cost recovery, consequently, was not achieved and mortgage loan delinquencies were an astronomical 57% as of September, 1985 (item 7, Table II-2). As late as September, 30, 1986, only 3,308 units of more than 5,500 were sold. (11.J- AID, 1984)

(b) Shelter for the Urban Poor (005)

This program also required more time for completion than planned, more than twice as long (item 1, Table II-2). In this case, however, there were problems with construction with some housing such as case units exceeding production targets while others such as serviced lots falling way behind schedule (item 4, Table II-2). More of the constructed housing units were sold in this program than in Private Sector Shelter, 63% vs. 43% (item 5, Table II-2). A greater percentage of the planned families to be assisted were provided with low-cost housing and this is partly explained by the lower mortgage terms, 20 years at 12% interest of this program vs. the 20 years at 19.5% interest of the Private Sector Shelter Program (item 6, Table II-2). Because the cost of these housing units increased over the years due to an inability to meet targeted goals in a timely manner (item 9, Table II-2) and because only 7% of purchasers are above the median income (item 8, Table II-2), the mortgage and home delinquency rates exceeded that of the Private Sector Shelter Program (item 7, Table II-2). Delinquency rates of 71% for mortgages and 81% for home improvement loans (item 7, Table II-2), imply that cost recovery will probably be unattainable in this program.

In both the Private Sector Shelter Housing Program and in Shelter for the Urban Poor, the following shortcomings of the contracting-out experience have been noted:

- a. Difficulties and time lost in improving the institutional performance of INVA.
- b. Difficulties in implementing the new "turnkey system" - specially in the El Sitio project.
- c. Financing at rates of interest significantly below INVA's

- cost of raising the money to lend.
- d. Excessive delegation of responsibility to private contractors-- especially in site selection and project design.
 - e. Failure to recognize and deal with monopolistic dimensions operating in the private sector.
 - f. Contracting-out of construction with inadequate provision made for sales, mortgage financing, and collection.
 - g. Improper design and monitoring to ensure that the targeted low-income population benefitted. (10.C- Rourk, 1986)

Among other things, this comparative analysis demonstrates that similar institutional delivery systems fail (or succeed) for similar reasons.

(c) Urban Upgrading (006)

This program is considered a success by most evaluators of these three urban housing/service programs. With respect to speed of delivery, this program performed well requiring only 50% more time to complete than the two housing program designed to improve the living conditions of the urban poor (item 3, Table II-2). As one AID study notes, on-site construction was completed far ahead of either off-site construction or municipal departmental actions to valorize properties, distribute costs, or educate beneficiaries on the need to repay investments. The speedy construction on-site is attributed directly to the use of contracting-out in Tegucigalpa:

In part the ability of the municipalities to complete on-site construction on a scale far outpacing the other components was due to the municipalities contracting out both the construction and supervision of the work. This mode of operation permitted the municipalities to complete a larger number of sub-projects in a relatively short period of time, thus enhancing the positive impacts of the program in delivering basic infrastructure to the low-income neighborhoods. (11.K- AID, 1985: 22)

However, coordination between contractors and municipal departments or entities or among municipal entities remained a problem.

Sales of these services, potable water, sewage disposal, and pavement, are not a problem because of the way the program is designed. Commitments to buy are made by the community of beneficiaries before construction begins, as explained above. However, promises to pay and actual payment are not one and the same. Only 30% of the families scheduled to be benefitted by this program were so served as of September, 1985 (item 4, Table II-2). This is the lowest rate of delivery of all three programs. Again the high interest rate of 17% partially explains this performance (item 6, Table II-2). There is no data on the portion of ineligible beneficiaries in this program and we may presume that only low-income families have been served. This assumption is supported by the fact that 67% of the low-income families who have benefitted from this program who agreed to pay for the services defaulted as of September 1985 (item 7, Table II-2).

Included among the reasons cited for its less-than-anticipated results are the following:

- a. Difficulties and time lost in improving the institutional performance of CMDC and MSPS.
- b. The fact that "San Pedro Sula has never fully accepted the idea of contracting out of the construction work" and prefers to utilize direct construction.
- c. Failure to coordinate rapid construction of projects by private contractors with public support services from cadastre departments and SANAA hook-ups.
- d. No provision made for the funding of "off-site" connections needed to make projects operational.
- e. Cost of services and finance charges in excess of ability of low-income beneficiaries to pay. (11.K- AID, 1985)

2. Cost Comparison of Upgrading Projects

Our preliminary attempts at obtaining comparative information on low income housing and what we have learned is presented in this section of the report. We deal with Urban Upgrading (006). Since this assistance is intended to be continued under the new Shelter for the Urban Poor II project (as amended), it would be a logical choice for comparative investigation. As we have noted elsewhere in this chapter, comparison of different administrative systems in terms of costs is made more difficult because of differences in data collection techniques. In direct administration or force accounts such items as overhead, certain personnel costs, depreciation, and other items are not accounted for, or, if they are, unrealistically so. Even in contracted projects, similarity of data is a problem. Unfortunately, data are not collected and recorded in way that facilitates this analysis in Honduras in Urban Upgrading. Our preliminary attempts at data collection for cost comparisons revealed a number of obstacles which will make the task a difficult one. To begin with, engineers and non-economists do cost estimation and data collection. As seen in Table II-3 below, engineers use unit costs of construction. Material, labor, depreciation, taxes, and profits are obscured in the process. In addition, CMDC does not use the same format for project cost accounting as SANAA. While engineering records are in good order, the accounting departments are less well organized. Consequently, many actual costs are obscured or not recorded and cost comparisons as well as analyses are extremely difficult under these conditions.

In this study, we have attempted to compare a select sample of six CMDC projects, three direct administration (public construction) and three contracting-out of construction to private firms. For only two projects were we able to obtain cost data for comparison. In addition, no attempt was made to compare these two projects with one of direct administration from SANAA. Comparisons between SANAA projects and AID-CMDC projects would be most productive and are recommended for future investigations.

The two projects selected for cost comparisons were "Oscar A. Flores" (contracting-out) and "San Jose" (direct administration) in Tegucigalpa. The Oscar A. Flores project was for potable water and sewerage while San Jose was only a sewerage project. Cost figures were adjusted accordingly so that only those costs incurred in sewage system's construction were compared.

The direct administration San Jose project was undertaken one year later than the Flores project and the costs of the earlier project should be increased by about 5% to account for inflation. This, however, was not done since it did not significantly alter our preliminary test. CMDC engineers stated that the two projects were similar in all other respects.

Table II-3 below lists the unit cost comparisons of the two projects. Most notable is the wide variation of costs such that virtually no two are identical. Determinations of concrete costs are not estimated in the same way. In many cases, such as excavation, installation, and fill-in, direct administration San Jose costs were nearly twice that of the contracted-out project. Even a simple comparison of costs like this one, therefore, is useful. Why do such big differences in cost occur in similar projects using similar technology, material, and equipment? It would appear that there are significant costs associated with direct administration that do not occur in contracting out.

In addition to unit costs calculated by engineers, CMDC also records global costs on its urban upgrading projects. These costs are little more than unit construction costs rearranged and augmented with miscellaneous other expenses - most of which are estimated. As seen in Table II-4, construction costs of a project calculated in this way vary from project to project instead of being a constant portion as might be expected. The contracting-out project Oscar A. Flores construction costs were only calculated at 65% of total project costs whereas the directly administered San Jose project construction costs were estimated to be 80% of total project costs. CMDC pays approximately 74% of total project costs whereas private construction costs in the Oscar Flores project were less than this amount.

The San Jose project listed no supervision costs and its fees to the city for connecting to the main sewerage network were only 6% of total cost while the Oscar Flores project paid 10% of a much larger total cost for these services. Thus, the questions arise, was there no supervision of direct administration projects or were these costs simply not recorded? Does the city charge private contractors more than the CMDC to tap into its infrastructure?

In addition to focusing investigation on working hypotheses, comparative studies of cost can provide measurements of the degree of privatization that has occurred. In urban upgrading, contracting-out to private enterprises represents about 65% of projects and the remainder is public, at least in this one comparison.

Another finding of this comparison is that the contracting-out project provided sewerage facilities to the urban poor at a lower cost per family and per meter of system. Contracting-out Oscar A. Flores provided this service for L1,195 per family and L150 per meter while the directly administered San Jose project provided a similar service for L1,386 per family and L181 per meter of system. If 45 percent of the projects, even with contracting-out, are still public, major cost reductions may not realistically be expected in many cases. For example, more efficient private production may reduce construction costs by 10% which may be offset by increased supervision costs and public fees in excess of these savings. Likewise, the law requires only that the lowest bidder gets the contract whether the bids are true least cost or not.

3. Municipality of San Pedro Sula (MSPS)

In San Pedro Sula urban upgrading is handled by the Municipal Directorate of Water (DIMA) of the MSPS. It functions very independently from the MSPS. Its almost exclusive mode of operation is direct administration to upgrade about 75 marginal neighborhoods in and around San Pedro Sula. Of these 75 neighborhoods only five received direct funding assistance from AID; another new five neighborhoods are receiving assistance through the Employment Generation Program. DIMA has cancelled its other relationship with AID because the Housing Guaranty Loan Program required a 17% interest on the loan which is much higher than DIMA wanted to pay.

DIMA used contracting out earlier, but has used exclusively direct administration since 1984. The reason for the reliance on direct administration is a belief by DIMA executive officers that direct administration is cheaper, faster, and more efficient. Also, DIMA believes that contractors charge excessive administrative costs and charge profit on direct costs in excessive amounts. Although DIMA was unable to provide specific data to substantiate this position, it is instructive to explore the rationale.

The following seven items are typical of a contract. The items are listed as a percentage of both contractor (direct) cost as well as a percentage of those costs for DIMA on the same item.

<u>ITEM</u>	<u>CONTRACTOR</u>	<u>DIMA</u>
1. Preliminary expenses	5%	2%
2. Materials	55	50
3. Manual labor	20	15
4. Miscellaneous	5	5

	22	
5. Equipment	15	10
	-----	-----
Total Direct Costs	100	82
6. Administration	25	--
7. Profit	25	--
	-----	-----
Total Direct and Indirect Cost	150	82

Explanation

1. Preliminary expenses. DIMA has few preliminary costs but contractors must solicit bids, make proposals. All this is charged to the project.

2. Materials. DIMA orders in lots and can negotiate better prices than contractors.

3. Manual Labor. DIMA is able to get manual labor faster, cheaper, and from the community.

4. Miscellaneous. No differences.

5. Equipment. DIMA can negotiate rental equipment at lower costs than contractor because the latter uses his own equipment. Contractor has to charge more because of depreciation.

6. Administration. Contractor charges 25 % on all direct costs. Here, DIMA fails to take into account their administration costs which are likely to be similar.

7. Profit. Contractors charge profits but DIMA does not.

A rough calculus based upon these partial data gained from discussions, and taking into account the 25 % DIMA administration costs not included, suggests that the contractor costs are substantially greater. However, one must be careful with interpreting these inexact numbers.

The most striking feature of DIMA is that it is convinced of the soundness of this approach, is content with the approach, and will most likely use this approach in the future.

E. Workable Competition in the Private Sector

In this section of the report we will address the question of private sector competition and its impact upon the three Mission programs in low-income housing and public services. To begin with, workable

competition is like contracting out, a middle position along a spectrum from pure competition to pure monopoly:

Pure Competition-----Workable Competition-----Pure Monopoly

Private-----Contracting Out-----Public
Sector Sector

We would expect to find that, everything else equal, the greater the private sector competition, the better the performance of the contracting-out delivery system in the three projects under investigation. However, more contracting-out to a non-competitive private sector is not an optimum solution and could even be expected to yield poorer results than direct administration (production) by the monopolistic public sector.

Although the evidence is sketchy, this hypothesis is supported by the experience of the Mission's low-income housing and public services projects. Unquestionably the Private Sector Shelter Program (007) was the worst performer of the three, building high-cost houses which couldn't be sold except at a loss resulting in the decapitalization of FINAVI and its ultimate demise. The private sector firms involved in this program were also the least competitive. In three of the five sub-projects of this program, the private firms were vertically integrated through interlocking directorates among suppliers, builders/developers and savings and loan associations. La Constancia savings and loan association owners also owned two construction firms, La Promotora and La Constructora. Likewise, La Vivienda de Sula owned Honducas, the construction firm which built San Jorge and La Mora. In addition, the building supply firms are owned by the same interests that own the S&Ls. These owners also had political connections with the Government of Honduras which began the program before the Mission assumed financial responsibility. There apparently was no bidding process involved, no community or public involvement in site selection or project design, and only minimal private financing of the contracting-out construction phase of the projects. Private, riskless, monopolistic profits were made on land deals, interest-free loans, and construction. Also, there is some evidence that the contractors were able to divert a considerable amount of the initial \$5 million in cash from the Central Bank, in the form of interest-free construction financing funds, from the supplying of labor and materials.

Losses of the savings and loan associations, which assumed the credit risk, are being reduced by the current activities of FOVI-which has replaced FINAVI. FOVI is presently engaged in selling the unsold housing units constructed and discounting the mortgages of units already sold.

The Shelter for the Urban Poor Program (005) fared somewhat better than the Private Sector Shelter Program (007), in part, because the private sector participating was more competitive. Site selection, competitive bidding, and project design and monitoring were instituted at the start

and monitored by INVA. Problems surfaced, however, once the "turnkey system" was introduced with El Sitio project. Site selection, quality control, and project design responsibilities were delegated to the private contractor giving rise to a multitude of problems which culminated in an inability to sell the units or collect on the mortgages. In this case, the developer owned the site, and the project was intended to head off further squatter invasion on the land. Developed control of siting resulted in problems of both poor transportation and infrastructure. In addition, poor coordination/designation of responsibility among INVA/SANAA/developer resulted. As a consequence, there was inadequate drainage (and pre-testing of soil drainage), inadequate water and sewer lines. Although the private contractors were obliged to obtain their own financing under this system, the participating banks adopted a highly conservative position with respect to risk in these ventures. As a result, only the wealthiest, most liquid developers were financially able to participate in the projects. Thus did monopoly elements enter the process.

