



Development Alternatives, Inc.

**CENTRAL JAVA
ENTERPRISE DEVELOPMENT
PROJECT**

INTERIM REPORT

Submitted to the United States Agency for International Development by Development Alternatives, Inc., in compliance with Contract No. AID-497-0331-C-00-2060-00,

March 31, 1983

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Report Submission

I am herewith enclosing two copies of the Central Java Enterprise Development Planning Project Interim Report as required by contract No. AID-497-0331-C-00-2060-00 signed in Jakarta on May 30, 1982.

Sincerely,

Gary B. Kilmer
Chief of Party/DAI
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WORKING PAPERS (published separately)

- No. 1 -- THE MACROECONOMIC SETTING IN CENTRAL JAVA,
James Boomgard
- No. 2 -- MEDIUM AND LARGE-SCALE ENTERPRISES IN CENTRAL JAVA,
Willem G. Keyneker and Gary D. Kilmer
- No. 3 -- DESCRIPTION AND ORGANIZATIONAL ANALYSIS OF PUBLIC
SECTOR INDUSTRIAL ASSISTANCE PROGRAMS IN CENTRAL
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- No. 4 -- MANUSIA DALAM DUNIA USAHA (The Human Factor in the
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- No. 5 -- PENDATAAN PENGEMBANGAN USAHA LEWAT LATIHAN
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- No. 6 -- A SURVEY ON SOFTWARE TRAINING, Yayasan Purba
Danartha
- No. 7 -- MEKANISME MONITORING DALAM PROYEK-PROYEK
PEMBANGUNAN DI JAWA TENGAH (The Monitoring in
Development Projects in Central Java), Peter Hagul
- No. 8 -- STUDI ANALISA KERJA (Work Study Analysis), Yayasan
Dian Desa

WORKING PAPERS FORTHCOMING

THE CONTRIBUTION OF SUBSECTOR ANALYSIS TO THE
ENTERPRISE DEVELOPMENT PROCESS

CREDIT TO INDONESIAN ENTREPRENEURS: AN ASSESSMENT OF
THE BADAN KREDIT KECAMATAN PROGRAM

MARKETING CHANNELS FOR SMALL-SCALE MANUFACTURED GOODS
IN CENTRAL JAVA

THE POTENTIAL FOR DEVELOPING SMALL-SCALE MANUFACTURING
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PREFACE

This Interim Report is submitted to the United States Agency for International Development/Jakarta (USAID) as required by Contract No. AID-497-0331-C-00-2060 between USAID and Development Alternatives, Inc. (DAI) which was signed on 30 May 1982.

The Chief of Party of the DAI contract team initiated work on the contract on July 1st, 1982 and was joined in September by a team from Yayasan Dian Desa, which is participating in the design project as a sub-contractor to DAI. James Boomgard arrived in early November and has participated fully as a team member and principal contributor to this report although he is not formally part of the DAI contract team.

A great deal of primary and secondary research has been done to date involving many people who are related in various ways to the contract team. Primary participants have come from Yayasan Dian Desa, Yayasan Purba Danartha, Gajah Mada University and the Research Triangle Institute as well, of course, as from the Central Java BAPPEDA, USAID and DAI.

A still larger group of local participants has been involved in assisting the team with various aspects of its design work. These include the members of the local Counterpart Team which represents various public sector assistance agencies and private business groups and has met with the contract team several times to discuss elements of the design process. Several members of this team have also worked directly with design team members on an individual basis to assist in data collection activities both in Semarang and in the field.

Two Planning Workshops were held in conjunction with the planning process as well. Each attracted 50 to 60 private and public sector representatives who participated in group discussions designed to assist the contract team to identify and understand the key constraints to enterprise development in Central Java and suggest ways of reducing or removing those constraints. The contract team is very grateful to all of those individuals and institutions who have assisted in the research and design activities leading up to this report.

The report itself is organized in such a way as to lead the reader through roughly the same sort of analytical path that the contract team followed in the research and thinking leading up to this report. The reader has the advantage of receiving the "short form" of this process and is spared the endless hours discussion and data analysis which have gone into the report.

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This Interim Report is supported by a series of Working Papers which have been prepared by various members of the design team and others. These Working Papers are being published separately and provided to USAID along with the main report.

The contract team was made up of the following individuals who participated for varying periods of time and in various ways in the preparation of this report:

From Development Alternatives, Inc.:

Gary D. Kilmer (Chief of Party)
Donald R. Mickelwait
Willem G. Heyneker
Nancy M. Straughan
Richard H. Patten

From the U.S. Department of Labor and USAID:

James J. Boomgard

From Yayasan Dian Desa:

Anton Soedjarwo
Masri Singarimoun
Slamet Sudarmadji

From Research Triangle Institute:

Jerry Van Sant

DAI expresses its gratitude to these individuals and all of the others, too numerous to mention here, who have helped to make this report possible. We, of course, retain full responsibility for the content of the report itself.

Semarang
Indonesia
March 31, 1983

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CHAPTER I

THE ECONOMIC ENVIRONMENT FOR ENTERPRISE DEVELOPMENT

INTRODUCTION

The nature of the economic environment for enterprise development has important implications for the justification, design and implementation of CJEDP. This chapter provides a brief overview of certain aspects of the Central Java economy and outlines one approach adopted in this design effort for the identification of potential project interventions within this environment. The discussion has been divided into three sections: A) the macro-economic setting; B) the industrial structure; and C) an approach to the analysis of key industrial subsectors.

The first of these sections is based on CJEDP Working Paper No. 1, The Macro-Economic Setting in Central Java. The second section draws on available data to characterize existing industrial enterprises according to scale, subsector and location. The third part previews a forthcoming Working Paper entitled The Contribution of Subsector Analysis to Enterprise Development in Central Java and draws on Annex A to this report, Subsector Case Studies.

THE MACROECONOMIC SETTING

The decade of the seventies was a period of rapid economic growth for both Indonesia and Central Java. When compared to the extreme economic instability during the first half of the 1960s, the recent record is impressive. This is especially true since the groundwork for economic recovery was in place well before the oil boom of the seventies propelled Indonesia to its present classification as a "middle-income" country.

It is not clear, however, that the impressive growth in production was associated with equally impressive gains in employment. Given the absolute size of the working-age population and its persistent rate of increase, the ability of the economy to productively absorb labor is of critical importance in Indonesia. This issue is likely to become even more significant as all indications suggest that the decade of the eighties will offer a genuine test of the resilience of the economy in the face of global economic instability and weakening international oil markets.

Three main topics will be addressed in this section: A) the patterns of change in production during the 1970s; B) labor force and employment; and C) the prospects for the economy and productive employment in the 1980s.

Structure and Growth of Production in the 1970s

Both the national and provincial economies were characterized by sustained and healthy rates of growth in production during the seventies. National Gross Domestic Product (GDP) grew at an average annual rate of 7.9 percent, in real terms, between 1971 and 1980. During the same period, Central Java's Gross Regional Domestic Product (GRDP) increased at only a slightly slower average annual rate of 5.9 percent, again in real terms. These figures, however, mask the fact that Central Java's growth lagged well behind national growth in the 1971 to 1975 period but rebounded to a rate slightly ahead of the national average after 1975. This reflected accelerating growth in Central Java and decelerating national growth.

Structurally, provincial growth was led by the tertiary sector (trade and services, including public administration and defense) which grew at an average pace of 11.0 percent per year throughout the seventies. The rate of growth in these activities slowed considerably during the second half of the decade, falling from 13.9 percent in the early years to 7.3 percent in the latter half of the decade. Public administration and defense was the largest single contributor in, absolute terms, to this sector's (and aggregate GRDP's) increase, although transportation and communication, and banking and finance also grew very rapidly.

The rate of growth in primary (agriculture and extractive) and secondary (manufacturing, utilities, transportation and communications) sector activities, both of which were negative during the first half of the decade, accelerated considerably after 1975. Agriculture achieved a positive growth rate of 6.0 percent between 1975 and 1980 and manufacturing accelerated from -6.9 percent before 1975 to an average rate of 9.5 percent in the post-1975 period.

These differential growth rates imply changes in the sectoral structure of production. The share of the primary sector in GRDP declined from 53.3 percent to 40.7 percent between 1971 and 1980 while the percentage share of the secondary sector declined from 17.2 percent to 14.1 percent. This contrasts with the pattern of national growth which was led by the secondary sector with a much smaller increase in the share of GDP claimed by the tertiary sector. This tends to highlight the spatially unequal pattern of industrial development in Indonesia during the 1970s.