Moreover, while INVA is, by law, required to accept the lowest bid from qualified private construction firms, there is no legal obligation that these bids be competitively cost efficient or that they correspond to any standard reference costs. The particular engineering cost budgeting utilized in the bidding process obscures the true material, labor, and depreciation costs - to say nothing about profit. In response to this state of affairs, INVA has divided many of its projects into sub-projects and has awarded a number of private firms contracts within the same projects. In the process, lowest cost bidding is compromised. Contracting-out of construction to the private sector under the "turnkey system" has many advantages, but the "bugs" must be worked out. As a general guide, the entity which is responsible for selling the housing units should also be responsible for site selection, project design, and quality control. An unworkable division of responsibilities presently exists. Bidding, also, should be so designed as to ensure least cost production, not lowest cost bid. In the cost-plus contract, the contractor is reimbursed for all costs plus a fee; the government assumes practically all of the attendant risks. Finally, sold units currently up to date on mortgage payments and not constructed units should be the measure of program progress and success. The gist of all these is that if there is no incentive to produce at competitive least cost but only to produce at lowest bid (cost plus), the units will not be built at the lowest cost and will not be able to be sold to low-income families.

The Urban Upgrading Program (006) has been generally considered the most successful of the Missions low-income housing/public services programs. Strictly speaking, it is not comparable to the other programs and delivers a distinct product as noted earlier. This project, like others, contracts out to private firms the construction of water, sewerage, and pavement projects for the low income families of Tegucigalpa and San Pedro Sula. The procedures used in this program, however, are superior inasmuch as there is more community

involvement, more control over design and project supervision, and a superior bidding procedure. There also exists competition for this program from publicly direct administered production of public works. Both CMDC and MSPS as well as SANAA produce similar projects which serve as a reference for Mission contracting-out projects under this program. They help to ensure that low private bids at less approximate costs of construction by public entities. Competition from the private or public sector has the same effect as competition among private firms only. It is possible that bureaucratic inefficiencies may be no greater than normal competitive profits in such a case.

Despite the relative success of the Urban Upgrading Program, a number of similar problems exist. As pointed out above, off-site works, project delays, and delinquencies in the collection of billings render the program less than an unqualified success. Again, the entity responsible for sales and cost collection should be the same as the one used in site selection, project design, and supervision. Perhaps this project could be improved by reconsidering the contracting-out of supervision. The key to contracting-out is to properly design the program or project and divide responsibilities clearly so as to achieve goals and objectives. This design and division can be learned from experience and comparative cost-benefit studies. That the communities agreed to pay for the services and then became delinquent on billings indicates that they either cannot pay or refuse to pay.

TABLE II-1
 HOUSING CHARACTERISTICS IN HONDURAS
 1986
 (percentages)

	<u>Metro</u>	<u>Urban</u>	<u>Rural</u>
Distribution of units by location	21	9	70
Distribution of units by building materials:			
permanent	78	46	12
semi-permanent	16	29	16
improvised	6	25	61
Total	100	100	100
Percentage of units with adequate infrastructure:			
permanent	57	54	83
semi-permanent	71	51	34
improved	16	16	39
Distribution of units by tenure:			
owned	38	53	86
rented or leased	35	33	14
squatters	27	14	--
Total	100	100	100

Source: Rourk, Phillip, et al., "Developing a Housing Finance Strategy for Honduras." The Urban Institute for USAID Project 3597, June, 1986.

TABLE II-2

SUMMARY OF USAID/HONDURAS URBAN SHELTER PROGRAMS:
FINANCIAL AND ECONOMIC INDICATORS

FINANCIAL/ ECONOMIC INDICATORS	URBAN UPGRADING (006)	SHELTER FOR URBAN POOR (005)	PRIVATE SECTOR SHELTER (007)
1. Financing AID (1)	\$10,000,000	\$10,500,000	(\$25,000,000)
(Total)	15,235,140	16,487,000	17,075,000
2. Remaining AID Funds (1)	225,000	1,370,000	17,075,000
3. Years Needed for Project Completion (1)	6.5	6.5	6.5
Years Planned for Completion	4=1.63%	3= 2.17%	2.5= 2.60%
4. Constructed Output Planned Outputs			
Serviced lots	-	579/2170= 27%	-
Core units	-	1537/1310=117%	-
Basic houses	-	550/860 = 64%	5511/6721=82%
Home Improv. loans	111/2000=6%	1241/3000= 41%	-
Families Assisted	9399/3100=30%	3907/6000=65%	20400/34600=59%
5. Sold Outputs (2)			
Constructed Outputs	-	609/972= 63%	2357/5511=43%
6. Mortgage & loan interest rate (4)	17% (12 yrs)	12% (20 yrs)	19.5% (20yrs)
7. Loan Delinquencies			
Mortgages	-	1516/2138=71%	1334/2360=57%
Home Improv. Loans	-	1007/1241=81%	-
Urban Upgrading	\$323,602	-	-
	----- 482,143= 67%		
8. % Houses or Services sold			

to families above median income.	N/A	7%	25%
--	-----	----	-----

Programmed Unit
Cost in 008, 1984 (4)

9. Programmed unit
costs in projects

Services lots	-	\$2486/1500=1.66	
Core units	-	3576/2500=1.43	
Basic houses	-	5827/3500=1.66	5827/3800=1.53
Home Improv. loans	-	1122/500 =2.24	

10. Host Government Employment 1981-86	+3000(5a)	+210 (5b)	(5c)
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11. Host Government Deficit 1981-86	(6a)	(6b)	(6c)
--	------	------	------

12. Private Employment 1981-86 (7)	15,000(est)	+15,500	+11,800
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13. Nat'l Income 81-86	\$30 million	\$33 million	\$34 million
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14. Actual Cost Recovery/ Cost Recovery Expected	-----	2,191,000	----- =
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- (1) From files of USAID/Honduras-Housing
 - (2) Audit of Honduras Housing Guarantee Program, Jan. 22, 1986.
(Figures as of Sept., 1985).
 - (3) El Sitio Project only.
 - (4) AID Project Papers 005, 006, 007 and 008
 - (5) 5A - CMDC+SANAA employment change;
5B - INVA employment change;
5C - FINAVI employment change
 - (6) 6A - CMDC+SANAA deficits;
6B - INVA deficit;
6C - FINAVI deficit
 - (7) Project Paper 005, 006, 007 target employment increases -
assuming the projects are completed in 1986 (007 15,000
estimate based upon 005 criteria 10 jobs per \$10,000
investment)
 - (8) Project expenditures (assumed expended by Dec. 1986)
X multiplies of 2. Multiplier of 2 obtained from
Economic Effects of Housing Investment (AID, Urban Institute
1984). Rounded to nearest million.

TABLE II-3

UNIT CONSTRUCTION COST COMPARISONS OF TWO URBAN UPGRADING PROJECTS
CONTRACTING-OUT VS. DIRECT ADMINISTRATION

	UNIT	OSCAR A. FLORES (CONTRACTING-OUT)		SAN JOSE (DIRECT ADMINISTRATION)	
		UNIT PRICE	QUANTITY	UNIT PRICE	QUANTITY
Layout	m1	1.90	2,870	1.67	340
Grading	m1	1.90	2,870	1.66	300
Excavation (not classified)	m3	15.00	4,770	26.05	437
8" concrete tubes	m1	14.00	2,870	11.80	282
Y connectors 8"x6"	u	24.00	361	20.42	25
Installation					
8" tubes	m1	4.85	2,870	6.99	291
Compacting (select material)	m3	13.00	280	16.70	35
Manholes/metal covers	u	900.00	30	851.54	6
Tiedowns of concrete	u	19.00	66		
Tiedowns of concrete	m3			196.80	00.30
Cement covering tubes	m3	468.00	12.5	429.86	19.7
Hydrostatic test	m1	.70	2,870	1.56	291
compacted Fill-in	m3	2.10	2,720	5.0	101
6" concrete tubes	m1	10.50	1,810	9.37	30
Installation					
6" tubes	m1	4.10	1,810	4.72	30
Inspection boxes	u	118.30	361	111.81	30

u = unit
m1 = linear meter
m3 = cubic meter

Note: Only those units common to both projects were compared, they were, however, equal to about 95% of construction costs.

Source: CMDC files

TABLE II-4

GLOBAL COST COMPARISON OF TWO URBAN UPGRADING PROJECTS:
CONTRACTING-OUT VS. DIRECT ADMINISTRATION

	OSCAR A. FLORES (AID CONTRACTING-OUT)		SAN JOSE (DIRECT ADMINISTRATION)	
	LM	% TOTAL COST	LM	% TOTAL COST
1. Cost of construction	431,277	65	92,867	80
2. Materials-AID		06		02
3. Materials-CMDC		-		-
4. Cost of Supervision		05		-
5. Cost of Design - AID		-		-
6. Cost of Design - AMDC		-		-
7. Project Registration		(1)		-
8. Administrative Expenditures (2)		08		08
9. General Expend.		(1)		(1)
10. Finance		06		03
11. Fee for connection to City System		10		06
12. Deed transfer SANAA		(1)		01
13. Unforseen Expenses		-		-
14. Total cost of project	662,783	100	117,813	100
No. family connections	361		67	
Linear meters	2,870		513	
15. Average cost per family (not counting interest charges)	1,195		1,386	
16. Average cost per meter	150		181	

(1) Less than 1/2 of 1% of project costs.

(2) Estimated at 10% of the combined costs of construction, supervision, and design

Source: Files of CMDC

CHAPTER 3

PRIMARY SCHOOL CONSTRUCTION

A. Background

The Honduran educational system suffers from some serious problems that appear at times to be overwhelming. The major problems relate to rural educational delivery systems, access of the rural population to schools, retention and desertion of school age children, deficient and non-existent rural schools, and under-trained rural primary school teachers.

The Ministry of Public Education (MOE) is well aware of these problems. Considerable public expenditures are made in public education representing over 25% of the national budget. Recurrent costs are high in relation to outputs. Educational internal efficiency rates are low with considerably high levels of repetition and drop-out rates. The Ministry is placing emphasis on rural primary school construction, teacher training, and administration management improvements.

International donors such as AID, the World Bank, and the Inter-American Development Bank all stress rural primary school education. There is consensus on the nuclearization concept in which older students in grades 3-6 go to a central school. International donors have paid a good deal of attention to school construction.

The Ministry of Public Education uses the direct administration procedure for school construction of rural primary schools and contracting out for larger urban schools. School construction is handled in the Directorate of School Construction within MOE. In addition, each of the donor agencies is contained within the MOE in terms of fund accounting. The reason for these separate "project units" is that there are slight differences between donors and MOE in terms of what each is willing to fund from their account. More will be said on this below.

B. Educational Programs

AID/Honduras has had a long history of supporting rural primary school construction in Honduras. Loan No. 522-V-027, Loan No. 522-V-031, Loan No. 522-0119 have had rural primary school construction components. More recently, Project No. 522-0167, Rural Primary Schools, is a four year project to end in December, 1986 with a \$13,850,000 loan and \$1,150,000 grant that is to 1) construct 2,100 new classrooms and remodel 1,000 classrooms in 7 departments, 2) construct 600 teacher housing units, 3) construct a teacher training center, 4) provide teacher training for rural primary school teachers, and 5) set-up an information and data collecting system within the Ministry of Education. The amendments changed certain project components. The newest project, No. 522-0273 Primary Education Efficiency, is

designed to improve the quality of the primary education system through educational innovations to reduce dropout and repetition rates, lower unit costs, improve the quality of instruction, and increase academic achievement. This new project, beginning in late 1986, has the following seven components:

1. Textbook writing and printing for all six grades.
2. National In-Service Teacher Training for Primary School Teachers.
3. Administrative and Policy Analysis Program, a research division or "think tank" to assess alternative educational policy directions.
4. Computerized MOE Management Information System. A continuation and reinforcement of previous activities under the Project No. 522-0167 program.
5. Testing and Evaluation Program for Academic Standards
6. School construction, renovation, and maintenance.
7. Interactive Radio Education Program by Private Sector. (B.C-AID, 1986)

This educational reform project has a \$22.0 million grant and a \$5.5 million loan over an eight year period.

The other leading international donors in education are the World Bank and the Inter-American Development Bank. The World Bank supported for many years the nuclearization concept and assisted in building several thousand classrooms. After a lapse of several years they are now gearing up to contribute once more. They are presently sponsoring an educational mapping survey to determine educational construction needs in the rural areas.

The Inter-American Development Bank is currently using the "contracting out" method to construct larger high schools, technical institutes, and teacher training centers. At present they are not building rural primary schools.

It should be pointed out that the General Directorate of School Construction (DGCE) is using "contracting out" for constructing five larger educational institutes and teacher training centers. However, an assessment of those procedures is not included in this study because they do not relate to rural primary schools.

C. Institutional Analysis

1. Direct Administration of MOE Construction

The DGCE relies mainly on a direct administration approach to build rural schools. First, it provides a simple school design for rural areas. It uses a force account reimbursable (FAR) system for school construction. It calls its system ayuda mutua, or self-help construction. It prefers to have the local community be involved in what it calls self-help construction. The local community provides

land, local materials(sand, gravel),and in-kind labor by community members. The Ministry can provide skilled masons when necessary, additional materials, steel, bricks, cement, and whatever other materials and supplies are required that the community cannot provide. The Ministry also provides a social promoter who is to stimulate the community to get involved in the school construction. This person also assists in school construction supervision.

In other communities that already have schools, the Ministry makes an inspection of existing schools to determine if they need to be repaired or upgraded. If it is determined that such repair is needed, the Ministry follows procedures similar to those described above to solicit self-help construction.

Since the DGCE attempts to maximize the number of schools to be built or renovated, it prefers strongly the self-help construction concept; there is an outstanding demand of over 1,000 communities that have requested schools and therefore it can exert pressure on local communities for in-kind labor contributions.

The DGCE has three types of school construction, the prices of which vary: adobe, brick, and cement block. The community is encouraged to contribute as much as possible. Under the DGCE approach the community is usually required to provide the skilled mason and transport the Ministry-supplied materials. (AID provides funding for both the mason and for transport of supplies to the construction site) Again, the Ministry of Education is attempting to utilize as many community resources as possible.

In 1986 the DGCE has constructed 336 classrooms in about 150 communities using the self-help construction method. It takes about 8-9 months to complete. The community provides 45% and the MOE 55% of construction costs. The MOE maintains engineering and supervision control through its 17 engineers and 10 social promoters who visit the school construction continually.

2. MOE/AID Construction Procedures

The MOE/AID Project Unit utilizes both direct administration and contracting out. The AID Primary School Project No. 522-0167 construction component has a separate project unit. Although theoretically under the DGCE, it has worked fairly independently. The unit proceeded independently in using the contracting out method in 1984-86. The whole project is under the General Coordinator for the Primary Education/AID Project. (8.B- AID, 1980)

The goal of the AID School Construction Project Unit is to provide 2,100 new classrooms and to renovate 1,000 classrooms by the end of 1986. The project was to use the self-help approach. By early 1984 the project output was about two years behind schedule. The principal reasons were 1) serious delays in obtaining materials approved by the Proveduria, and 2) lack of community involvement partially because of

delays. (B.A- MOE, 1985)

In March, 1984 Amendment No. 4 of the AID-MOE Agreement stipulated that private firms would be contracted to build 1,100 classrooms because of construction delays. (B.H- AID, 1984) This was meant to be a short term method used by AID/Honduras and the MOE to achieve the construction goals in time. This approach was envisioned as an emergency measure and not a fundamental shift in approaches.

By March 30, 1985, according to the MOE evaluation, 1,097 classrooms had been constructed, representing 52% of the project goal. Delays caused construction costs to rise and made the MOE unable to reach its goals of 2,100 classrooms. They decided, then, to have the private sector build 300 classrooms in Yoro Department and another 300 in Santa Barbara. Another 300 classrooms have been contracted, yielding a total of 900 classrooms. (B.A- MOE, 1985) The Moe/AID Project Unit will reach its goal of 2,100 classrooms by the end of 1986.

Forty-five Honduran construction firms were pre-qualified for bidding. Twelve construction firms were selected. The MOE provided "pre-determined price mechanism" so that bidders did not have to submit lowest bids, but rather were awarded blocks of classrooms to build. Therefore, there was no competition per se. Rather, contractors received contracts on a fixed price plus fee basis, relying on MOE reference unit prices. Special contracts were written for these twelve contractors to build the 900 classrooms in Santa Barbara, Yoro, Comayagua, and Intibuca Departments. Some of the basic agreements of interest in contracting out taken from the document "Contractual Bases" are:

- 0 Contract was to perform using pre-determined price mechanism. Administrative and contingency funds were added as well as a regulated profit margin.
- 0 Packages or groups were given to each contractor in the same locale within a given department.
- 0 Fixed price contracts were used based on the pre-determined costs. No cost reimbursement mechanism was used.
- 0 A 20% guarantee bond was required. This bond was required to be held with a local surety or insurance institution.
- 0 A 10% quality work bond was required and was valid for one year after terminating the project.
- 0 A 10% deduction was made from each payment to cover any complaints or non-payments. It was paid back after the one year period.
- 0 A 10% advance was given to the contractor.
- 0 A fine of L500 was assessed against the contractor for each

calendar day delay. (B.E- MOE, 1984)

In total 19 contracts were written with 12 construction firms. There was an average of about 50 classrooms per block and per contractor.

The housing units component was to provide housing units for rural primary school teachers in communities requesting teachers housing to encourage teachers to live in the communities. Modest teacher housing units were built using the same self-help construction approach. This component has been less successful, in part because communities requesting these units have not been forthcoming in assisting in construction.

The original project goal was to build 600 teacher housing units. Only seven units were constructed. The rest of this component has been stopped and project funds reprogrammed into school construction. The initial assessment of teacher housing needs and desire was not justified.

3. Direct Administration and Contracting Out

Direct administration is the norm for the MOE/DGCE. Contracting out was utilized for a two year period only in order to speed up construction. Therefore, the same procedures of direct administration were used during this period with considerable duplication of effort. The perception of an "emergency situation" meant that long-term changes in administrative procedures were not implemented. It is fair to say that the USAID Mission to Honduras and the Project Unit of the Ministry of Public Education are convinced of the more cost-effective manner of self-help construction. This was reiterated in the Project Paper No. 522-0273 Primary Education Efficiency. (B.C- AID, 1986) Even so, it is important to assess the advantages and disadvantages of either system. Both AID/Honduras and MOE officials report that the overall cost to the MOE is lower using the directly administered self-help approach to school construction. Yet it is important to assess overall costs, both direct community costs and in-kind costs in order to make a fair comparison.

(a) Design criteria

There are no differences between direct administration and contracting out by the MOE. In both cases, MOE design criteria of the planning office are used.

(b) Land

Again there are few differences. Under both direct administration and contracting out, land for construction is donated by the community. However, it was noted by several sources that the communities have less interest in obtaining land for contractors since there were certain fears and that the contractors would acquire the land. There are,

however, no clear examples of this happening.

(c) Promotion

In both cases, the Ministry provides the community with social promoters. There are 10 DGCE and 6 DGCE/AID Project Unit social promoters. Their role is to provide both guidance and encouragement to community efforts. Social promoters noted, however, that under the guidelines of the contracting out relationship they spend about half as much time in the communities. It would seem that the sense of involvement of the community and the promoter is less evident in the contract relationship.

(d) Skilled labor

Under most MOE project guidelines, the MOE obligates the community to acquire the services of a qualified foreman and mason on their own. The community must pay for these services. In the case of the AID Project Unit within MOE, the Unit pays for the skilled masonry person. In the contract relationship, the contractor pays for the services of the mason. Thus, the community bears an added cost under the direct administration by the MOE.

(e) Construction Materials

Under direct administration, sand, gravel, and rocks are normally provided by the community. However, there are numerous exceptions to this policy. The intent by AID and MOE is to maximize community input and participation and to minimize direct government costs. In the case of the MOE, even the costs of transport of materials to the construction site is assumed to be a responsibility of the community. AID funded projects do provide for transport costs. In the case of contracting out, the contractor assumes all of these (reimbursable) costs. This is a key factor explaining price and time differentials. Directly administered projects utilizing community self-help require up to six months for the acquisition of supplies because of the need to obtain approval from the Proveeduría. Contractors can acquire supplies immediately. Once again, construction delay is money, and the bureaucratic requirements of the MOE mean additional costs. While it is not possible to give accurate cost estimates of this additional cost, it does exist.

(f) Administration

In the case of directly administered projects there is close supervision in the construction process. There are 80 MOE and 40 AID-funded Project Unit people --engineers, social promoters, accountants, architects--who participate in the administrative functions. The Contractor provides his own personnel. In the contract relationship, the AID Project Unit writes contracts, sets bidding procedures, and supervises the construction. Contracts are fixed fee and there is no least cost bidding procedure. Supervision could be reduced by as much

as 50% with contracting out. This is an obvious difference in approach, and an area for considerable potential cost reductions and lowering of recurrent costs of the public sector over the long run. However, there were no reductions in the size of the MOE staff as a result of the use of contracting out, because contracting was viewed as simply an emergency response and not the modus vivendi of school construction projects.

(g) Quality of Construction

There are few apparent differences in the quality of the constructed school under either system. With external supervision by MOE personnel (in the case of direct administration and self-help) or by a contract engineer (in the case of contracting) acceptable quality schools are constructed. One safeguard against poor construction in the case of contracting is that five percent of the fixed contract amount is deducted and retained to cover debts and claims brought against the contractor subsequent to construction.

(h) Maintenance

There are significant differences in the two approaches. Where the community has been involved in the construction (under direct administration and self-help) there is a real sense that the school belongs to them. As a result, commitment to maintenance is higher. With contracting out, the contractor's responsibility ends with the completion of the structure and the school is "turned over" to the MOE. Table III-1 graphically describes these various arrangements.

(i) Community Labor

Under direct administration, the community provides unskilled labor for levelling, grading, laying foundations, mixing cement, and hauling materials, all on an in-kind basis equalling as much as 30-40% of total classroom construction costs. With contracting out, the contractor assumes the costs of manual labor whether it is derived from the community or his own crews. That cost forms part of his overall costs. Thus, the in-kind contribution as a cost reduction to government is lost under contracting out.

D. Economic Analysis

1. Background

Between 1974 and 1978, 2,747 classrooms were built in rural areas. At the time of the signing of the program agreement in 1980, it was estimated that about 3,000 rural classrooms would be required to achieve full enrollment of rural primary age students. (B.B- AID, 1980) For the years 1980-1985, rural primary school enrollment was expected to increase by 25% to 387,000 students. To accommodate this increase, 2,100 new classrooms were planned to be constructed and 1,000 existing classrooms to be renovated over the years 1981-1985. In addition, 600

teachers' houses were to be constructed. The monthly production target was 50 classrooms. The program complemented the activities of the World Bank which constructed 813 additional classrooms.

Joint efforts by these programs and several others (eg., CARE) were intended to supply the increasing demand for classrooms in the rural communities of Honduras. The demand for rural classrooms was studied and projected, the necessary supply was estimated, and financing was obtained. Initially, AID provided \$13,850,000 in loans (40 years at 2% and 3% with a ten year grace period) and \$1,150,000 in grants (Table III-2).

2. Construction Delays and Related Costs

The classrooms and teachers' houses were to be built by the DGCE by direct administration and utilizing community participation. By March of 1984 only about 490 classrooms had been completed (Table III-3). Initially, the program contemplated the completion of all 2,100 classrooms by 1984 (Table III-2).

There are several reasons for the failure of the program to meet its objectives on schedule. While factors such as the change in government and the dramatic effects of the 1980-82 recession were important external factors, so too were factors related to the administrative approach: implementation problems within MOE and procurement delays in interactions with Proveeduría were critical. (8.J- AID, 1985)

Most often cited were the material supply problems associated with the Proveeduría. In many cases, up to six months lapsed between the time classroom construction material was authorized and delivery to the construction site. In part, these difficulties were bureaucratic and had to do with the fact that the Proveeduría is, by law, required to seek at least three bids for all purchases. These problems also stemmed from the fact that material purchases for classroom construction was a new and significantly large task for which MOE had no prior experience. Finally, the procedure utilized in classroom construction required a new intergovernmental relationship between two government entities-- the MOE and the Proveeduría. (8.A- MOE, 1985)

AID restructured the construction phase of the program in March, 1984 with Amendment 4. Under this amendment, the same targets of 2,100 new classrooms and 600 renovated classrooms were set. Teacher housing was dropped and \$800,000 in additional grants was reprogrammed to the program. Most significant of all, for purposes of this report, the institutional arrangements of the delivery system of the program was altered from one of classroom construction by direct administration (and self-help) to one of contracting-out to private firms for the construction of 900 of the 2,100 classrooms. (8.H- AID, 1984) In March of 1985, \$3,000,000 in additional loans and \$600,000 in grants was added to the program for the construction of 285 classrooms also to be construction by private firms under contracting-out procedures (8.K-

AID, 1985). One additional year was added to the program and the completion date for the program was moved forward to April 1986. Finally, 100 additional new classrooms were programmed for construction bringing the total to 2,200.

Since March, 1985, production of new classrooms increased at a rapid pace and much of the time lost between 1981 and 1984 was compensated for as seen in Table III-4. Approximately 1559 new classrooms were constructed by 1984 and 2027 new classrooms were completed by November of 1986. This phenomenal progress has been attributed to the shift to the delivery system utilizing private construction firms contracted to build rural classrooms for the MOE.

In the switch from direct administration to contracting-out to private construction of classrooms in 1984, the institutional arrangements of the program's delivery system were fundamentally altered as seen also in Table III-1. By reducing community involvement, this method of delivery has been able to meet targeted objectives much more rapidly than the earlier direct administration (self-help) arrangement. In bypassing the Proveeduría for the procurement of materials, much time was saved. This is reflected in the statistics on work completed in Table III-4. In comparing time of delivery, therefore, contracting-out was significantly faster than direct administration. The program required one additional year and additional financing to meet the targeted objectives.

3. Cost Comparisons

Table III-5 lists the projected costs of new classrooms during the period 1981-85. Initially, it was estimated that a new classroom under direct administration would cost approximately L10,000. This cost estimation was based upon 10 representative classroom construction samples taken in 1979 and projected through the expected life of the program - until 1985. Included was a 12% per annum inflationary factor. Community contributions were assumed to equal 24% of direct costs although these costs varied from project to project, from 9% to 28.6%. (B.D-AID, 1985)

The MOE did not include the value of community contributions since for the Government of Honduras the opportunity cost of self-help is zero. In computing true engineering costs, however, the community contributions should be added as costs-in-kind. The MOE also estimated that its administrative and financial costs were 10% of direct costs and these costs also were not considered as project costs and excluded from the cost calculations for the construction of a rural classroom.

Table III-6 shows that if these two costs, community (self-help) contributions of L2,400 and indirect costs of administration and finance of L1,000, are added to the direct costs of "self-help" construction costs, we obtain a total cost figure of L13,400. The real costs of direct administration is only L600 less than the fixed price reimbursed under contracting-out private construction in 1986. In

addition, if we make adjustments for the 5% "future claims" deduction from the contractors fee, costs are virtually identical!

Consequently, there is virtually no actual cost difference between the two delivery systems when all the monetary and in-kind costs are properly accounted for. Thus, the statement that the classrooms built by direct administration with self-help are 50% cheaper (BB-AID, 1980) appears to be somewhat misleading. They were cheaper for the project component, but there was no significant difference in the overall actual construction costs of the two approaches.

The discrepancies about the relative cost efficiency of these two delivery system is due to a failure to include all relevant costs. In effect, the self-help, direct administration, constructions utilized community labor and in-kind material contribution in lieu of a user fee. Consequently, the money cost of a new classroom to the MOE and AID was lower than it was under contracting-out of schoolroom construction to private firms. With the switch to contracting-out, this community contribution was lost. In one sense, the use of community labor served to avoid (at least minimally) the "free-rider" problem of a public good: beneficiaries were "charged" for the service. However, the switch to contracting out meant that the public sector absorbed these costs, and beneficiaries could avoid the "use charge."