The Labor Force and Employment in Central Java

The analysis of issues related to the labor force and employment based on macro-level statistics is problematic in countries such as Indonesia where a substantial proportion of economic activity is undertaken in household and family enterprises, based in agriculture and subject to significant seasonal variation. In such a setting, work patterns are extremely complex and not amenable to relatively simple classification schemes. The particular problems with the available Indonesian labor force statistics are discussed in detail in the Working Paper from which this summary is drawn.

During the 1971 to 1980 period, the total population of Central Java grew at an average annual rate of 1.67 percent while the working-age population, defined as those ten years old and over, was growing at 2.27 percent per year. This differential is the result of the relatively young age-cohort structure of the population. The total number of economically active persons increased by 1.9 million during the period which is an average of 212,000 persons per year. The number classified as "working" increased by slightly less, averaging 211,000 per year.

The most significant sectoral shifts in the demand for labor during the 1970s were the decline in the proportion of the workforce in agriculture from 63.9 percent in 1971 to 55.2 percent in 1980 and the increasing importance of the trade and service activities as sources of employment. The share of the working population in manufacturing exhibited only a modest increase, from 10.4 percent in 1971 to 11.0 percent in 1980. The most rapid average annual growth rates in terms of total employment were in mining (21.4 percent), banking and finance (13.7 percent), utilities (12.1 percent) and construction (10.0 percent). Employment in manufacturing increased at an average annual rate of only 3.1 percent throughout the 1970s.

There is little direct evidence available to assist in analyzing important issues related to the quality of employment or its productivity. There are, however, several indirect indicators which can be examined.

Census data on "employment status"--that is whether the respondent was self-employed, an employer, an employee, or an unpaid family worker--have been analyzed. The proportion of "entrepreneurs" (self employed and employers) in the total workforce increased from 38.3 percent in 1971 to 48.5 percent in 1980. This increase came at the expense of about equal proportions of employees and unpaid family workers, implying that the ratio of "employees" to "employers", or average firm size, has decreased. This finding is subject to interpretation but it suggests that much of the growth in the working population has not necessarily been in high productivity employment but rather in less productive self-employment.

This hypothesis is further supported by other indirect evidence. Research on real wage trends indicates that on average there has been little change in earnings since 1970. However, in certain segments of the economy, especially among skilled industrial workers, wages and productivity have risen. This implies some decline in other sectors. Other evidence indicating increases in marginal employment includes low aggregate levels of average labor productivity in the economy, and unreasonably high employment elasticities in certain sectors.

Open unemployment does not appear to be the major problem in the Indonesian economy at the present time. In the first place, the concept of open unemployment has little relevance in the rural economy which is based on the household as an income earning and sharing unit. In urban areas, where the concept should have greater applicability, open unemployment has little direct association with poverty. The open unemployment that does exist is apparently concentrated among the educated young who are waiting for better jobs than those readily available and who are being supported by their relatively well-off families. The vast majority of the population cannot afford the luxury of unemployment and must enter the workforce in any way possible in order to earn a living, no matter how small. In both urban and rural areas then, the issue of importance is underemployment not unemployment.

Hence, while the macro-level data suggest that the demand for labor has been keeping pace with the growth of the working-age population, it is more likely that the condition of poverty necessitates that those of working age enter the labor force as "entrepreneurs" in an attempt to secure at least a marginal share of the available income. This supply side "push" is as plausible an explanation of the aggregate data as the "pull" of demand.

The Prospects for the Eighties

The relatively high GRDP growth rates of the seventies were insufficient to absorb the rapidly growing supply of labor in productive activities. This had the consequence not of increasing levels of open unemployment but of apparently increasing marginal, low-productivity employment.

The size of the working-age population will continue to grow, adding increasingly large numbers of potential workers to the labor force each year through at least the end of the century. Under reasonable assumptions concerning the ability of the economy to productively employ these increments, it was found that overall economic growth must be approximately 7.8 percent per year, with the industrial sector growing by no less than 11.4 percent per year, if the labor force situation is to improve.

It is of considerable importance, therefore, that the decade of the eighties be one of sustained economic growth in Central Java. This must go hand in hand, however, with conscious efforts

to direct that growth in ways that its employment content is substantial. Given the declining capacity of the agricultural sector to absorb labor and the questionable welfare implications of continued rapid absorption in the tertiary sector, the burdens placed on the industrial sector in the decade to come are great. Every effort must be made to promote a pattern of growth which has a high capacity for generating productive employment.

It was noted earlier that the decade of the eighties is expected to offer particularly difficult challenges to the Indonesian economy. This analysis has focused on one of the important issues, the growth of output and employment. Related to this is the reminder that a significant portion of the growth of the seventies was a direct result of the boom in oil revenues and the relatively large government development budget which this facilitated. It could not have been otherwise, as oil revenues in the second half of the seventies accounted for 70 percent of the government's total revenue, oil exports generated two-thirds of the country's foreign exchange and the oil bonanza measurably improved Indonesia's ability to borrow abroad.

It is against this background that the Governor of Bank Indonesia reported the 1982 figures on the trade position of the nation. According to his report, gross income from petroleum and LNG exports declined by nearly 16 percent between December 1981 and December 1982. When this is combined with a ten percent decline in the value of non-oil and gas exports, (over 30 percent for Central Java) overall export earnings are down 15 percent since the end of 1981. At the same time foreign exchange spending increased nine percent and reserves of foreign exchange were cut in half. These declines will be compounded by reductions in oil prices and allocations in 1983.

This weakening international position of the Indonesian economy reinforces the importance of promoting industrial activity with all the available tools. If the development progress of the 1970s is to be sustained in the face of difficult and increasing constraints, private sector economic activity will have to assume a leadership position in addressing the task which lies ahead. In the context of both promoting growth in production and in productive employment, the Central Java Enterprise Development Project offers a viable and justifiable option in the mix of activities required during the 1980s.

INDUSTRIAL STRUCTURE OF CENTRAL JAVA

The purpose of this section is to explore in greater detail the nature of the manufacturing sector in Central Java. Trade and service activities comprise an important source of non-agricultural employment in the province, but systematic information is not available which would allow detailed analysis of these activities. The emphasis of this section is to briefly

examine the size, geographical and sectoral composition of industrial enterprises in the province.

Data are available from several different sources which can assist in this analysis. Unfortunately, the coverage of any of the individual sources is incomplete and each of the different overseeing agencies has its own set of concepts and definitions which makes inter-source comparability problematic. Bank Indonesia has commissioned a study which is attempting to piece together a complete, district by district, picture of the manufacturing sector in Central Java. When this becomes available, it will be the only complete cross-section compilation of industrial data available for the province.

In this report, readily-available information has been used to provide a reasonably accurate understanding of the manufacturing sector. Where the data base is more consistent, some attempt is also made to assess dynamic patterns of change in certain manufacturing sector characteristics.

Household and Small-Scale Enterprises in the Manufacturing Sector

Manufacturing firms in Indonesia are divided by the Central Bureau of Statistics into four size categories as follows: household (1 to 4 workers), small (5 to 19 workers), medium (20 to 99 workers) and large (100 or more workers). By far the largest number of "firms", of course, are in the household industry sector. Household enterprises are not legally licensed and most do not operate on a full time basis. They are only one of many income generating activities undertaken by households and are a reflection of complex urban and rural household labor allocation strategies.

Accordingly, most workers in household enterprises do not devote full time to their manufacturing activity. Such work is often seasonal or used to fill time which is not needed for primary economic activities. It is not possible to consider these household enterprise jobs in the same way we consider full time employment in one of the medium or large scale enterprises. To do so would require some rather heroic assumptions about the productivity of labor and "full-time job equivalents".

The industrial census of 1974/75 (see Table I-1) estimated that out of a total population of about 26 million people, over 1.5 million were engaged in more than 500,000 household enterprises in Central Java. Of that total, over 1.1 million workers (70.7 percent) in more than 369,000 enterprises (70.8 percent) were working in only three industries: bamboo, rattan and willow products; other sugar (traditional palm sugar); and batik manufacturing. Other major product lines included soybean curd and other processed bean foods (tahu/tempe) and other food processing, roof tile manufacturing, cordage, rope and twine manufacturing, and brick making.

Table I-1

Household Manufacturing Enterprises
in Central Java

<u>Industrial Code</u>	<u>Description</u>	<u>No. Workers</u>	<u>No. Units</u>
31330	Bamboo, rattan and willow products	541,885	175,070
31182	Other sugar	456,171	151,099
32114	Batik manufacturing	128,458	42,465
	Subtotal	1,126,514	368,634
	Others	465,859	152,258
	Total	1,592,373	520,892

Source: Biro Pusat Statistik, 1974/75 Industrial Census

The 1974/75 Census of Household and Cottage Industries was based on a sample survey which is generalizable only to a provincial level. Other data and field investigations, however, document that production which is primarily for the local market is widely distributed throughout the province. Other industries, such as batik, exhibit more concentrated patterns corresponding to the major town production and distribution centers.

The 1979 Survey of Small Industries showed a total of 140,000 workers engaged in 20,000 small scale industrial enterprises in Central Java (see Table I-2). Again the greatest number of firms and workers are concentrated in a limited number of industries. In this case, the top five industries account for 54 percent of total employment and 43 percent of the total number of firms.

Small-scale manufacturing enterprises are more geographically concentrated within the province than are the household units. They also participate in somewhat longer marketing channels as their products are more likely than those of household industries to be traded throughout the province or interregionally.

Among the notable geographic concentrations of small industries are the firms engaged in the manufacture of wooden furniture found in Jepara, a traditional center for woodworking activities. This industry serves a national market. Similarly, concentrations of small-scale batik makers can be found in

Table I-2

**Small-Scale Industries
in Central Java -- 1979**

Industry Codes	Description	No. Firms		No. Workers (thousands)	
		1974/75	1979	1974/75	1979
33210	Wooden furniture	455	2250	3.6	18.5
32114	Batik	1018	1794	10.8	18.3
32112	Weaving mills	1309	1537	13.7	16.1
31212	Tahu/tempe	353	1990	2.0	11.3
31250	Krupuk/emping/etc.	603	1256	4.2	10.2
31410	Tobacco processing	248	903	1.3	9.9
31161/2	Rice mills	1337	1555	8.7	9.5
36410	Brick making	166	1340	.9	7.9
31151/2	Coconut/veg. oil	10	492	.1	3.2
31140	Fish processing	131	384	.8	2.8
	Sub Total	5630	13501	46.1	107.7
	Others	3582	6906	27.9	30.6
	Total	9212	20407	74.0	138.3

Source: Biro Pusat Statistik, Statistik Industri Kecil,
1974/75 and 1979.

Surakarta and Pekalongan while the tobacco curing and processing industry is centered around the major tobacco growing areas of Kabupaten Boyolali and Kl. ten. Other industries, such as those which process food products (tahu, tempe, krupuk, emping) are to be found more or less evenly distributed throughout the province and oriented to the local market.

Medium and Large-Scale Enterprise

Medium and large scale industrial enterprises in Central Java (Table I-3) are concentrated in two, "two-digit" sectors: food, beverages and tobacco; and textiles, wearing apparel and leather. In 1980, these two sectors accounted for 84 percent of the total number of medium and large scale firms, 83.4 percent of total employment in medium and large scale enterprises and provided 79.3 percent of total value added produced by these firms.

Table I-3

Medium and Large Scale Industries in Central Java

Industrial Code	Number of Firms		Workers (thousands)	
	1974/75	1980	1974/5	1980
Food, beverages and tobacco	536	567	69.4	84.3
Textiles, wearing apparel and leather	731	766	53.0	70.3
Wood, wood products and furniture	31	40	1.5	3.3
Paper, printing and publishing	58	65	3.7	3.5
Chemicals, petrol, coal rubber and plastic	89	73	9.3	10.5
Non-metallic mineral products	53	87	2.0	4.9
Basic metal	--	1	--	.4
Fabricated metal, machinery and equipment	54	92	3.7	6.7
Other manufacturing	8	20	.8	1.5
Other not classified	24	--	5.6	--
Totals	1584	1711	149.0	185.4

Source: Biro Pusat Statistik, 1974/75 and 1980
Industrial Census

Disaggregation to five-digit Industrial Codes (Table I-4) shows even more clearly the degree to which medium and large scale industrial enterprises are concentrated in a few specific activities. The five most important industries accounted for 72.3 percent of total employment in medium and large-scale firms and for 77.4 percent of the total value added by these firms. The tobacco industry alone is responsible for 36.8 percent of total employment in medium and large enterprises and 26.9 percent of their total value added while various elements of the textile industry account for an additional 32.0 percent and 27.4 percent respectively in those two categories. These are industries which serve a national market.

Table I-4

Most Important Industrial Subsectors
for Medium and Large Scale Industries
in Central Java -- 1980

Industrial Codes	Description	No. Firms	No. Workers (thousands)
31420	Kretek cigarettes	109	44.3
32112	Weaving	354	33.0
31181	Sugar mfg.	15	16.7
32111	Yarn and thread	13	11.3
32114	Batik mfg.	257	11.1
31430	Cigarette mfg. (white)	3	.9
31410	Tobacco processing	124	3.9
	Sub Total	875	121.2
	Others	836	64.2
	Total	1711	185.4

Source: Biro Pusat Statistik, 1980 Industry Census

There is also some regional specialization among the medium and large-scale firms. There are several areas, for example, with heavy concentrations of kretek (clove) cigarette manufacturing operations including Kudus, Banyumas, and Purworejo. The textile industry is centered in Pekalongan, Kudus and the Semarang area. The sugar processing enterprises are more widely distributed corresponding to sugarcane growing areas in Banyumas, Klaten, Karanganyar, Pati, Kudus, Tegal and Brebes.

In some cases it is clear that locational decisions are made on the basis of access to raw materials (e.g. sugarcane). In others (e.g. shrimp exporting) it is access to port facilities which determines enterprise location. Still other types of industry (e.g. woodworking or batik making) tend to be located in areas which are traditionally noted for certain types of skills or activities. In still other cases it is difficult to determine why enterprises have been sited as they have been although in two cases we were told that large scale private firms in Central Java chose their location on the "instructions" of the government.

Growth in employment in medium and large scale manufacturing can be compared to the growth rate in value added. In real terms, value added grew at the rate of 8.8 percent per year between 1974/75 and 1980. At the same time employment in these firms increased at an average annual rate of 4.5 percent. This suggests that the newly employed labor had increasingly higher productivity in this part of the industrial sector.

Furthermore, although medium and large scale industrial enterprises employed only 9 percent of total industrial workers in 1980 they accounted for 88.4 percent of total value added. Value added in small scale and household enterprises is estimated to have increased at an annual rate of 16 percent, between 1975 and 1980. These findings are consistent with the analysis presented in the first section of this chapter, which suggests that large numbers of marginally-productive workers entered household and small industry employment in the last few years, adding to aggregate value added, but holding steady or, more likely, actually reducing average labor productivity and real returns to labor.

It is worth noting that a substantial proportion of the employment in industry of all sizes in Central Java is made up of women. The team which studied the Badan Kredit Kecamatan (BKK) program discovered that 60 percent of all loans from this source are made to women. In larger scale manufacturing in the province it has been reported that up to four fifths of all employees are women. There is also an organization of women entrepreneurs, IWAPI, which is actively involved in the development and support of female-owned enterprise and with which the CJEDP will undoubtedly cooperate in the implementation of the project. It is therefore clear that, at whatever level of enterprise the CJEDP is working with a particular sub-project, it will have a direct impact on women.

SUBSECTOR ANALYSIS

This section of the report focuses on the question of identifying appropriate areas for CJEDP intervention. The basic thesis presented here is that the traditional methods of searching for possible interventions have had only limited success, largely because they have been based on a superficial

understanding of what are, in fact, complex phenomena. By adopting a "systems-oriented" view of non-farm enterprises, however, it is possible to gain a much clearer grasp of the opportunities and constraints facing entrepreneurs and enterprises and, even more critically, to see how performance can be improved through appropriate interventions. This systems-oriented approach has been termed the subsector approach to economic research.

This section is broken into three parts: A) a discussion of certain alternative approaches to identifying enterprise development interventions; B) an overview of what is meant by subsector analysis, and C) an assessment of the approach as it has been applied in the design of the CJEDP. The Case Studies themselves can be found in Annex A to this report.

Approaches to Identifying Enterprise Development Interventions

The problem of identifying appropriate areas for enterprise development intervention can be approached in several ways. One method relies on aggregate industrial statistics to assist in ranking sectors of the economy for project attention. On the basis of certain assumptions concerning the relationship between available statistics and project objectives, industries can be sorted with the goal of identifying those sectors which could define the target industries of the project.