This additional cost burden to government, however, has been assumed in the loan. Tables III-7 and III-8 show that MOE paid private firms under contracting-out approximately twice as much as AID reimbursed the MOE under direct administration for the construction of a similar rural classroom under this program.

Some of the higher costs under contracting out is also due to price increases to adjust for inflation. This is curious inasmuch as a 12% inflationary factor was initially built into the projected costs of construction as pointed out above. Moreover, inflation in Honduras during the years 1980-1985 did not exceed 10% per year, at best. With a fixed price contract based upon an actual cost study as was the case with this program, it is difficult for private construction firms to reduce costs. Therefore, one way to consider profits is to seek and obtain increases in the fixed prices of their contracts.

The shift to contracting-out meant that only half as many classrooms could be constructed with the same money assistance or that the money assistance would have to be doubled. AID and the MOE chose the latter course. In 1984 and 1985, \$4.6 million was added to the approximately \$16 million programmed for this purpose. Thus \$4.6 million plus the \$1.7 million of the abandoned teachers' housing segment of the program comes to \$6.3 million. By calculating that about 1/4 of the program was advanced as of March 1984 with the shift to contracting-out, 3/4 of the program remained to be disbursed - or \$12 million. Thus the augmented financing of \$6.3 million provided the needed 50% increase required by the full cost reimbursement with contracting-out of rural school construction of classrooms.

In essence, increased loans were substituted for in-kind community contributions to the program as a result of the shift to contracting-out. The benefit was a faster delivery system and a project completed, more or less, on schedule. The cost was a higher monetary expenditure on the part of the GOH as well as an increased foreign debt.

In conclusion, the experience with both direct administration and contracting-out under the Rural Primary Education Program during the years 1980-1986 revealed the following:

- 0 The program required more finances and more time to complete than originally programmed.
- 0 The increased time was due to a failure of direct administration with self-help to construct classrooms on schedule.
- 0 Direct administration utilized community resources and was less costly to project proponents in monetary terms than contracting-out.
- 0 The increased financial cost of the program was due to the switch to contracting-out which reimbursed full actual costs of construction.
- 0 With the faster construction contracting-out the project required only an additional year's extension for completion. Time delay is money, particularly in infrastructural development.
- 0 When all actual costs, monetary and non-monetary are considered, the costs of construction of rural classrooms by the two approaches are virtually identical.

TABLE III-1

DIVISION OF TASKS BETWEEN PRIVATE, PUBLIC
AND COMMUNITY IN THE
CONSTRUCTION OF RURAL PRIMARY CLASSROOMS

ASPECTS OF PROGRAM	DIRECT ADMINISTRATION (SELF-HELP)			CONTRACTING-OUT		
	PRIVATE	PUBLIC	COMMUNITY	PRIVATE	PUBLIC	COMMUNITY
Community Promotion		x				x(1)
Project Design		x			x	
Land			x			x
Material	x		x	x		x (2)
Labor	x		x	x		x (2)
Transport	x			x		
Tools & Equip.	x			x		
Other	x			x		
Administration	x			x(3)	x(3)	
Supervision	x			x(4)	x(4)	
Finance	x		x	x	x	x(2)

-
- (1) Community promoters are used in both direct administration and contracting out of classroom construction. Roughly twice as much time and resources are used in direct administration for this activity than in contracting-out, according to community promoters at the Ministry of Education.
- (2) Community contributions of L1,000 and construction materials were eliminated in 1985 for contracting-out but continue for direct administration construction of classrooms.
- (3) MOE administers the overall project whereas the private firms administer the construction component only.
- (4) Supervision and inspection is done both by the Government (MOE) and by AID private consultants.

TABLE III-2

FINANCIAL SUMMARY:
RURAL PRIMARY EDUCATION
(US\$)

	PROJECT PAPER (0167) (JUNE 1980)(1)	AMENDMENT NO. 4 (MARCH 1984)(2)	ADDITIONAL FINANCING (MARCH, 1985)(3)	TOTAL
AID loan	\$13,850,000	-	\$3,000,000	\$16,850,000
AID grant	1,250,000	800,000 *	600,000	2,850,000*
New Class- room Construction Project Goal	2,100		100	2,200

* Between June 1980 and March 1984, \$200,000 in additional grant money was added to this program

Sources:

- (1) Project Paper Rural Primary Education (0167), June 1980.
- (2) AID/GOH, "AID Loan No. 522-V-040 and Project No. 522-0167, Project Amendatory Agreement No. 4," March 6, 1984.
- (3) Cable AID/Wash to AID/Honduras, March 5, 1985.

TABLE III-3

PRIMARY SCHOOL CLASSROOM PROJECT

	1979	1980	1981	1982	1983	1984
AID Loan 522-V-031	130	250	299	299	299	299
World Bank Schools	-	40	170	350	530	558
This Project 522-0167	-	-	480	1,170	1,782	2,100
Nat'l Program	200	400	600	800	1,000	1,200
Present Stock	13,340	13,219	12,920	12,546	12,199	12,010
 TOTAL NUMBER OF CLASSROOMS	 13,670	 13,909	 14,469	 15,165	 15,810	 16,167

Source: Project Paper, Rural Primary Education (522-0167), June 1980.

TABLE III-4

WORK COMPLETED UNDER PROGRAM RURAL
PRIMARY EDUCATION (0167)
VARIOUS YEARS

	DEC. 1982 (1)	MARCH 1984 (2)	MARCH 1985 (3)	NOV. 1986 (4)
Completed classrooms	246	255	1,559	2,027
Additional classrooms	184	235		
Latrines	409	393		
Water	169	99		

Note: Project Agreement signed 31 July, 1980, Project Implemented August, 1981.

Sources:

- (1) Mejoramiento de la Educación Rural Primaria: Análisis de Ejecución Proyecto AID/GOH 522-0167, June, 1983.
- (2) Project 522-0167 Construction Component Status as of March 31, 1984 (from files of AID/Honduras).
- (3) Cable AID /Wash to AID/Honduras, March 5, 1985 augmented financial assistance to the project \$3 million additional loans and \$600,000 additional grants.
- (4) From the files of Engineering Dept., USAID/Honduras

TABLE III-5

PROJECTED AVERAGE COST PER CLASSROOM
1981-1985
(Lempiras)

	PP (1)	CS (2)	CB (3)	CB (4)
1981-82	9,438	-	-	-
1982-83	9,438	9,135	-	-
1983-84	9,438	10,117	13,744-AC	
1984-85	9,438	10,752	11,598-AA	-
1986				14,090-AC 11,886-AA

AC = New complete four-sided classroom
AA = Three sided additional classroom

Sources:

- (1) Project paper, Rural Primary Education (0167), June 1981;
- (2) Construction Summary Nov., 1982;
- (3) Costos Base por Modulo Tipo, Por Paquete y Por Sistema Construcción, MDE, 1984;
- (4) Costos Base por Modulo Tipo, Por Paquete y Por Sistema Construcción, MDE, 1985 (anticipated cost reduced the L10,000 estimate to L9,438.

TABLE III-6
 COSTS PER CLASSROOM
 (Lempiras)

	1982 (1) (DIRECT ADMINISTRATION)	1986 (2) (CONTRACTING-OUT)
<u>Direct Costs</u>		
Material Tools & Equip.	L. 6,400	L. 6,103
Transportation	900	1,315
Labor	1,900	2,773
Other	800*	335
Sub-Total I	L.10,000	L.10,526
Less: Community Contribution Equal to 24% direct cost	2,400	0
Sub-Total II	L. 7,600	L.10,526
<u>Indirect Costs</u>		
Administration		
Finance	L. 1,000	L. 3,563**
Project		
Sub-Total III	L. 1,000***	L. 3,563
TOTAL	L. 8,600	L.14,089
Plus Community contribution	L. 4,800	-----
OVERALL TOTALS	L.13,400	L.14089

Notes:

- * Other direct costs include costs of assistant supervisors, mechanics, drivers, warehouseman, watchmen, sweepers, warehouse rental, contingencies, social security, and fringe benefits.

** Costs to the private construction firm such as administration overhead, legal, bank finance charges (4 months), and a "reasonable profit". These costs are estimated at 35% of direct costs.

*** Imputed costs to the Ministry of Education are equivalent to financial operating costs with external funds. Estimated to be 1% of direct costs.

Sources:

(1) "Project Paper Rural Primary Education (0167)," AID, June 1980. Cost figures based upon 10 representative samples taken in 1979. Projected costs through 1985 based upon inflation rate of 12% per year.

(2) "Costos base por Modulo Tipo por Paquete y Sistema Constructivo," Ministry of Education, 1986. Costs based upon 1000 classrooms built prior to 1984, and used to determine reference costs for the units to be produced by contracting out of construction to private firms (Complete, four sided classroom figures used here - an average of the four types of construction used:

- | | |
|--|--|
| <p>1. Cement stabilized adobe walls, clay tile floors, timber roof truss with clay tile</p> | <p>3. Concrete block walls, concrete slab floor, wood-louvered windows, timber roof truss, cement asbestos roofing sheets.</p> |
| <p>2. Brick walls, concrete floor, glasslouvered windows, timber roof truss covered with cement asbestos roofing sheets.</p> | <p>4. Wood panel walls, concrete slab floor, woodlouvered windows, timber roof truss, cement asbestos roofing sheets.</p> |

TABLE III-7

AID REIMBURSEMENT OF CONSTRUCTION COSTS:
NEW CLASSROOMS UNDER FAR
(Lempiras)

	DIRECT ADMINISTRATION		CONTRACTING-OUT (3)	
	1983 (1)	1984 (2)	1985	1986
Complete Classroom	L 6,000	L 7,850	L 13,744	L 14,090
Addt'l Classroom	5,100	6,475	11,598	11,866
Latrines	1,000	1,300	1,956	2,029
Potable Water	600	600	852	866

Sources:

- (1) Situación de Reembolsos de los Proyectos del Préstamo AID 522-V-040 hasta 1 de abril de 1983.
- (2) Costos reembolsables para construcción nueva, Carta de Ejecución No. 81, 15 de marzo de 1984.
- (3) Costos base por Modulo Tipo por Paquete y por Sistema Constructivo, MDE, 184 y 1985.

TABLE III-8
 AID REIMBURSEMENT PER UNIT OF CLASSROOM CONSTRUCTED
 (Lempiras)

	APRIL 1983 (1)	NOVEMBER 1986
One Complete Classroom, One Latrine, One Potable Water	L. 7,000	L. 16,985
One Complete Classroom, One Additional Classroom, One Latrine, One Potable Water	L.12,100	L. 29,680

 Note: One extra latrine, an additional L. 1,000; one rain
 depository potable water system, an additional L. 600.

Sources:

- (1) Situación de reembolsos de los proyectos del préstamo
 AID 522-V-040, hasta 1 de abril de 1983.
- (2) Costos base por modulo tipo, por paquete y por sistema
 constructivo, MDE, 1985.

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CHAPTER 4

RURAL ROADS CONSTRUCTION

A. Background

Until recently, the Honduran Government placed a major emphasis on major paved highways to connect the different regions of the country. In the 1980s there has been increased interest in feeder and access roads. The Government attempts to open up new feeder roads and to rehabilitate old and poorly constructed rural trails.

It was estimated by the Ministry of Communications, Public Works, and Transportation (SECOPT) that there were over 5,000 kilometers of access roads that are substandard and in various states of need for repair. SECOPT estimates that over 800,000 people can be affected positively by upgraded roads (14.A-AID, 1985).

The justification for feeder or access roads is for rural families to gain better access to primary agricultural markets and to secondary markets. These roads also allow rural families to gain access to health, education, and other services.

B. Rural Road Programs

AID/Honduras has been engaged in assisting rural road construction for at least the last 20 years. More recently, it has assisted with the following projects:

0 Agricultural Sector I Project No. 522-025

1970-75: agricultural project that had 300 kms of feeder roads constructed. The Ministry of Communications, Public Works, and Transportation (SECOPT) had its own equipment and built the roads themselves using direct administration.

0 Rural Reconstruction II Project No. 522-030

1976-80: reconstruction of roads after Hurricane Fifi. Built and reconstructed 300 kms of roads using direct administration method by having own equipment and machinery and also contracting out to private contractors under close supervision of SECOPT.

0 Rural Trails Project 522-035

1980-1986: construction and rehabilitation of 1,500 kms of roads. Project winding down as of end of 1986. Uses contractors who provide machinery and equipment.

0 Rural Roads II Project No. 522-052.

1987-1990: new project to build or rehabilitate additional 1,000 kms roads in North Coast, the Central Valleys, and the Western Highlands. This is \$36.167 million project with AID \$20 million loan, \$1.315 million grant, and \$14.852 million GOH contribution. A major feature is using some contracting out for machinery and equipment and additional requirement of maintenance by the General Directorate of Maintenance (DGM). The additional component for this new project is operation and maintenance.

Other multilateral donors-- Inter-American Development Bank and the World Bank-- also supported SECOPT in rural road construction. The projects supported by those donors use a system in which the contractor has much more responsibility for design, construction, quality control, and final responsibility than with the AID projects.

A rural roads project directly administered by SECOPT, using national funds, Inter-American Development Bank loans, and bilateral assistance from the German and Swiss Governments, is based on manual labor. In this approach, the SECOPT personnel are much more involved in direct administration of the project and contract directly for machinery and equipment at the most minimal level. The primary focus of these efforts is the utilization of self-help community assistance.

Thus, within SECOPT there are three different models of rural road construction in three separate and non-coordinated project units. To visualize the relationships among these various approaches, we can imagine a continuum from strict direct administration to full contracting out:

- O. Direct Administration Model. Represented by the use of manual labor ("mano de obra"). Direct administration by SECOPT with maximum community involvement and maximum SECOPT involvement in promotion, supervision, quality control.
- O Limited Contracting Out. Represented by projects funded by AID. SECOPT does direct administration and contracts out only for machinery and equipment by private contractors. SECOPT also might contract some other item of work such as subbase materials and culverts. SECOPT fully responsible for plans, designs, supervision, and maintenance.
- O Full Contracting Out. Represented by projects funded by the Inter-American Development Bank and the World Bank. Private contractors involved in designs, plans, and then full responsibility for construction. SECOPT plays more distant role as development administrators. Contractors have more responsibility for quality of work.