One study currently underway in Central Java, for example, is identifying priority industries for financial assistance by comparing the value-added per capita by sector in Central Java with corresponding figures for other provinces. Other criteria could include, for example, different measures of efficiency, the capital-labor ratio or employment elasticities. The rigor of such an approach, however, must be weighed against its dependence on aggregate data of questionable reliability, the rather restrictive character of industrial classification based on generalized industry codes and the faith which must be placed in hypotheses concerning the relationship between aggregate statistics and project objectives. Furthermore, it is not clear how such analysis can be used to determine the types of necessary and desirable interventions into selected priority industries.

An alternative approach would involve an organized firm-level research effort designed to collect certain quantitative information which could be used in a similar fashion as the aggregate industrial data. The difference between the two methods is that this type of research could be used to examine a number of micro-level hypotheses which would contribute to the identification of target sectors. Such issues include financial and economic profitability, efficiency analysis and so on, based on representative groups of firms within industries as well as between industries.

This methodology has the obvious advantage of facilitating a somewhat more sophisticated analysis of the economic potential of various industries and types of firms within industries. It has the associated drawback, however, of requiring time-consuming and expensive survey research whose productivity depends on the degree to which businessmen are willing to share quantitative details concerning their firms' operation. Furthermore, this approach tends to be quite weak in suggesting particular forms of intervention.

A third approach to identifying appropriate interventions, the subsector approach, is predicated on the assumption that economic profiles of industries as defined by aggregate statistics or groups of manufacturers within or across industries can tell the analyst little concerning the potential opportunities within industries or how these opportunities can be realized. Perhaps even more importantly, such research says nothing about how project interventions can help industry participants achieve their goals.

The proposed approach does not reject the use of quantitative data and is not incompatible with either of the methods presented above. It argues instead, however, that before it is possible to learn anything of relevance about project interventions from the analysis of data of either type, it is first necessary to understand the structure, organization and functioning of particular industries. Without such an understanding, the analysis of quantitative information is likely to be uninformative or perhaps even misleading.

The Nature of the Subsector Approach to Industry Research

When forced to work with aggregate industrial statistics it is necessary to adopt the categories and definitions which are chosen by the statistical service. No such restriction is placed on those collecting primary information. The question of which firms are to be grouped for analysis often presents a particularly difficult challenge to the researcher. There are no universally accepted guidelines which can be followed.

The question of defining an industry is no closer to resolution today than it was fifty year ago. Perhaps the best statement on this issue was made by Professor E.A.G. Robinson in 1931:

"We had hoped that it would be possible for us to define an industry as a group of firms producing the same commodity for the same market. We must now recognise that to define it either by the commodity produced, or by the market for which it produces, is in many cases either impossible or at least unsatisfactory. In practice, all that we can do is to follow the example of those who are actually engaged in industries...They are simply a classification of firms which may for the moment be convenient. A change of technique and or

organisation may require a new classification and a new industry."

Consistent with this view, the subsector approach places very little emphasis on the particular slice of the economy chosen for study. It could be as broad as the food and labor industry or as narrow as ornamental brass exports from Flores to Sierra Leone. The approach does require, however, that once the industry is selected, certain factors must be taken into account.

The subsector approach has its foundation in the "systems" view of real world phenomena. Viewed from this perspective, an industry is much more than just a collection of manufacturers grouped according to a set of standard international codes. It is composed, instead, of a variety of heterogeneous participants, operating in the context of different incentives which are involved in the transformation of raw materials into finished products in the hands of consumers.

Two elements are of central importance to the definition of an industry as it is used in the subsector approach: The vertical and horizontal dimensions. Within these two dimensions all of the essential diversity of industrial economic activity can be captured.

The vertical dimension recognizes that economic activity involves the transformation of the products of the earth into final products in the hands of consumers. This transformation process includes various stages at which certain functions are performed. Different industries are composed of different sets of necessary functions. The vertical dimension then, corresponds to a vertical slice of the chosen industry which has, at one end the final consumers and at the other, raw materials.

A careful examination of this vertical slice will most likely reveal that there is not just one path from materials to demand. At various points along the vertical cut there will be alternative, sometimes complementary, sometimes competitive, vertical transformation channels. These alternative vertical channels comprise the horizontal dimension of an industry.

Research on industries must account for the participants and enterprises involved in the vertical movement of products through the various stages required to transform materials into final, distributed products, as well as for alternative and competing vertical channels which give the industry its horizontal dimension.

Once equipped with the subsector approach the analyst is free to focus on any particular set of concerns with all his available tools. The subsector approach is not a formula but a context. If it has a preconceived or incidental bias it is that industries often turn out to be surprisingly complex and that the most obvious problems are frequently symptoms of more fundamental systematic issues.

A source of many problems for enterprise development is in the coordination of the divergent interests and incentives which characterize the various participants in such economic systems. Questions of apparent gross inefficiencies in production, for example, are often difficult to explain in the presence of a seemingly competitive industry. A more careful look, however, may reveal that the problem has nothing to do with technology or finance, but rather in failures in other parts of the production-distribution system. This would bear importantly on the type of intervention which could make a difference.

The CJEDP Subsector Research

As part of this design effort several industries in Central Java were selected to be the subject of "quick and clean" study. The objectives of this research were:

- o To further the design team's understanding of the business environment in Central Java based on firm and industry-level research;
- o To obtain an understanding of the structure and organization of selected industries and to obtain a preliminary assessment of the opportunities and constraints facing businessmen in these industries;
- o To assess the potential role of the CJEDP in addressing key enterprise development issues in the selected industries and the implications of these findings for the design of the project; and
- o To provide a foundation for the further analysis of industries and enterprise development issues in the context of the CJEDP.

The selection of industries to be examined was based on a number of criteria. First, it was thought desirable to examine a range of industry types, including import-substitution, export-oriented, agro-processing and domestic consumption type products. Secondly, within these categories the judgment of the project staff and consultants was used to identify potentially interesting industries.

At this stage the macro-level industrial statistics were used to find those industries which were most prominent in the province and also the kabupaten distribution of the industries. Finally, the degree of coverage, which varied among the selected industries, was based on logistical considerations in combination with our preliminary assessment of the payoff to looking at the industry in any detail.

Given the limited time available to carry out this preliminary research six industries were chosen for study. It

was not known at that time how complex certain industries would turn out to be and therefore the goal was to do as much as possible given the time constraints.

The original list included textile exports, clay products (bricks and roof tiles), vegetable oils, metal casting and finishing, and furniture. During the course of the field work textiles were replaced by shrimp exports (which is Central Java's major export activity but does not appear in the industrial statistics), bricks were dropped and handicraft exports were added. For this interim report it was felt that information was sufficient to present three of these industries (shrimp exports, the metal industry and roof tiles) as reasonably complete but still preliminary case studies. These can be found in Annex A to this report.

Based on work to date there appear to be a variety of possible types of activities which could profitably be pursued by CJEDP. These are contained in the context of actual case studies and briefly summarized below.

There appears to be considerable opportunity for further developing the shrimp export industry in Central Java. Frozen shrimp are the province's main export, but constraints in the aquaculture production system limit the tremendous potential for increasing sales. These constraints are complex but result primarily from problems in the hatchery system and underinvestment by the public and private sectors in pond improvement.

Among other possibilities, the application of an agro-processing model based on a greater private sector role in system coordination would likely yield substantial gains for shrimp farmers and exporters. This would also encourage improved system performance by stimulating desirable forms of competition between alternative product distribution channels.

The clay roof tile industry is an example of an industry operating in conditions of some uncertainty regarding the future course of demand. Rapid entry into the industry, improvements in production technology, the increasing importance of alternative roofing materials and the growing significance of interprovincial competition have each contributed to the uncertain prospects for this industry. Before determining the need for intervention into this industry it is recommended that CJEDP conduct a thorough study of the demand for roof tiles. This would not only help in assessing the need for CJEDP assistance but would also provide important input for those other agencies currently involved in promoting the growth of the industry.

The metal and engineering sectors have an important role to play in laying the foundation for rapid industrial sector growth. This industry's rate of development and ability to lead industrial growth is less than it should be. The system is progressing but at a rate which is insufficient to support

development in the rest of the economy. CJEDP research suggests that the subsidy currently provided for product development is not adequately oriented towards the requirements of the private industrial sector. This bias is one factor which tends to retard the development of these industries. CJEDP can play a number of important roles which would contribute to the more satisfactory improvement of the metal industries.