C. Institutional Analysis

1. Transition to Limited Contracting-Out in SECOPT/AID Unit

The General Directorate of Roads (DGC) of SECOPT has established project units for its different bilateral and multilateral funded projects. These project units function independently from each other and devise their own methods of operation. Our concern here is with the transition of the AID Project Unit.

During the 1970's the SECOPT/AID Project Unit had its own tractors, machinery, equipment, operators, and supporting staff to build and rehabilitate rural feeder roads. This approach cut costs by involving in-kind community contributions for labor and digging drainages. First it reduced costs to the Unit. Second, it increased the community involvement in the construction process. Third, as a result, it made it possible to build more roads at the same cost than the other approaches.

On the other hand, there were several problems with the approach. First, it took from six months to a year to gain community involvement; a substantial amount of social promotion was required. Second, the machinery and equipment was in disrepair and caused delays. Spare parts had to be ordered through the Proveeduría, and often took as much as six months for approval. Then, spare parts had to be purchased in the United States. Once spare parts arrived it took another one or two months to get equipment repaired through government repair shops. Third, all small scale purchases also had to be made through the Proveería, causing further delays. Fourth, the quality of work seemed to be inadequate.

In addition, in the late 1970s and early 1980s the private sector construction firms began to pressure for changes in the construction system in order to allow more private participation in public sector civil works construction.

In 1980, coinciding with the new AID Loan No. 035, the AID Project Unit of SECOPT switched from direct administration to a "limited contracting out" approach.

2. SECOPT/AID Contracting Out Procedures

(a) Preliminary Assessment

SECOPT receives requests for constructing rural roads from the National Development Plan of CONSUPLANE and from direct requests from different rural communities. SECOPT and AID are concerned with the need for rural roads in agricultural areas. This has prompted the construction of roads No. 035 and 052. The economic justification for such projects is that there may be economic benefits for the farmers. Once a road has been approved for preliminary acceptance, a SECOPT and AID engineer visit the site for initial inspection. They must assess the vehicle

traffic, pedestrian road use, and other factors. A preliminary topographical map is made. A second stage is the conducting of a socio-economic study which takes roughly three months. This survey is conducted by staff of SECOPT and is used in the preparation of the parameters for bid procurements in subsequent contract bidding (13.D-SECOPT, 1985).

(b) Construction Design

In the SECOPT offices, final plans and designs are made for each road system. These terrain maps are quite superficial and without detail, allowing for much variations, deviations, and on-the-spot changes. This obviously has advantages and disadvantages. The advantage is that there is the flexibility for changes and on-the spot changes. Such flexibility reduces efficiency in equipment management and therefore increases construction cost and prevents adequate quality control and monitoring. There can be considerable political pressures for changes, extensions, and revisions. There have also been cases of contractors being requested to provide more services than originally planned. The final design plans take roughly two weeks to complete.

SECOPT/AID produced an excellent construction manual for rural roads in August, 1985. Entitled "Manual para la Construccion de Caminos Rurales," it provides a good and concise overview of how SECOPT is to handle AID-funded rural road projects. This document covers ten basic chapters on the following subjects: 1) organization and responsibility; 2) work relationships; 3) reporting and monitoring; 4) changes and contract modifications; 5) material control; 6) guidelines for preparation plans, specifications and cost estimations; 7) geometric design; 8) drainage design; 9) soils-materials investigation; and 10) construction specification (13.D- SECOPT, 1985).

According to this manual AID has final responsibility to approve the design plans, documents, construction contracts, construction companies and the construction awards. Since the SECOPT has similar responsibility according to the Honduran law, it seems logical from the institutional and administration point of view that the elaboration of design plans, specifications and construction documents could be prepared by the private sector and be supervised by SECOPT and AID.

The study team examined two sets of plans in the SECOPT office. The one was made by SECOPT (Road Project Azacualpa-Santa Maria-Dept Olancho-El Paraiso 43.65 km) and the other by a consultant firm (Road Project San Francisco de la Paz-Gualaco 32.4 km.) The consultant plan presents a more comprehensive set of plans (13.A-SECOPT, 1984).

A high quality of design plans is essential to determine accurately the optimum volume of construction work and to prepare the detailed unit price analysis. The construction manual indicates clearly that the most favorable or feasible method for construction bidding is on the basis of a unit price analysis rather than on the basis of partial renting of construction equipment based on hourly rates.

(c) Bidding Procedures

SECOPT has prepared a second document, "Documentos de Precalificacion Reconstruccion de Caminos de Acceso," for pre-qualifying firms and for establishing the quality required of firms. A series of documents are required from contractors in order to examine qualifications including questionnaires, financial statements, and legal status. It is patterned after the AID Handbook on procedures and the AID RFPs (14.C-SECOPT, 1986).

SECOPT also provides to bidders a basic document entitled "Documentos de Licitacion y Contrato," that outlines bidding procedures, points system, and evaluation specifications for construction of rural roads. The bid document contains: the number of roads to be built and their specifications; specific work plans to be completed; specific designs; specifications for making offers; and specifications for bonds. There are four types of bonds: (1) 10,000 Lempiras guarantee at beginning stating that prices stated will hold for 90 days; (2) 15% completion bond that is good for three months after construction ends; (3) 10% special retention bond based on estimated completed execution of the work; and (4) a bond for 100% amount advanced by the GOH (14.D-SECOPT, 1986).

Contractors are requested to submit a pre-qualification statement. In the last round of bids, over 30 Honduran firms demonstrated interest in being pre-qualified; 15 were pre-qualified; and six were selected to build six blocks.

Normally, rural roads are grouped in blocks. The contractor may bid on all blocks or partial blocks. SECOPT and AID personnel take contractors to future construction sites to appreciate the kinds of civil works required.

SECOPT produces an internal document that specifies the outline and specifications for the project. The last document produced was entitled "Reconstruccion Caminos de Acceso Proyectos Seleccionados, Grupo de Envio, No. 10," in July, 1986 for projects in the Departments of Comayagua, Cortes, and Copan. The document contains a socio-economic justification for the project based a project versus no project comparison of agricultural production, agricultural prices, yields, and other economic factors. It contains a very specific and detailed list of unit prices for reference, as well as specific detail of road lengths, curves, culverts, drainage, and crowns. (14.E-SECOPT). The last project was to produce bids for the following roads:

Comayagua Department	55.55 km roads	2,008.295 Lempiras
Cortes Department	42.30 km roads	1,465.584 Lempiras
Copan Department	60.00 km roads	826.465 Lempiras
Totals	157.85 km roads	4,300.344 Lempiras

SECOPT maintains its own internal reference unit price and overall estimates of the total civil work costs. In almost all cases in recent years the contractors have made bids below the reference price. This is most likely because of considerable competition for work and the economic depression of the country.

Can SECOPT get even lower prices? Conversations with SECOPT, AID, and contractors suggest that it is doubtful that lower bids can be made. Costs might be lowered by having contractors include more manual labor as a component of their construction bid, but this is uncertain.

A recent bid procedure is illustrative of the bidding process:

- 0 The bid RFP was printed in the local press on June 12, 1986. Fifteen construction firms were pre-qualified and asked to submit bids.
- 0 Firms were asked to bid on six blocks of rural roads.
- 0 Ten firms made bids.
- 0 The evaluation committee decides on lowest bidder.
- 0 Six awards were made to six different firms because each had bid lowest in one block but was either second or higher in another block.
- 0 Results were sent to AID for confirmation and approval to award contracts. (14.K-SECOPT, 1986)

It takes about six months from the bid time to contract award. The contractor and SECOPT are required to fulfill the following tasks:

- 0 SECOPT writes economic proposals and prepares bid documents (three weeks)
- 0 Contract bids are let and firms bid (three weeks)
- 0 SECOPT review panel examines bids (two weeks)
- 0 Contract with contractor is written (two weeks)
- 0 Review of contract by GOH Budget Office (4 weeks)
- 0 SECOPT corrections and review based on observations by the Budget Office (one week)
- 0 Review by Government General Provision Office (two weeks)
- 0 Approval and signature of the President of the Republic (one week)

- O Payments by Contractor of fees, legalization of contract, and guarantee payment of 15-20% (one week)
- O Contractor obtains bond from commercial bank and bond insurance companies (two weeks). (5.c- Republica de Honduras, 1985)

After these steps are completed, the contractor is ready to begin work. It was estimated by SECOPT that there are over 100 steps that a contractor must fulfill in order to get a contract. However, most of these only have to be done once and are thus automatic. An example is registration with the College of Civil Engineers. From all available evidence, very few Honduran companies view these bureaucratic obstacles as a major problem. Their most serious problem is acquiring financial loans to carry out the construction.

The contract itself is straightforward and follows standard procedures used by AID worldwide. A recent contract reviewed, "Contrato Gobierno de Honduras y Constructora Equipo de Construccion S. de R.L. de C.C." (ECO) of December, 1985, shows the following:

- O Contract was for 27.9 kms for El Espinal-Plan de Turcios-San Antonio de SARA in Olancho Department.
- O Contract to be completed in 210 days with 300 Lempira fine for each day late after that date.
- O Total contract was L806.856 fixed price contract.
- O Specific clause No. 12 whereby contractor agrees to contract as many people as possible from the community. (14.I-SECOPT, 1985)

3. Rural Road Construction

Rural road construction is implemented by the contractors using SECOPT designs, plans, and specifications. SECOPT and AID engineers supervise quality and implementation of the civil work. Even though the contractor is responsible technically, the final responsibility rests with SECOPT which is directly in charge of the construction and management and the quality control. The contractor, in reality, is contracted out for rental of equipment and machinery or for utilization of its equipment and machinery for SECOPT.

SECOPT normally sets up construction programs with the following criteria:

- O. Blocks of 20 kilometer road systems are established.
- O. Contractors are asked to bid on blocks.
- O. Contractors have blocks of roads next to each other.

Because of these criteria, the contractor will set-up camps along the roadside near construction, and normally will have its own people and will not use outside or community assistance for road construction. Contractors prefer their own experienced people to training and working with new people. The contractor will also have its own supervisory engineer on location. These "loyalty" procedures seem logical since the contractor always faces strict time and quality requirements.

There have been relatively few and minor problems with contractors. It is estimated that there are only two contractor problems out of ten. Those problems are considered minor. The principal reason given is the continual re-assessment of pre-qualifications of potential contractors; the elimination of troublesome contractors; and the self-elimination of contractors who have had previous problems with SECOPT. Overall, the contracting out system works smoothly.

4. Comparisons of Three Rural Road Construction Approaches

As stated above, there are three approaches for rural road construction by SECOPT in Honduras. This comparison highlights the differences, discusses advantages and disadvantages, and assesses efficiencies and effectiveness of these approaches from an institutional standpoint.

(a) Assessment of Construction Needs

Direct Administration: SECOPT Unit gets requests from rural communities who apply. An established list of roads is made. Requests are taken mainly from Choluteca area in south zone. Plan for building the roads is agreed upon with community action.

Limited Contracting Out (AID): SECOPT and AID engineers use National Development Plan and community requests. A list of sites is made. Plans are made well in advance according to year schedule and appropriate plans.

Full Contracting Out: SECOPT gets requests from head office. Engineers make site visits. Yearly plan is made.

(b) Planning and Design

Direct Administration: Economists do brief socio-economic study of region to determine cost benefits of approach. Point system of SECOPT is used to determine the priority of the site. Engineers make preliminary and basic road designs. Roads are considered basic and do not require major technical effort.

Limited Contracting Out: SECOPT and AID engineers and economists prepare a basic socio-economic study and determine priorities in road improvement on the basis of B/C ratios. A road and agriculture inventory is carried out in the field to identify construction, maintenance and rehabilitation costs and the agricultural and social

benefit. Basic or preliminary engineering design plans are prepared and mostly used to determine the needs of renting equipment on the basis of daily hourly costs.

Full Contracting Out: Elaborate and full technical studies conducted. Normally have 100 kilometer long roads. Feasibility is detailed to determine priorities based on the NDV, etc. Feasibility is done by consultants with the assistance of SECOPT. Final decisions are made and include a complete specification and cost estimation and all the bidding documents needed to contract out the construction work.

(c) Use of Contractors

Direct Administration: No contractors used. All manual labor from the community.

Limited Contracting Out: Use 12-20 different contract firms in competitive bidding. Contractors used for equipment and limited construction work items such as subbase culverts, etc. Management and supervision is under the responsibility of SECOPT/AID.

Full Contracting Out: Use 5-10 construction firms in competitive bidding. Construction, management and responsibility to fulfill the design requirements are by the contractor only. Supervision, reporting and monitoring during construction are carried out by contracted consultants, individuals, or companies.

(d) Quality

Direct Administration: Quality is "as good as it has to be." Belief that community roads are mainly for few vehicles and do not require sophisticated quality.

Limited Contracting Out: Excellent quality and performance by contractors to get medium-level roads.

Full Contracting Out: Excellent upgraded quality. Require high technical quality. Believe that upgraded roads will require less maintenance and therefore longer lifetime. In other words, by cutting maintenance costs and reducing vehicle operation, costs due to better road conditions will minimize the total transportation cost during the entire lifetime of the road.

(e) Administration

Direct Administration: Has 30 personnel with 15 professionals and 15 support staff. All personnel in Teguigalpa. Use own vehicles to go to two road sites of Santa Barbara Department and Choluteca.

Limited Contracting Out: Has 150 personnel with 40 technical and the rest supporting staff. Some of staff decentralized in San Pedro Sula and in department capitals where they are carrying out road

construction.

Full Contracting Out: Two different and independent staffs. Both have over 100 personnel with 30-40% professional and rest supporting staff. High degree of personnel in department capitals.

Clearly, the Direct Administration approach utilizing manual labor from the community is distinct from the other two models. It uses food for work, pays workers directly daily for labor on the roads, has its own machinery, and is perhaps the most grassroots approach to road construction. Its style contrasts distinctively from the AID and IDB/World Bank model of contracting out.

D. Economic Analysis

1. General

Accurate economic cost analysis of a rural road should cover all the transportation expenditures related to the road. In other words, any cost comparison should include construction, maintenance, rehabilitation and user economic expenditure costs during the service life time of the road. Usually the life time period of a rural road is 15 to 20 years. By determining the total cost of any given traffic volume one can determine the least cost road alternative. If this information were available one could determine what should be the most efficient and least cost rural road administration in Honduras.

Since the economic cost information of the Honduran rural transportation is not available, cost comparisons can be done by comparison of construction quality and cost together. Cost comparisons are made among the following three alternative road construction approaches:

- 0 SECOPT/ Manual Labor intensive labor by direct administration
- 0 AID/SECOPT limited contracting out
- 0 IDB/SECOPT full contracting out

2. Expenditure Disbursement and Project Modification of SECOPT/AID Project

The SECOPT/AID Rural Road construction agreement was signed on January 22, 1980 and was planned for four years (1980-1983). AID provided \$10,970,000 in loan funds (40 years, 10 year grace period, 2 % interest for first 10 years, 3 % interest per annum thereafter) and \$230,000 in grants to finance the reconstruction of 650 kilometers of rural access roads and 250 kilometers of rural trails in the western region of Honduras. Combined with GOH contributions, the total program expenditures amounted to \$14,950,000. Table IV-1 shows the details of the program expenditures. (C.14- AID, 1980)

It was determined that a new institutional delivery system of contracting out to private firms would be used. Access roads were to be reconstructed according to GOH national standards and thereafter maintained by the Directorate General of Maintenance.

Table IV-2 shows that the access roads were to be reconstructed with capital intensive technological methods and rural trails were planned to be labor intensive in construction. This program was modified during the project period.

Table IV-3 shows how various amendments increased the financing for this program by AID to \$41,900,000 in loans and \$960,000 in grants. Combined with GOH contributions, the total financing of the program reached to \$57,000,000.

In addition, the total number of kilometers of rural roads and trails to be reconstructed was increased from 900 to 1,510 and the program was extended for another three years. Expected completion date is the end of 1986. Thus, AID financing increased by 300 %, rural roads to be reconstructed was augmented by 68 %, and 75 % more time was required to complete the program than was initially planned.

In addition to the increased program goal of 610 kilometers, it was necessary to increase assistance and time because the program was altered so as to exclude labor intensive reconstruction of rural trails. According to AID/Honduras engineers, all roads were reconstructed according to the specifications and designs originally programmed for access roads only. As seen in Table IV-2, access roads were estimated to be twice as expensive to reconstruct as rural trails and this estimate was very close to the actual construction costs during the years 1982-1985.

3. Comparative Assessment of Contracting Out and Direct Administration of Rehabilitated Roads

It was not possible to compare the costs of different AID-funded projects because the rural road reconstruction under the AID program used contracting out and because the rural trails dimension of the program was dropped. Consequently, it was necessary to compare AID contracting out of rural road construction with SECOPT (IDB) direct administration reconstruction of rural roads. The latter utilized a manual labor/labor intensive approach and is similar to that originally intended by AID for the reconstruction of rural trails.

The direct administration method of SECOPT/Manual Labor uses community labor and pays them the minimum agricultural wage. Roads are designed, supervised, and constructed by community members with SECOPT engineers. Little heavy equipment is used and materials are purchased from the Proveeduría. Because the communities must be organized for this work, because it is labor intensive, and because it uses the slow method for material purchases through the Proveeduría, this direct administration

reconstruction approach to rural roads is slow.

SECOPT/Manual Labor constructed new roads and reconstructed existing rural roads. For purposes of comparison, the reconstruction road costs were used. The reconstruction average cost was L23,808 for SECOPT projects during the years 1982-1985. This SECOPT direct administration rural road program was also much smaller than the AID program used in the comparison. (13.J- SECOPT, 1986)

The SECOPT/AID contracting out program of rural road construction (522-0164), in contrast, uses no community labor and is capital intensive. Table IV-4 below, shows that for the SECOPT/Manual Labor program labor costs constituted 73% and equipment cost (depreciation) 5 to 8 % of total project costs. (13.J-SECOPT, 1986) In comparison, the AID contracting out program labor costs were only 19 percent and equipment costs were 63% of total project costs incurred in rural road reconstruction during the years 1982-1985. (14.J-SECOPT, 1986)

Table IV-4 shows that the SECOPT/IDB direct administration rural road reconstruction cost per kilometer for the years 1982-1985 was slightly (although perhaps not significantly) less than that of AID's contracting-out cost for the same period---L23,808 versus L26,892.

Advantages of contracting out lie in economies of equipment use, procurement of materials, and time, while advantages of direct administration are economies of labor, non-profit production, and equipment use. These advantages appear to result in fairly comparable overall costs. The cost comparison data indicate that AID contracting out to private firms of road reconstruction reduced the time, but was slightly more costly. Moreover, more AID financial assistance in foreign currency loans was needed to accomplish the task. On the macroeconomic level, this may have aggravated the persistent balance of payments problem.

4. Assessment of AID/SECOPT Construction Bids

Table IV-5 provides information on six recent AID-funded rural road projects. The table summarizes the basic engineering and cost information of these six projects: 1) project location, 2) contractor, 3) number of bidders, 4) length of each road, 5) the lowest bidder price, 6) government estimated cost, 7) minimum bidding cost per kilometer, 8) the ratio of the maximum to the minimum bidder price, and 9) the ratio between the second low bid price to the lowest or minimum bidding cost.

According to Table IV-5, in five of six projects the government estimates were about 10-15 % more than the contractors bidding prices. It also indicates that the ratio between the highest bidding cost to the lowest one varies between 1.18 to 1.46. The data indicate that the difference between the upper limit and the lower limit bidding price is only 18 to 46 percent. The difference between the second lowest bid and the lowest bid is only one to eight percent. Only in Project No. 5 is

the difference larger, at 11%. It appears that there is a spirit of competition among the contractors. However, we find it unusual that in these six projects a different contractor provided the low bid, so that in no case was the winner of one bid the low bid in another project. It is possible that a more careful analysis of these six projects would explain the rather tidy distribution of projects to contractors.

Table IV-5 also indicates that the total construction cost of a SECOPT/AID rural road varies mainly between L28,000 to L38,000 per kilometer. Only in project No. 3 was cost per kilometer significantly lower, at about L13,000/kilometer. It seems that the improvement needs for this rural road project are minimal.

5. Cost Comparisons Between Direct Administration and Contracting Out of Road Construction

The direct administration rural road construction approach uses concentrated manual labor to build roads. These roads are designed for a travelling speed of 20, 30, and 40 kilometers/hour for mountainous, hilly, and level terrain respectively. The maximum longitudinal grade varies between 6% and 10% for a design speed of 40 kilometers/hour and 9% to 12% for design speed of 20 kilometers/hour. According to SECOPT/Manual Labor Unit documents (13.J- SECOPT, 1986) the road width is 4.5 meters. These roads are all weather roads.

The direct administration approach has two different groups of roads in their reports. (13.J- SECOPT, 1986) The first group includes 17 roads with a total length of 65.5 kilometers. The total construction cost was L2,995,089. Thus the construction cost was L45,726/kilometer. The second group includes 136.3 kilometers and its total construction cost was L3,579,823, or L26,264/kilometer.

The average construction cost of all 65.5 kilometers and 136.3 kilometers of road is L32,581/kilometer. This average cost per kilometer is very similar to cost per kilometer of rural roads constructed under the AID/SECOPT program. (See Table IV-5)

It seems that the unit cost of construction for a low standard rural road by direct administration (manual labor and labor intensive) and that of limited contracting out (AID) is similar and according to the same construction records is about L30,000 to L35,000/kilometer. However, these costs do not include administration, supervision, and other general overhead expenditures.

In order to compare limited contracting out, and full contracting out, one needs to compare both costs and product quality. The most expeditious way to compare is to conduct an analysis of unit prices of road projects carried out by different contracting methods.

Table IV-6 compares the unit price of work item in AID and IDB/IBRD road projects. The projects financed by AID/SECOPT were done by limited contracting out. Projects financed by the IDB/IBRD were contracted out

to national contractors. The cost data from one IDB financed road project is related to unpaved rural roads. The other IDB financed project and the IBRD financed road project are asphalt secondary roads and a major highway, respectively.

Table IV-6 indicates that the unit prices of the IDB-funded rural road is equal to or less than to the unit prices of the AID rural road projects. It appears that contracting out will generate lower unit prices and it is clear that construction by administration with limited contracting out reduces the price of a given and specified work item.

Contracted out unit prices for principal work items are similar in all systems. But in the direct administration and limited contracting out approaches there are other costs that do not exist in the full contracting out procedures used by the IDB/IBRD approach. These additional expenditures include 1) project management and administration, 2) contractor supervision, and 3) quality control. According to SECOPT documents this expenditure might be in the range of 15 %. (13.J-SECOPT, 1986)

TABLE IV-1
 PROJECTIONS OF PLANNED EXPENDITURES
 BY PROJECT YEAR
 (US \$000)

SOURCE	PROJECT YEAR			TOTALS
	1	2	3	
<u>AID</u>				
Construction	1,419	3,502	3,929	8,850
Maintenance	750	0	0	750
Evaluation	50	50	50	150
TOTAL AID	2,219	3,552	3,979	9,750
<u>GOH</u>				
Construction	823	818	815	2,456
Maintenance	214	142	465	821
TOTAL GOH	1,037	960	1,280	3,277
TOTAL	<u>3,256</u>	<u>4,512</u>	<u>5,259</u>	<u>13,027</u>
Inflation/Contingencies (10 %)	74	538	1,311	1,923
GRAND TOTAL	<u>3,330</u>	<u>5,050</u>	<u>6,570</u>	<u>14,950</u>

Source: Agency for International Development, "Project Paper, Rural Trails and Access Roads, 522-0164," 1980.

TABLE IV-2

CONTRACTING OUT CONSTRUCTION COSTS OF RURAL ROADS:
 PLANNED AS COMPARED WITH ACTUAL COSTS, 1982-85
 (cost per km)

	ACCESS ROADS		PLANNED 1/ RURAL TRAILS		ACTUAL 2/ ACCESS ROADS	
	(Lem.)	%	(Lem)	%	(Lem)	%
Labor	5,007	22	6,509	61	5,147	22
Material	1,350	6	1,070	10	1,404	6
Equipment	16,142	72	3,070	29	16,845	72
TOTAL	22,499	100	10,649	100	23,396	100
Kilometers	650		250		1,050	

Sources:

- (1) AID, "Project Paper, Rural Trails and Access Roads(522-035 and 522-0164," January 22,1980.
- (2) SECOPT, "Informe de Avance Construcción y mejoramiento Caminos Vecinales y de acceso," February 28,1986.

Notes:

- (1) Some cost breakdown assumed to prevail as planned for access roads in project paper.
- (2) Project originally planned for 900 kilometers of reconstructed roads and trails, 650 kilometers of access roads at a planned cost of L2,409 and 250 kilometers of rural trails at a planned cost of L10,649. Various amendments since 1980 increased AID financing by approximately 300 % and planned road reconstruction from 900 kilometers to 1,510 kilometers, or by 68 percent.

TABLE IV-3

PROGRAM OF RURAL ROADS PROJECTS SECOPT/AID
(US \$)

DESCRIPTION	GRANT	AID	GOH	TOTAL
<u>A. Construction</u>				
Rural Roads	-----	36,410,000	8,266,000	44,676,000
Vehicle, equipment, tools	184,000	-----	480,000	664,000
Administration	696,000	-----	2,000,000	2,696,000
Access roads	-----	-----	600,000	600,000
Bridge Rio Higuito	-----	800,000	166,000	966,000
<u>B. Maintenance</u>				
Equipment repair	-----	1,590,000	386,000	1,976,000
Road maintenance	-----	-----	1,256,000	1,256,000
<u>C. Evaluation</u>				
Project Evaluation	-----	300,000	-----	300,000
<u>D. Bids</u>				
	20,000	-----	-----	20,000
<u>E. Contingencies</u>				
	60,000	2,840,000	946,000	3,846,000
<u>TOTALS</u>				
	960,000	41,940,000	14,100,000	57,000,000

Source: SECOPT, "Contenido Informe de avance construcción y mejoramiento caminos vecinales y de acceso, AID 522-035," February 28, 1986.

TABLE IV-4

RECONSTRUCTION COSTS PER KILOMETER OF RURAL ROADS:
SECOPT DIRECT ADMINISTRATION AND AID CONTRACTING OUT, 1982-1985

	SECOPT (BID) DIRECT ADMINISTRATION (3)		AID LIMITED CONTRACTING OUT (1)	
	Lempiras	Percentage	Lempiras	Percentages
DIRECT COSTS				
Labor	17,381	73	5,109	19
Material	714	3	1,345	5
Equipment	1,190	5	-----	-
Other	714	3	16,942	63
Sub-Total	19,999	84	23,396	87
INDIRECT COSTS				
Supervision, Evaluation, and Administration	3,095	13	1,614	6
Other	714	3	1,882	7
Sub-Total	3,809	16	3,496	13
TOTAL	23,808	100	26,892	100

Sources:

- (1) SECOPT, "Contenido Informe de avance construcción y mejoramiento caminos vecinales y de acceso AID 522-035," February, 1986. (For years 1982-1985.)
- (2) SECOPT, "Método para la integración de precios unitarios y programación de caminos a construirse por mano de obra," undated, cerca, 1984. By Jose Monzon.
- (3) SECOPT, "Informe final, sub-programa: Caminos por mano de Obra," June, 1986. (For years 1982-1985. Data for reconstructed roads only.