A preliminary look at three other industries also suggests potential areas of focus. These will be further refined in Phase II of the project design process. There are several other conclusions which can be drawn from more general cross-industry findings.

- There is a surprisingly strong interest in a project such as CJEDP which could serve as a central clearinghouse for information and assistance to businessmen. Many entrepreneurs expressed the view that there is no institution in the province which approaches problems from a "business" perspective. This is regarded as an important deficiency.
- Among medium and large-scale firms there was clear indication that services could be provided on a fee basis if they were related to benefits which can be realized by private firms. It would be necessary, however, to demonstrate efficacy before such a market for services would actually materialize.
- The organization must be able to respond quickly to particular "firefighting" type concerns but must, at the same time, possess the capability to design, coordinate and implement longer-term, systematic interventions.
- Both types of interventions must evolve from a previously established understanding of the industries which are to be assisted. This suggests a gradual project development that slowly broadens its ability to deal effectively in different industries. It would be a mistake to pursue activities in portions of the economy that were not well understood by the project.
- Often the types of expertise required to handle certain issues are highly specialized. This suggests that the project would want to be able to rely heavily on short-term contract employees who are hired to deal with particular problems.

CHAPTER II

GOVERNMENT POLICY WHICH AFFECTS THE BUSINESS CLIMATE IN CENTRAL JAVA

The policies of the Government of Indonesia which affect the private sector have changed over time as differing priorities have been assigned to goals of equity, financial stability, and economic growth. For the design of the Central Java Enterprise Development Project, it is necessary to understand how current policies affect the business climate in the province, and to propose ways in which the project can: A) assist entrepreneurs to better function within the existing policy environment, and B) assist policy makers and administrators to know the actual impact of specific policies which may work against the achievement employment and growth objectives in Central Java.

It is not the intent of the design team to assess or judge the correctness of government policy. It is rather to assess the impact of such policy on the conduct of private business. The following pages briefly consider policy as it relates to: A) credit and finance, B) industrial licensing, taxation and investment incentives, C) weak economic group and cooperative promotion, and D) informal administrative costs.

CREDIT AND FINANCE POLICY

Bank Indonesia (the Central Bank) stands at the apex of the national financial system supported by five state banks. Together, they account for 80 percent of the gross assets of the formal financial system. There are also 75 private and foreign commercial banks, 26 regional development banks and the Development Bank of Indonesia (BAPINDO) which account for the remaining 20 percent of total assets. A variety of non-bank financial institutions and sub-banks, such as the highly successful Badan Kredit Kecamatan (BKK) program operating in Central Java, are outside the formal banking structure, and hold only a small portion of total financial reserves. Table II-1 presents the inventory of the formal banking system represented in Central Java.

The credit and finance system of the economy is closely regulated by Bank Indonesia and used as an instrument of government policy, which includes the transfer government revenues through subsidized credit to selected sectors of the economy. There are overall lending ceilings on each bank and subsidized interest rates (through means of low cost rediscount facilities) for special lending programs directed at target

Table II-1

The Banking System in Central Java
(Number of Branches and Sub-Branches)

State Bank Branches	794
National Private Banks	35
Regional Development Bank (BPD)	23
National Development Bank (BAPINDO)	1
Total	<u>853</u>

Source: Bank Indonesia Data.

groups in agriculture, exporting, trading, mining and manufacturing. The many lending programs are differentiated by sector, scale of investment, location, ownership structure and type of financial institution. Bank Rakyat Indonesia (BRI), the state bank chartered to provide agricultural production credits, has 704 branches in Central Java under the Bank Unit Desa program, and offers 262 different credit programs, each with its own criteria and administrative procedures.

Many small and medium-scale Indonesian entrepreneurs have benefited from special credit arrangements such as the KIK/KMKP program which provides both fixed and working capital loans to small-scale entrepreneurs. The aspiring businessman in Central Java can theoretically choose from among multiple programs which make up a credit "ladder" beginning with very small rural lending and extending to large scale loans through the state banks. The eight major subsidized credit programs in the industrial sector, and their limits, purpose, interest rates and terms are presented in Table II-2.

Access to Investment and Working Capital Credit in Central Java

While the policy of extending credit at subsidized rates to targetted sectors and scales of economic activity satisfies one aspect of government policy, it does not necessarily allocate capital resources to the most potentially productive investments in Central Java. In addition, although the total resources of the financial system are considerable, only a very small percentage is available for medium and long term capital investment.

According to preliminary Bank Indonesia data, total credit outstanding in Central Java increased by 28.5 percent to a level of Rp 762.9 billion (USD 1.1 billion) at the end of 1982, as compared to one year earlier, as detailed in Table II-3.

Table II-2

Non-Agricultural Credit Ladder

Program	Loan Limits (Rps 000)	Purpose	Interest	Term
Kredit Candak Kulak	Rp 3-15 (\$4-21)	trading	1% per month + 4% forced savings	3 month maximum
Badan Kredit Kecamatan	Rp 5-200 (\$7-286)	trading & production	3.5% per month + forced savings	variable 3-month common
Kredit Mini	Rp 10-200 (\$14-286)	W.C. F.C.	12% per annum 12% per annum	1 year 3 years
Kredit Midi	Rp 200-500 (\$286-714)	W.C. F.C.	12% per annum 10.5% per annum	1 year 3 years
KIK	Rp 1,000- 15,000* (\$1,429-21,429)	F.C.	10.5% per annum	10 years 4 years grace
KMKP	Rp 1,000- 15,000* (\$1,429-21,429)	W.C.	12% per annum	3 years
Kredit Kelayakan	Rp 1,000- 75,000* (\$1,429-107,143)	same as KIK/KMKP/KIB with easier collateral requirements		
Kredit Investasi Biasa	no established limits	F.C.	10.5 to 13.5% per annum	10-15 years, 3 years grace

W.C. = Working Capital

F.C. = Fixed Capital

* = lower limits not specified in lending conditions, estimates
for comparative purposes only.

Source: Bank Indonesia data compiled by CJEDP design team.

Table II-3

Bank Credit in Central Java According to
Type of Credit - December 31, 1982

	(Rp 700 = USD 1.00)		
	Rp Billions	\$ Millions	Percent
Working Capital			
KMKP	108.9	155.5	14.3
Managed Credit*	14.4	20.6	1.9
Kredit Midi	2.4	3.4	.3
Kredit Ekspor	37.5	53.6	4.9
Bimas/Inmas**	15.1	21.6	2.0
Other Program Lending***	18.6	26.6	2.4
Non-Program Lending	366.9	524.1	48.1
	-----	-----	-----
Subtotal	563.8	805.7	73.9
Fixed Capital (Investment)			
KIK	36.2	51.7	4.8
Managed Credit*	7.8	11.1	1.0
Kredit Midi	.3	.4	-
Kredit Investasi Biasa	22.2	31.7	2.9
Project Assistance***	30.7	43.9	4.0
Other Program Lending***	5.8	8.3	.8
Non-Program Lending	76.9	109.9	10.1
	-----	-----	-----
Subtotal	179.9	257.0	23.6
Construction	18.6	26.6	2.4
Other (not detailed)	.6	.9	.1
	-----	-----	-----
Totals	762.9	1090.2	100.0

Notes: * includes Kredit Mini, Kredit Candak Kulak, and Badan Kredit Kecamatan (BKK) program lending.

** agricultural production credit.

*** primarily supports government projects.

Source: Bank Indonesia, Semarang.

Within the government-subsidized programs, working capital credits accounted for a far higher portion, (73.9 percent) of the total than fixed capital, or investment, loans (23.6 percent). Working capital program credits directed at private-sector borrowers accounted for 21.4 percent of total lending while fixed capital loans to the private sector under these programs made up only 8.7 percent of the total.

The same data indicate that 34.3 percent of total credit was supplied to trade and service enterprises while manufacturing received 33.9 percent and agriculture 19.1 percent.

Approximately 58.2 percent of total credit (Rp 443.8 billion or \$634 million) was provided as "general" credit outside the subsidized lending programs. The bulk of this general credit (82.7 percent) was for working capital. These are primarily short-term (3 months) high interest (24-36 percent per annum) credits used by large trading concerns to finance their inventories. This keeps the wheels of enterprise churning, but does not provide resources for expansion of existing, or construction of new, productive facilities.