TABLE IV-5:
ANALYSIS OF SECOPT-AID CONSTRUCTION BIDS

PRO- JECT NO.	ROAD NAME	LENGTH (KMS)	LOWER BID- DING PRICE (LENPIRAS)	GOVERNMENT ESTIMATED COSTS (LPS)	MINIMUM BIDDING COST PER LPS/KM	RATIO:		NO. OF BIDDERS	AWARDED CONTRACTOR NAME	PROJECT NO.
						MAX. BID PRICE MIN. BID PRICE	2ND LOW _BID 1ST LOW BID 2ND LOW BID PRICE 1ST LOW BID PRICE			
1.	San Isidro- La Guana Bnos. Aires y Acc.	22.7	732,524	851,519	32,313	1.44	1.078	9	Dragados et al.	1.
2.	Siquatepeque- Custeca, Agua Dulce, Los Tabelocos Cerro Blanco	17.65	678,184	731,648	38,424	1.18	1.01	8	CONTEC	2.
3.	Florida-El Paraíso Las Flores-Nva. Esperanza, etc.	60.0	794,653	826,465	13,244*	1.31	1.01	4	PRODECON	3.
4.	Desvío a Custeca- Hreabar	21.3	602,684	640,415	28,295	1.35	1.03	7	Pavimentos de Honduras	4.
5.	Desvío a Custeca- Sta. Cruz de Dulce y Accesos	16.3	563,821	636,202	34,590	1.29	1.11	6	DIMATAC	5.
6.	San Isidro-Sta. Cruz de Yojoa	19.6	637,850	614,065	32,460	1.46	1.07	5	AYON CORDOVA	6.

* Rehabilitation only

Sources:

SECOPT, "Resultados de la Evaluacion de Contratos," July, 1986.

TABLE IV-6

COMPARISON OF UNIT PRICE/TOTAL COST
FOR EACH REFERENCE PROJECT
(LEMPIRAS)

WORK ITEM	AID RURAL* ¹	AID RURAL* UNPAVED ²	AID RURAL* UNPAVED ³	IDB RURAL UNPAVED ⁴	IBRD ASPHALT ROADS ⁵	IDB HIGHWAYS ASPHALT** ⁶
Clearing/Tree Roots (hectares)				800	1,800	1,600
Clearing (hectares)	750-800	800	700	--	--	--
Sub-base (m ³)	--	--	--	--	19	24
Concrete Class A (m ³)	500	--	--	--	--	495
Concrete Class B (m ³)	360	350	350	--	--	300
Crushed Rock (m ³)	210-500	185-200	210	148	184	225
T.C.R. 24" (ml)	210	200	210	144	158-178	150
T.C.R. 30" (ml)	275	250	--	180	190-210	190
T.C.R. 36" (ml)	345-350	--	335	275	117-256	260
Structural Excavation	47	--	--	36	150	--

* Limited contracting-out

** Full contracting-out

Sources:

- (1) SECOPT, "Reconstrucción de Caminos de Acceso-Proyectos Seleccionados," Grupo de Envío No. 10, July 15, 1986.
- (2) SECOPT, "Proyectos Seleccionados Tomando en Cuenta las Condiciones Socio-económicas y del Medio Ambiente," Grupo de Envío, No. 9, 1985.
- (3) SECOPT, Informe de Avance Construcción y Mejoramiento Caminos Vecinales y de Acceso," February, 1986.
- (4) SECOPT, "Informe Final: Supervisión de Construcción Camino Vecinal: Valle de Lomas, Cataguacha, y Orito- El Desvío y Camino de Acceso y el Desvío Hacienda Vieja," Consultores CONASH, April, 1985.
- (5) SECOPT, "Informe Final- Supervisión de Construcción de Carreteras y Puentes, Proyecto Danli- Santa Maria," 1984.
- (6) SECOPT, "Informe Final de la Construcción de Proyecto Carretera Sonaguera Km. 35," November, 1985.

CHAPTER 5

CONTRACTING OUT: THEORY AND HONDURAN REALITY

In this chapter, the major features of contracting out in Honduras are summarized. In doing so we are particularly interested in understanding the Honduran reality of contracting out. This reality is then contrasted to commonly believed theses as to the effects of contracting out more generally.

A. Contractors as Producers

Contractors in Honduras are considered producers of goods and services but not as innovators or creators. Their role is to produce what the central government dictates. Very few contractors are engaged in creating new products but rather follow the instructions, plans, and designs that are made by the government offices.

In Honduras bids are specific in stating the kinds and types of services or goods required. Potential contractors are normally requested to submit only economic bids based on referenced unitary prices established by the central government. The bids are straightforward and the lowest bidder wins the contract.

Once contracts are awarded, contractors are expected to work under the close supervision of the central government supervisors and inspectors. At the termination of public works contractors are paid, released, and their obligation terminates. There is little room for contractors to bring about technological or managerial changes.

B. Private Sector Employment Generation

Construction projects have assisted considerably the construction industry to create at least 20,000 new jobs per year. This calculation is based on the projects looked at in this study and is at best an estimate. These are either directly in the AID-funded projects or through the projects that must be terminated on a self-help basis. There is a ripple effect also in that indirect employment generation will take place as contractors purchase materials and supplies for construction.

AID loan money itself is enough to create new jobs. It is estimated that there are 45,000 normal construction employment jobs in Honduras. Loan funds are assisting in creating another 10,000 jobs.

It should be noted, however, that AID-funded construction projects in rural roads are machine intensive. If a shift to labor intensive construction were to take place, it would be possible to create even more jobs. In both housing and education projects, the appropriate technology is labor intensive. In the rural roads project it would be possible to create at least another 900 jobs (45 people per road

project X 20 projects) by using more manual labor approaches.

Construction jobs have strong forward and backward linkages with employment in other sectors. As the Project Paper for Shelter for the Urban Poor II, Loan No. 522-HG-008, points out, the multiplier effect of a construction project can range from 3.12 to as high as 6.67 times the initial capital investment. A conservative estimate, therefore, is that the three sectors will generate a long-run total investment in Honduras of over \$150 million. (11.G- AID, 1985)

A positive effect on these three sectors, therefore, is that the construction firms do hire new people. In the 60 firms reviewed in the construction firm study, it was noted that there is always a core staff but that the firm hired piecemeal labor for construction jobs. (5.M-Lardizabal, 1986)

C. Contracting Out Theses Versus Honduran Reality

The major purpose for contracting out is to reduce costs and to improve quality for the government. The thesis is that the private sector is able to deliver goods and services at a lower cost than government agencies. There are a host of arguments in the contracting out literature to substantiate that this should be the case. However, not all of the principal theses stated in the literature hold for Honduras. We will state the general theses of contracting out as described in the literature and then describe its application to Honduras. The general theses all relate to cost considerations, but for conceptual convenience they can be discussed under three major categories.

Several theses deal with institutional issues of contracting out.

Thesis 1: Private firms can avoid bureaucratic problems inherent in local government.

Situation: Private sector has fewer bureaucratic problems than public sector, but it takes 6 months for contract award and thus the private sector must deal with bureaucracy as well.

Thesis 2: Contracting out produces better management.

Situation: Although the government suffers from inefficiencies, underutilization of personnel, and lack of productivity, the private sector is not as competent in management skills as one might expect.

Thesis 3: The government gives up some direct control of the process of providing goods and services.

Situation: The government maintains fairly strict control over contractors, primarily through bureaucratic oversight, and therefore the level of direct control remains almost the same.

Thesis 4: Contracting out permits greater flexibility than direct administration in adjusting program size and organizational structure.

Situation: This thesis has reasonable support because it is more difficult to change the personnel structure in the government. Further, government tends to be highly centralized and inflexible.

Thesis 5: There will be resistance by the public sector to contracting out because of employee pressure and fears of decliners in service quality.

Situation: Public employees defend their long term employment security which leads to resistance. But, in those cases where contracting out is a well-established practice, there is little resistance because more contracting means fewer responsibilities.

Thesis 6: Contracting out limits the growth of government.

Situation: Because the public sector is viewed as employer of last resort and because of public employee resistance, the size of government has not been reduced.

Thesis 7: Contracting out may affect locational distribution of services negatively because contractors provide services without attention to the "public" need.

Situation: In general, the location of construction in these sectors is dictated by government. An exception was the housing project No. 007, in which the developer built housing on his land without consideration for the locational needs of low-income population.

Thesis 8: Private contracting increases the possibility of service disruption.

Situation: There are several cases in housing and rural roads of contractors not finishing projects, perhaps up to 10 % of total construction.

The following theses are concerned with technological issues.

Thesis 9: With contracting out, the private sector is motivated to explore, experiment, and develop new technologies.

Situation: Public sector sets parameters for technology and does not encourage new procedures. There is little incentive to bring in innovation.

The last set of theses relates to economic aspects--cost and efficiency--of contracting out.

Thesis 10: Private sector has more incentive to keep costs down with competition.

Situation: There are reference prices, limited competition, and thus only a limited degree of incentive to keep costs down.

Thesis 11: Private firms may have lower employee compensation costs.

Situation: Employee compensation costs about the same for public and private sector. Also, Honduran law requires payment of the 13th month salary for both public and private workers.

Thesis 12: Contracting out will reduce the cost of providing goods and services financed through the public sector. As a result, consumers will benefit from lower prices.

Situation: The cost of construction is not substantially different because of the difficulties in reducing the size of the public sector, the use of reference prices, limited competition, and a lack of incentives for innovation.

D. Use of Fees to Adjust Demand

There is a rationale in contracting out that persons who receive a particular service should pay for it in accordance with use. (2.H-Hatry, 1983, p. 85) People will consider the services cost to them and adjust their demand for the service in proportion to the value they set on that service.

In Honduras, there are overriding contradictions of this thesis; in certain sectors there are high payments by citizens for services, while in other sectors nothing at all. In general, citizens are not inclined to pay for services when they can be obtained without fees. The free rider problem is evident in a number of areas. Yet, the application of user fees more generally may both contribute to economic efficiency and cost recovery.

Examples from our study show that:

Housing: Good example of citizens paying fees for services for new housing. There is considerable reluctance to pay betterment costs entailed in reassessed land values in urban upgrading projects.

Education: A rural community pays \$7,000 average and a rural family pays \$300 per family average for a new school constructed in the self-help approach.

Rural Roads: There is no fee for road usage by farmers either directly or indirectly. Vehicle owners and transportation users will

pay proportions based on usage through gasoline tax. Buses charge fares to customers. Usually the increase in transportation costs is passed directly to the farmers by the vehicle owners.

There is not enough information available to go beyond these initial observations. It is hard to assess, for example, whether the introduction of fees and charges would lead to reduced costs to the government and citizens. In Honduras, it appears that it is easier to increase fees than to raise or collect general taxes. Since these fees are normally based on actual costs, the increased fees are easier to justify to the public. The kinds of fees most commonly used are:

- Licensing fees for professionals, vendors, or contractors
- Airport tax for travelers to pay for airports
- Gasoline tax for road users
- Registration fees for vehicles

Our rationale for addressing user fees is to explore means for offering services and to justify long range sustainable projects that recover costs. There is no doubt, for example, that in education contracting out incurs a more direct cost expenditure to the central government. One can justify the use of the self-help approach in order to charge citizen-consumers for services and goods for which they would otherwise not be charged directly. Our concern, however, is that there be equal sharing of responsibility among all users.

E. Alleviating Bottlenecks in Procurement of Production and Goods

There are two bottlenecks facing both contracting out and direct administration of public work projects. And there are no planned actions by the central government to alleviate them. They are:

1. Purchase of materials and supplies through the central governments' National Procurement Office (Proveeduría)
2. Legal procedures required to award contracts

Both procedures take about six months and cost energy, time, and resources. Both require serious reflection by the central government regarding its role in fostering development and providing adequate goods and services in the most cost effective manner.

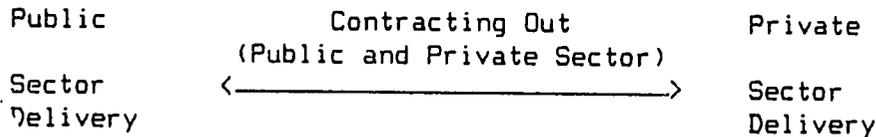
There is no doubt that checks and balances are required by the central government in utilizing public funds. Citizens deserve to have their government respond properly and adequately in procuring production and goods. Nevertheless, there seems to be a balance that must be struck between adequate controls and the equally important need to provide timely services. We were not able to calculate in terms of cost what these present procedures are, but it is

clear from our observations and assessment that those costs are considerable.

This issue indicates a need for policy dialogue among central government officials and international donors. Administrative reform may not be enough to make slow and measurable reforms. Present procedures are not effective for successful implementation of projects.

F. Expectations Versus Performance: An Economic Perspective

Contracting out of publicly financed goods and services can take many forms. In a mixed (pluralistic) system like that of Honduras, few such goods and services have ever been delivered entirely by either the public sector or the private sector exclusively. Between these two extremes on a continuum lies contracting out as seen below:



This fundamental point is often misunderstood: contracting out is neither private nor public but a combination of both. Therefore, when we refer to a change in institutional arrangements, we refer to a change in degree but not in kind. More specifically, in the case of Honduras and this study, we are referring to an increase in contracting out of goods and services financed by the public sector--a move toward more private sector delivery.

What can reasonably be expected when publicly financed goods and services are shifted more toward private sector delivery? To begin with, there will be certain transition costs associated with every institutional change -- the greater the change, the greater the cost; the more often the change, the more often the costs are incurred. This is one unambiguous cost which is typically ignored, most probably because it is difficult to measure.

Many of the expected benefits from major institutional change require a time period sufficient for new institutional learning to occur, as well as time to correct institutional and administrative inconsistencies. Impatience with this process as well as a negative reaction to the transition costs often forces decision makers to change the institutional arrangements again and again. Consequently, the long run benefits are not realized immediately while the short run transition costs continue or increase visibly. In Honduras, there appears to be a significant amount of experimentation with institutional changes in contracting out of publicly financed assistance giving rise to cost overruns and delays.

Another hidden cost associated with the move from self help to more

contracting out to the private sector is opportunity cost. In most developing countries such as Honduras, there exists high underemployment in many sectors such as agriculture and industry. If alternative productive employment is not available to the marginal population and if political considerations prevent mass redundancies of public bureaucrats, the opportunity cost of employing these people is zero. More contracting out to the private sector should take these costs into consideration even though they may not enter in the calculations of cost-benefit, efficiency, or other project measurements.