That there is surplus demand for investment and working capital credit among very small scale entrepreneurs is clear, as documented in a recent evaluation of the BKK program which charges effective interest rates approaching 80 percent. Market rates for unsubsidized short-term manufacturing credit are often quoted at approximately 35 percent in Indonesia. When credit under special government programs is available at 12 percent, demand will exceed supply and a rationing system must be applied to screen applicants and select those to be awarded access to the restricted loan funds. In these circumstances the investments in productive enterprise which will bring the most growth and employment benefits to Central Java may not be the ones selected to receive loan funds.

When there is excess demand for loan funds, banks traditionally place their money in short-term, low-risk projects. They favor trade and working capital (secured by commodities in production or already produced) over investments in new plant and equipment. Equity and collateral requirements are set at high levels to help insure that loans can be repaid. Many indigenous Indonesian entrepreneurs, who were intended to benefit from the special subsidized lending programs, are unable to meet the strict requirements. In response to these problems, Bank Indonesia recently established a new program, Kredit Kalayakan, which reduces equity and collateral requirements to otherwise qualified borrowers. Loans drawn under this special program, which in all other aspects follows the requirements of the KIK/KMKP programs, totalled approximately .5 percent of all investment and working capital lending for enterprise development in Central Java in 1982.

Potential medium and larger-scale manufacturing investors face different problems of restricted access to credit. Bank Indonesia has assisted in the formation of the Development Bank of Indonesia (BAPINDO), which has been further capitalized by World Bank and Asian Development Bank credits. There is a BAPINDO office in Semarang which currently has outstanding Rp. 20 billion (\$28.5 million) outstanding in loans, within a credit ceiling of Rp. 35 billion (\$50 million). Lending has been provided to enterprises in steel bar manufacturing, textiles, food processing, pharmaceuticals, and hotels. Although BAPINDO regulations permit its equity participation in new enterprises, this has occurred in only one instance in Central Java.

Loans from the non-bank financial institutions established to provide investment credits (IDFC, PDFCI, and P.T. Bahana), are insignificant in the province because of the distance to their offices in Jakarta, the national-scope of their lending portfolios, and the special restrictions placed on their loans. For example, P.T. Bahana requires that a bank officer sit on the board of directors of each firm in which it makes an equity investment, a practice not favored by investors who run family businesses.

Besides the development finance institutions, there are larger loans for manufacturing and industry available under special government programs, such as Kredit Investasi Biasa (KIB). These loans can be very large, and Bank Indonesia has instituted a liberal credit ceiling policy so that qualified KIB loans will be accepted, even if they exceed an institution's lending limit.

The problems with acquiring these loans, as with BAPINDO credit, is the absence of well-prepared and economically-sound projects presented for financing. For all loans over Rp 100 million (\$143,000), a feasibility study must accompany the loan application. Such studies regularly cost five to 10 percent of the value of the loan, and fees must be paid up front to consulting firms which specialize in such studies. Many of these reports are criticized for their quality and the absence of empirical data and analysis. In particular, demand projections are notoriously weak for the domestic market.

Thus, potential entrepreneurs seeking investment credit in Central Java--the very small, medium and large--suffer from dissimilar problems but with the same result. There is restricted access to investment credit. The smallest rural traders and producers will pay very high rates for ready credit, but many still cannot find loan funds.

In the medium range, subsidized government programs bring with them an allocation system which is not likely to bring the highest growth and employment benefits to Central Java. Many potential entrepreneurs are unable to secure subsidized credit from special government programs. For medium and large loans, the requirements for feasibility studies and paperwork to

document the soundness of the investment decision limits the ability to draw available money from BAPINDO or special programs offered by the state banks. The summation of all three circumstances leads to the limited draw-down on investment financing from within a system in which total lending is relatively large.

INDUSTRIAL LICENSING, TAXATION AND INVESTMENT INCENTIVES

A large body of literature has grown up on the subject of industrial licensing, taxation and investment incentives in Indonesia. Much of this literature has been generated by the foreign donor community, led by the World Bank, which argues that the administrative apparatus of the government is unable to administer the policies as set forth. The operation of the systems as applied in Central Java is described below.

Industrial Licensing

There are two channels for obtaining an industrial license. The first and most beneficial to the investors, is through the Investment Coordinating Board (BKPM) located in Jakarta, with offices in many provincial capitals, including Semarang. All enterprises with any amount of foreign ownership must use this licensing channel, and any Indonesian investor may use this avenue to seek special tax, import, and other investment incentives related to the establishment or expansion of certain "promoted" industries.

BKPM publishes priority lists of promoted investments, the latest version being for the years 1982/1983, including editions for foreign (PMA) and domestic (PMDN) investors. The DSP (Daftar Skala Prioritas) includes 88 pages of industrial activities and product lines in the local investment edition, showing what is promoted, the level of incentive and special tax provisions offered, and the preferred location for such investments. Java is often restricted while the outer islands are acceptable for the same types of investment.

For a potential investor in Central Java, the first stop is the local BKPM office, where clarification and assistance is provided on the procedures and special provisions of the BKPM investment process. The approvals, review, negotiations and agreement, all necessary to move the licensing process forward, are accomplished in Jakarta. The actual BKPM requirements are well specified and call for a reiterative series of submission, reviews, additional data as requested, and preliminary and final approvals. After recent changes in procedures, BKPM now handles the majority of all licensing requirements, a "one-stop" center for those seeking to create new industrial capacity for Indonesia.

The BKPM process takes time. Official estimates of the average time between each step have not proven useful for the license applicant, since each case must be considered on its own merits, and every situation presents a special case. We were unable to obtain data on the average length of process time from beginning to approval, for Central Java. Foreign donors suggest a range of from six to 24 months as an appropriate estimate.

BKPM approved 39 new investments or expansions of production facilities in Central Java in 1982. Of the 39, 26 were new facilities approved for Indonesian investors, one was a foreign investment approval. Two approvals were for large government investments in electrification and estate production. Eight of the enterprises selected for special concessions were in the textile industry with a total estimated investment value of \$26 million, and new employment opportunities for more than 4,000 workers. Sixteen of the approvals were in various industries, the largest being a \$46 million dollar oil-based polypropylene plant, the smallest a \$230,000 fruit processing facility. This miscellaneous grouping of approved investments totalled \$61 million dollars.

The second licensing process is defined by a 1934 regulation abbreviated BRO, a Dutch acronym. It specifies the requirements for industrial approvals by Indonesian owners who do not seek special investment incentives. These licenses (which also apply to promoted investments but are obtained by BKPM) are operating permits (izin usaha) from the Departments of Trade and Industry, obtained after filing Articles of Association with the Department of Justice office in Semarang. This process also registers the company with the tax office.

The basic operating licenses are granted by provincial authorities in Central Java without major time delays if the papers are in order. The design team found little complaint among local businessmen over this licensing procedure. But the process is far from over at this point. After the operating licenses are acquired, the following special licenses might be needed: a building permit; an import license (for raw materials and machinery required for overseas); a health certification for the output of the plant; an environmental license to include sanitation, health, noise pollution, air pollution, public nuisance protection; a generator license if the power grid is not used; and an export license for those products which are to be sold abroad.

In addition, it is necessary to submit labor requirements to the Department of Manpower, and to follow the regulations of that department concerning worker safety, particularly when the plant is mechanized. Buying land is not possible until such time as the Department of Justice formally accepts the company registration, but land rental is an oft-taken alternative.

The licensing system in operation presents constraints to efficient and speedy entry into new investment in industry in

Central Java. The BKPM process carries with it major tax incentives, but the time needed to satisfy the requirements and process the paperwork must be set against the gains to be obtained. While there are complaints, the BRO mechanism appears to work relatively rapidly. For smaller domestic investments which do not include foreign ownership, and for which imports are not required, the speediness of the BRO licensing procedure is often chosen over the BKPM licensing process. This is because the tax incentives as the system functions (as distinct from the legal description) for smaller companies, are not as attractive as they might appear to large investors. The administrative costs attendant with speeding the licensing process are discussed below.

Taxes and Investment Incentives

The company income tax and the sales tax affect the business community. In each instance, the amount of the tax and the base upon which it should be calculated are well established. For high-visibility foreign investments, the progressive corporate tax is reason enough to apply for BKPM approval (even if there were an alternative, which there is not). Investment incentives can include a maximum tax holiday of six years, investment allowances, the right to carry-forward losses, accelerated depreciation, exemption from dividend tax, no investigation of the sources of local capital, and exemption from the capital stamp duty. This is in addition to duty free importation of approved raw materials and machinery.