Theoretically, it is usually assumed that people who do not work will not be employed and that people will not work unless they are paid wages. In Honduras, the marginal poor often volunteer their labor for rural school and road construction and the number of public employees is not reduced in proportion to decreased public sector activity.

Contracting out often requires additional government monitoring and supervision of the private expenditure of public funds. All too often, this results in duplication of work in project implementation. This reduces the expected efficiency of contracting out, discourages the shrinkage of the public sector (cost, employment, and deficits), and mitigates against the expansion of the private sector. Such a duplication is unavoidable with contracting out since public money cannot be expended without public control. In the last analysis, the loans are public debt and therefore public responsibility.

This brings us to perhaps the most controversial issue of all; the relative efficiency of public production, private economic activities, and the performance of the hybrid contracting-out delivery system. It is unclear whether one particular approach is more efficient in terms of maximizing output at a given cost or minimizing costs for a given output. When all costs are considered and included, the public sector production should be less costly since profits are not required and lower taxes are paid by public enterprises. But, public enterprises are often monopoly producers where the primary objective is neither least cost, maximum output, nor economic profit. Because of political and administrative factors, economic efficiency may be even less achievable. When this reality is taken into consideration and all costs correctly calculated, public producers in Honduras and elsewhere typically do not turn out to be the efficient producers they theoretically could be.

Private producers, while theoretically disadvantaged, are often more competitive than their public counterparts and have more flexibility in management, procurement, and production. All these are conducive to efficiency and are the basis for the assertion that private sector production is superior to public production. However, to the extent that private firms are not competitive producers, their efficiency is reduced in the same way that the efficiency of public enterprises is impaired by monopoly and bureaucracy.

What significance do all these have for our study of contracting out of publicly financed goods to private contractors in Honduras? To reiterate, contracting out is neither private nor public but a hybrid of both. In addition, the public sector in Honduras is not a monopolistic producer of urban housing, rural roads or rural schools. Nor is the private construction industry as competitive as theory would require for maximum efficiency. This makes contracting out, by definition, neither as efficient as private production under ideal conditions nor as inefficient as public production under the worst scenario of a monopoly situation referred to above. Purists may find this conclusion disconcerting since they seek absolute, indisputable conclusions on efficiency one way or another. Unfortunately, black and white, efficient and inefficient conclusions will not be forthcoming from studies of contracting out in Honduras or elsewhere under these circumstances. All inefficiencies encountered in the public sector should not be viewed as inherent to the institutional arrangement, nor should all efficiencies revealed in private production be considered natural.

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CHAPTER 6

SUMMARY AND RECOMMENDATIONS

This study assessed the effect of contracting out on quality, time, and cost of construction activities in Honduras. The study was conducted in the three sectors: shelter and urban upgrading, rural primary school construction, and rural roads. This chapter presents a summary of the findings, policy recommendations, and suggestions for future study.

A. Contracting Out Environment

O The 1985 Contracting Law of Honduras provides an ample and positive vehicle for potentially stable and reasonable relationships between the public sector and private sector contractors.

O While the central government controls most funds for civil works, the importance of foreign bilateral and multilateral funds cannot be underestimated. The construction industry, therefore, is highly dependent on central government and international donor funds and projects for survival.

O Contracting out is viewed as the provision of services--in this case, construction--by the private sector for government programs rather than the turning over to the private sector of responsibility, services, and decision making.

O There appears to be a strong preference among government personnel for the maintenance of control over the entire project cycle of planning, execution, and operation and maintenance.

O However, the environment for increased contracting-out activity is favorable. Honduran contractor firms are adequate for providing government services. There is a reasonable degree of competition and the government is able to negotiate fair and reasonable prices for contracted services.

O Relationships between contractors and government agencies are good with some minimal problems and defaults. Bid procedures work relatively smoothly, but certain bureaucratic delays are noted. One major bottleneck is the delay between the bid time and contract award. This problem lies squarely with the government. A comprehensive and well completed design document prepared by the government will reduce significantly inefficiencies and unnecessary conflicts between the government and the contractors.

O Major problems for contractors are 1) guarantee bonds, 2) considerable delay in payments, and 3) legal and bureaucratic paperwork and approvals.

O There is little government control over potential collusion by

private contractors in the bidding process. Even though the central government accepts the lowest bid it is possible for contractors to act in concert in the decision as to which contractor will take the contract for different blocks of roads, schools, or houses. There is some preliminary evidence that this may be happening in all three sectors.

O The reference price established by government institutions based on the unit costs of inputs is the only indicator and determinant for lowest cost bids. It is based on specifications only and not performance.

B. Effects of Contracting Out on Public Service Delivery

O The use of contracting out in Honduras does not strictly accord with some of the traditional contracting out theses because of 1) a high degree of centralization that is traditional in Latin America and which fosters an unwillingness to decentralize, 2) an apparent inability to reduce public sector employment even with increased contracting out, 3) some limitations in bidding processes that curtail competition, and 4) central government inability to envision other opportunities for the consideration of creative ways to use contracting out.

O In direct administration, community contribution in the form of self help has been an important element in construction activities. It is able to reduce the costs to government of some public works as much as 50 % using this approach. To a certain extent, it also deals with the free-rider problem in providing public services to Hondurans who do not pay any tax or fee.

O The qualities of construction by contracting out and by direct administration are approximately the same. The reason is that the public sector retains responsibility, control, and final acceptance of quality control.

O Public sector employment levels in housing, education, and roads sectors are not affected by contracting out. There appear to be neither reductions in the number of employees nor are there indications that the numbers of public sector employees will decrease because of any transition to contracting out. Public sector employees continue to hold the same positions for the same kinds of activities as when direct administration was in force. What does appear to happen is a duplication of effort when there is contracting out.

O There appear to be few, if any, effects of contracting out on changes of consumer choices with the exception of one housing project. Private contractors as providers of construction services have little ability to affect decision-making.

O Contracting out affects considerably community participation in construction projects. It has had the effect of limiting the potential for consumer participation by effectively blocking them from

participating as manual laborers in construction projects in their own communities.

O Contracting out appears to have had the effect of reducing community involvement and participation in maintenance activities because community members have less at stake personally in the final product. More importantly, maintenance activities generally are affected negatively because there are no contractual requirements for the contractor to carry out maintenance activities once construction is complete.

O In both approaches, it is the government that makes the decisions (with minimal input from the communities) about selecting construction siting. Private contractors are not able to influence location decisions since these decisions are made by the central government.

C. Contracting Out Productivity

O Start-up time from RFP to contract award takes approximately six months in most cases, but may take as long as one year. Construction time by private contractors is much faster than by public agencies because of less bureaucracy and paper work, fewer demands for acquiring minimal price quotes for purchasing materials, and more flexibility in management.

O Public agency civil works are slower as they must get approval from the National Procurement Office (Proveeduría) for the purchase of supplies and equipment; this approval process can take up to six months for minimal orders.

O The use of contracting out for specific construction projects may affect the integration of projects adversely. The implementing public agency has better opportunities to provide liaison with other government agencies for coordination among projects. This coordination among projects and among public sector entities is much more difficult for private contractors.

O The public sector is more successful in gaining community support for community-based construction. Private contractors are often viewed by the community as simple providers of discrete and limited service on specific construction projects.

D. Housing Shelter Construction and Urban Upgrading

O Institutional development within the National Housing Institute (INVA) has a record of continual changing relationships as it searches for the most efficient administrative operations. This lack of continuity in administrative procedures may have adversely affected programmatic outcomes.

O In urban upgrading, the Municipality of Tegucigalpa (CMDC) has used both direct administration and contracting out while the Municipality

of San Pedro Sula (MSPS) uses direct administration only.

O There is no conclusive evidence that either direct administration or the contracting out approach is better because of the mixed data bases and the complexity of service delivery approaches.

O Inefficient bidding and procurement procedures, and poor monitoring of construction has affected construction timing and competition. Delay and lack of competition have significant cost implications.

E. Rural Primary School Construction

O MOE and AID/Honduras both prefer direct administration over contracting out because it (1) involves less direct cost to MOE, (2) allows greater community involvement in construction, and (3) increases possibilities of operation and maintenance of rural schools.

O There is no evidence to support the thesis that contracting out has lowered public sector employment within MOE. Rather, there is duplication of previous work with contracting out. As a result, total costs of the two systems are similar.

O Bidding is not competitive in contracted out projects. Pre-qualified contracting firms were awarded contracts based on pre-determined non-competitive prices established by the Ministry of Education and AID. It is difficult to assess how much lower construction costs could have been under competitive bidding circumstances.

O Global school construction costs appear to have been lower under direct administration because of community contribution both in monetary and in-kind labor terms. These contributions mean savings to government of at least 50%. As a result, the comparative costs of contracting out seem high. However, when community involvement as an implicit project cost is included, the total costs of construction are similar to direct administration, because the community provides the other 50 percent.

O Advantages of contracting out are 1) expediency in time, 2) less bureaucracy in supply of materials, and 3) somewhat higher quality of construction. Disadvantages are 1) less involvement with community, 2) higher direct costs for the Ministry budget, and 3) limited concern for the subsequent operation and maintenance of the school.

O Advantages of direct administration by the MOE are 1) concerted effort by the Ministry in social promotion and follow-up, 2) less direct costs to government, and therefore the capacity for building more schools, 3) considerable improvements in operation and maintenance of schools over long run. Disadvantages include 1) considerable bureaucratic delays in school construction, 2) somewhat lower quality schools, and 3) larger number public sector employees needed for supervision and promotion.

F. Rural Road Construction

O SECOPT uses three different rural road construction models: 1) direct administration utilizing manual labor, 2) an AID-funded limited contracting out approach, and 3) an IDB/World Bank-funded full contracting out approach. Each system has advantages and disadvantages. Any of the three systems can be used effectively as all three have well-organized delivery systems that function fairly smoothly.

O AID Project Unit uses effective contracting out system with 15-20 construction firms. Relationships with contractors appear to be good to excellent. Competitiveness is adequate. There is some possibility for collusion by contractors as bids are given in blocks and recently only one contractor has been awarded a contract per block. On the other hand, the block system is efficient in optimizing the use of equipment.

O AID Project Unit designs, plans, supervision, quality control, follow-up, and maintenance are all controlled. Private contractors simply provide equipment and machinery rented out to conduct works according to SECOPT orders. Some previous World Bank-funded projects were managed in the same fashion.

O An alternative full contracting out approach has been used by SECOPT as well. The approach has comprehensive feasibility studies carried out by contracting out with the participation of SECOPT in the socio-economic analysis. Final engineering is done partially by contracting out and partially by direct administration. Construction and supervision are normally contracted out. The road quality appears to be higher with this total system.

O Cost analysis indicates that the construction costs per kilometer using direct administration approximately equals the method of limited contracting out. The design standard of the rural roads in both methods seems to be similar or equivalent.

O Bidding unit prices are similar with practically no differences between SECOPT/AID and SECOPT/IDB rural road projects. Bidding unit prices with limited contracting out and full contracting out are practically the same. The full contracting out approach may be less expensive, therefore, because of the additional costs of administration, supervision, quality control, and additional government costs related to the limited contracting out approach.

G. Recommendations

O Consider the use of contracting out for services as part of the policy dialogue at the highest levels of the Government of Honduras to promote a more favorable privatization environment and an interest in using the private sector for the production of goods, but also for the provision of services as well as maintenance activities.

O Initiate concrete and specific means to streamline the governmental

procedures for acquisition of materials and supplies through the General Procurement Office (Proveduria).

0 Initiate means to streamline the legal and bureaucratic procedures required for contractors to be awarded contracts. This should include alternative means for requiring bonds for contracted out construction activities.

0 Maximize to the fullest manual labor and labor intensive techniques through contracting out so as to make full use of international donor funds to generate employment and at the same time enhance the mechanism of contracting out.

0 Restructure public sector employment positions to avoid duplication of efforts when contracting out.

0 Monitor bidding procedures more carefully to assure against possible collusion.

0 Encourage the exploration of contracting out alternatives in the design of Project Papers.

0 Institute the use of performance standards rather than specification codes for construction project bidding to encourage innovations to reduce costs.

For housing and urban upgrading:

0 Establish and monitor contracting out procedures that stipulate clearly responsibilities and obligations.

0 Encourage increased coordination among government service delivery agencies and with private sector developers. Problems of weak coordination have had adverse effects on construction completion and integration.

0 Low cost bids in a cost-plus arrangement may not be the most efficient basis for contract awards.

For primary school construction:

0 Efforts should be made to assure community involvement in manual labor. In particular, local residents can be used in more formalized maintenance and operation schemes. Incentives to contractors who utilize local labor in construction subsequent maintenance should be established.

0 There is a need for procedures to assure more competitive bidding in school construction projects

0 There is a need to revise the internal reference cost system as the guideline for establishing costs.

For rural road construction:

O Requirements in bids should include the use of local manual labor in construction crews as a means of reducing costs and generating local employment.

O Establish Phase I construction and Phase II maintenance contracts in the same bid.

O There is a need for SECOPT to update and broaden guidelines and capabilities in the final design of projects so that contractors have uniform standards for construction.

H. Future Studies

The evidence documented here demonstrates that privatization leads to a number of political and economic implications. Therefore, policy decisions to use private means to deliver publicly financed goods and services must be made in careful consideration of policy objectives at the national level. At present, however, we know little about the nature of the trade-offs between various national policy objectives created by alternative means of service delivery. At least three categories of additional work seem warranted. They are as follows:

O Conduct similar studies in other sectors and countries. The current study deals only with a limited number of cases in three sectors in Honduras. In order to be able to make more sound generalization about the factors affecting the effectiveness of privatization, we need to analyze additional cases in different settings.

O Investigate the impact of privatization on political and economic objectives at the national level. Policy makers need to know how national policy objectives are affected by privatization of public services. Of particular importance is to examine the conflicts between political objectives which are often hidden and economic objectives which are publicly announced.

O Prepare implementation manuals for officials in developing countries. Many policy studies are not disseminated to public officials in readily usable form. Implementation manuals designed to give practical guidelines will greatly improve the process of policy dialogue and facilitate policy reform in developing countries.

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