In Central Java, small and medium scale enterprises often slip through the net of the formal company tax system, and thus the incentives provided by the BKPM process are not as attractive as they are to larger, more visible businesses. For both larger and smaller enterprises, the tax system in operation presents an economic cost which must be entered into the calculus of investment opportunity and rate of return. It is not a major impediment to enterprise development in Central Java at this time.

Potentially more damaging to businesses which might generate significant employment benefits, is the operation of the sales tax. This tax is levied on the total value of merchandise at the time of sale, and is "cascading", with each processor paying the tax on the full value of goods sold as they pass to the next stage of manufacturing. Such a tax benefits the vertically-integrated, large-scale enterprises at the expense of those small businesses who subcontract, or complete only one stage of a multi-stage production process. Although there are vocal complaints from the business community, the sales tax is neither levied nor enforced in such a manner as to constrain business development in Central Java at this time.

WEAK ECONOMIC GROUPS AND COOPERATIVE PROMOTION

The policy of the government of Indonesia is to provide incentives for the promotion of indigenous (Pribumi) Indonesians, called the weak economic group, in business development. All government credit programs under Bank Indonesia are restricted to pribumi applicants, BAPINDO credits require 50 percent pribumi ownership, P.T. Bahana lends to pribumi owners as a matter of practice if not policy. Many of the BKPM incentives are available only if there is a defined percentage of pribumi equity ownership.

Investigations in Central Java suggest that access to investment capital by non-pribumi businessmen may be a constraint to enterprise development and growth. The issue is not preferred treatment but the lack of capital at reasonable market rates for high-potential investments in Central Java, a problem which affects most that group not able to compete for special government programs. However, there are numerous pribumi businessmen who also cannot acquire investment capital, as the establishment of the Kredit Kelayakan program evidenced. Viewed in this light, the problem is one of increasing access to a scarce resource. As more investment credit is made available, within the policy and priorities set by the government, and matched to business opportunities, all entrepreneurs will benefit.

Besides the provision of credit on preferential terms, the government also has established several other mechanisms for assisting the development of enterprises owned by members of the weak economic group. These include preference in government procurement, the provision of a range of technical assistance and training programs and the restriction of production of a wide range of consumer goods to small-scale firms.

Government policy also promotes the use of cooperatives in rural enterprise development. In the shrimp industry, there is a reported movement to require all producers to sell their output to a marketing cooperative. The purpose would be to eliminate the middlemen/brokers, who are often denigrated in official Indonesian discussions as exploitative of small producers.

One solution which has been successful elsewhere is to support cooperative services but allow the private sector, working outside the cooperatives, to compete for the shrimp supplies. Some healthy competition is likely to improve the services of both, with attendant benefits to the small tambak farmers. The project under implementation should conduct research on instances in which restrictive cooperative promotion will prevent the operation of alternative private sector opportunities. In this way, the result of policy will be tied to the intent of policy. Benefits to small producers or farmers will be empirically documented to the appropriate policy makers within Central Java.

INFORMAL ADMINISTRATIVE COSTS

One factor which permeates the relationships between the private sector and the government is the prevalence of informal administrative costs--the special charges which foreign investors refer to as the "cost of doing business in Indonesia", and Indonesian businessmen refer to as "saling pengertian" (mutual understanding).

In a western society, small payments to speed the administrative process are the exception, rather than the norm. In Indonesia, these payments are often important in insuring that paperwork is delivered, letters typed, approvals granted and other bureaucratic processes carried out in a timely fashion. In a system inherited from the Dutch, the government, at the national level, issues very general policy directives. These are then clarified and interpreted in a large number of departments and offices, giving officials not intended to be policy decisionmakers significant discretionary latitude over when and where to process forms and approvals. This process makes the development of a system of informal payments highly likely, if not inevitable in any bureaucracy.

The Indonesian government has made significant strides towards bringing this long-standing system under control--the one-stop licensing procedure of BKPM is an important example. In Central Java, the licensing and taxation procedure does not hinder household or cottage industry, or most small scale producers, in either its formal or informal mechanisms. Medium and larger scale, more visible enterprises, will often face the requirement to deal with the informal system to satisfy such requirements, however. The CJEDP should attempt to understand, and take the uncertainty from the operation of this informal system without passing judgment on its propriety.

Informal administrative costs are the difference between the system as created on paper, and the system in operation. In those cases where this process hinders employment-generating enterprise development, policy makers should be provided with documentation which will allow intervention as appropriate to reduce this factor as a constraint to the development of private enterprise.

CHAPTER III

ENTERPRISE DEVELOPMENT SERVICES

A complex array of services is available to support private sector enterprise development in Central Java. These services are provided by a large number of public and private sector organizations operating independent programs. The result has been service duplication and inefficient use of resources, as well as confusion among the potential beneficiaries of these programs.

In fairness to these programs and the individuals who are working to carry them out it should be noted that enterprise development efforts are relatively new in Central Java and many of the people being asked to implement them have little previous experience. The comments which follow in this chapter are not intended only to criticize the existing program efforts, but also to identify areas in which a CJEDP contribution can help to overcome some of the current weaknesses and strengthen the overall enterprise development effort. It is not possible to design a program to overcome problems or strengthen any "system" until the problem is understood. The purpose of this chapter is to provide that understanding with regard to current enterprise development services.

Existing enterprise development services may be categorized under four headings: technical assistance, training, marketing and credit. The most important service providers include the Departments of Industries, Trade, Cooperatives and Labor, a number of universities and technical institutes, banks and several Private Voluntary Organizations (PVOs). A large amount of research has been done on this subject and several of the CJEDP Working Papers might be useful to the reader with a special interest in a particular aspect of enterprise development assistance, including:

- No. 3 Description and Organizational Analysis of Public Sector Industrial Assistance Programs in Central Java, Nancy M. Straughan, Development Alternatives, Inc.
- No. 5 Pendataan Pengembangan Usaha Lewat Latihan Teknologi (Information About Business Development Through Technical Training), Faculty of Agricultural Technology, Gajah Mada University.
- No. 6 A Survey of Software Training and Education for Entrepreneurs, Yayasan Purba Danartha.

TECHNICAL ASSISTANCE

The primary source of technical assistance to small-scale enterprises is the Department of Industries (Dinas Perindustrian) through its BIPIK (Bimbingan dan Pengembangan Industri Kecil) program which began in FY 1974/75 and is operational throughout Central Java. Technical assistance is also provided by various technical institutes and several private voluntary organizations (PVOs).

The BIPIK program is focused on small and household enterprises. It concentrates on increasing the productive efficiency of these firms by assisting them to obtain improved equipment and raw materials. The program is implemented in the field by a network of extension workers (TPLs) in each kabupaten.

BIPIK services are organized around a number of industry service centers in the province: textiles in Pekajangan (Kabupaten Pekalongan) and Klaten, woodcarving in Jepara, and salt in Rembang. Training is provided to producers in the use of techniques applicable to their industry. The centers supply special tools or equipment which small entrepreneurs might not otherwise have access to, and training courses are conducted in their use. When training courses are not being conducted, the equipment is available for the use of entrepreneurs in their own businesses. Service centers have also been established at each of the small industry estates (Lingkungan Industri Kecil) in Semarang, Tegal and Cilacap which offer the same basic technical services to their clients and other entrepreneurs in the area.

The service centers are also feeder points for raw materials which Dinas Perindustrian obtains on behalf of the producers, and as locations for management training and other assistance. Those who receive raw materials provided by Dinas Perindustrian repay over a period of one to two months. In most cases an interest charge of 3 percent is added to the cost of the goods.

The TPLs coordinate the provision of equipment and raw materials to producer groups who are not located near the industry service centers or LIK estates. Equipment is provided to the users on a usufruct basis with the intent that it be shared by members of an informal producers' association or cooperative. TPLs train recipients in the use of the equipment and later monitor equipment use and maintenance.

A number of problems in this system are enumerated below and discussed in more detail in Working Paper No. 3:

- lack of appropriate training and experience on the part of BIPIK extension personnel (TPLs), and thus their lack of credibility with small-scale entrepreneurs;
- lack of commitment on the part of the TPLs as a result of their being hired on two-year contracts without a clear career path;
- equipment provided to producers is often inappropriate to their needs, and the equipment provided in the service centers is often not used by local entrepreneurs except during training courses;
- equipment which is intended for use by a group of producers frequently ends up being used only by the one or two most prosperous members of the group;
- raw materials which are provided by BIPIK are often of the wrong type and amount and are not delivered at the most appropriate time to assist the producers to respond to market changes;
- budget limitations frequently prevent the implementation of technical assistance projects according to plan and necessitate short cuts which limit the effectiveness and impact of the program.

BIPIK is also responsible for coordinating the Bapak Angkat (foster father) program which links small producers with larger enterprises to encourage the development of subcontracting and supply relationships. Although this program has one or two success stories in the province, it has not brought the positive results that were intended. In one well-documented successful linkage the "parent" company sees that its long term interest is best served by developing a strong network of subcontractors to provide components for its large scale assembly operation, thus reducing its dependence on foreign supplies. This company considers the development of competent and reliable subcontractors to be a very important part of its business. In other cases, the "bapak" company does not feel this self-interest so directly, and the program is correspondingly less successful.

Another major, although underutilized, source of technical assistance is the network of industry-specific technical institutes which have been established at various locations in Indonesia. These include the Institute of Technology (ITB), the MIDC (Metal Industries Development Center) and the Ceramics Institute all in Bandung, the Leather and Plastics Institute in Yogyakarta and the Brackish Water Aquaculture Institute in Jepara. While these institutes are not of uniform quality they are capable of providing valuable technical advice to small and large scale producers.

Although often criticized by businessmen for being excessively academic and research oriented, the institutes' direct assistance to private enterprises is even more limited by their budgets which are not sufficient to allow development of an effective outreach program. At least two of these institutes have been very effective in working with private entrepreneurs when outside resources have made this possible.

The Ceramics Institute worked directly with traditional roof-tile makers in Kebumen to introduce improved technology and increase their productivity, in part using an improved tile press developed by the Institute. (See Annex A, Case II.) Specialists assisted producers for a full year to teach them how to use the new technology. This was supported by the World Bank assisted Bank Indonesia small enterprise project in Semarang, which funded the technical assistance and made KIK/KMPK loans available to entrepreneurs for purchase of the presses. The MIDC also has a good record in working with small and medium-scale metal workers when some outside source provides funding for such assistance.

The problem with all of the Institutes and Centers is accessibility and interaction with the private sector. First, the problems of local producers must be correctly analyzed to determine where the solutions should be sought, and then resources must be available to pay for the required services either from the entrepreneur himself, in the case of medium and large-scale enterprises, or from some other source, in the case of small-scale and household enterprises.

Another source of technical assistance, especially for small-scale producers and producer associations, is the group of specialized Private Voluntary Organizations (PVOs). These include LP3ES, ATMI, Pekerti, PIKA, Yayasan Dian Desa and others. Most PVOs are limited in what they can accomplish by their budget and human resource constraints. They do, however, offer an effective and low-cost means of working with groups of small-scale producers and, in some cases, offer special expertise in technology development and applications or training which might be used to benefit the entire province.

There are also many private companies and individuals who have a special expertise in production technologies or other business aspects. The assistance such companies and individuals can offer is limited by the amount of time they have available and the resources which can be used to provide compensation. When properly approached, however, many would likely make substantial contributions without payment.

TRAINING

Quantitatively the role of government is extremely important in the provision of training programs for enterprise development in Central Java. The primary government sponsors of such training are the Departments of Industry (BIPIK), Education and

Culture, Trade, Cooperatives and Labor. Training is largely financed, controlled and administered by Central Government officials but implemented by provincial and local governments. About 15 percent of all training programs in the province are provided by private foundations. In these cases there is generally more local direction and control.

Available training courses cover a wide variety of subjects including management, entrepreneurship, motivation, exporting, production technologies and marketing. The duration of individual courses ranges from two days to six months with an average of about two weeks. Average training course size runs from twenty to fifty participants. Training participants are usually reimbursed for transportation and room and board charges and receive "pocket money" ranging from Rp 1500 to 12,000 (\$ 2.00 to 18.00) per day. Two months of training may provide an extra income more than equal to a full year's formal salary for some participants in government-sponsored training programs.

Although some of the agencies which offer regular training programs maintain a full time training staff, most training instructors are hired temporarily from outside the sponsoring agency: from other government agencies, universities, private businesses and PVOs. This arrangement provides attractive income supplements to the temporary instructors while being relatively efficient for the training agencies.

Among the more important providers of training in Central Java are the following agencies:

- BIPIK, which provides a variety of training programs including the introductory nine-week training course for new TPLs and various technical and managerial training activities organized around the industry service centers;
- BLKI (Balai Latihan Kerja Industri), an agency of the Department of Labor which focuses on technical training in fields such as mechanics, electronics, woodworking and construction, with well-equipped facilities in Semarang, Surakarta and Yogyakarta;
- BLPT (Balai Latihan Pendidikan Teknik), focuses on technical training and the provision of equipment to graduates of the junior technical schools who could not otherwise use the skills they have been taught;
- BALATKOP (Balai Latihan Koperasi), regularly uses 25 different training modules focused on various management issues to help strengthen existing cooperatives and stimulate the growth of enterprises under the cooperative umbrella;

- Manpower Service, established in 1980 on the direction of the Governor of Central Java to assist in overcoming problems of the large unskilled and unemployed labor force by providing technical training and assisting in job placement;
- Yayasan Purba Danartha, a Semarang-based PVO which provides a range of practically oriented training programs and other services to small scale Central Java entrepreneurs.

In addition to those listed above, another forty-three agencies have been identified which offer some type of training related to enterprise development. (See Working Papers 5 and 6.) Approximately 11,000 persons have completed enterprise-related training programs in Central Java to date. Current training capacity is about 3,000 graduates per year.

The following problems in enterprise-related training programs have been reported:

- Many agencies are involved in various training programs. The lack of any effective coordinating mechanism leads to duplication and inefficient application of limited resources.
- There is minimal effective monitoring of existing training programs and almost no follow-up with trainees to help in improving training effectiveness and impact.
- Participant selection for training programs is rarely based on objective criteria. Most trainees are appointed by local officials for reasons having little to do with the qualifications of the trainee or the potential utility of the training.
- There are few well qualified and effective trainers. Those who do exist are quickly overcommitted and thus lose a part of their effectiveness.
- Post-training follow-up is uncommon. Only two percent of those former trainees interviewed reported receiving any kind of post-training assistance. (See Working Paper No. 6.)

MARKETING

There are three primary sources of marketing assistance in Central Java, most related to small scale producers. These include the Department of Industry through the BIPIK program, the Department of Trade and some PVOs.

Marketing services managed by BIPIK are usually attached to related technical services. The industry service centers in Klaten and Jepara have associated marketing centers and separate product promotion centers have been established in Semarang, Surakarta, and Pekalongan. Each of the small industry estates includes a showroom to display locally produced articles.

All the product promotion centers and showrooms publish brochures and leaflets advertising the types of products available in the area. They are also chartered to assist in the organization of trade fairs in the districts and promote local producer participation in such fairs.

The Provincial Trade Office is also involved in the marketing of products produced in Central Java by organizing trade fairs at kabupaten and provincial capitals to display local products.

Medium and larger-scale enterprises may benefit from market information provided by the trade service and from the "discussion workshops" it occasionally organizes. These discussions focus on current problems, consumer preferences and market outlets for various products.

The National Federation for Export Development (NAFED) operates a non-oil export promotion program under the auspices of the Trade Department at the provincial level. Its services include studies of potential markets, the organization of overseas trade exhibitions, the provision of assistance to Indonesian participants in such exhibitions, and information services designed to stimulate exports.

Various Private Voluntary Organizations also offer marketing assistance to their client enterprises, often as a part of a broader package of services. Yayasan Bina Swadaya, for example, emphasizes capital accumulation for its target group through the formation of credit unions and the provision of working capital loans or co-financing for new enterprises. Marketing and management services are linked to the financial services. Pekerti operates a similar program but with a focus on the development of handicrafts, while Yayasan Dian Desa's program emphasizes technology development and moves to marketing activities from that base.

Problems and limitations of the programs related to the marketing of goods produced in Central Java include:

- All of the programs analyzed are producer rather than market oriented. They focus on the marketing of goods already produced in Central Java rather than on assisting local enterprises to produce goods that can find attractive markets either in Indonesia or overseas.

- There is very little coordination among the government programs related to marketing and virtually none between the government programs and those of the PVO community.
- There is an absence of market research activities such as the analysis of consumer demand patterns or the projection of market trends for specific commodities into the future, and a lack of personnel who are qualified to carry out such research effectively.
- There are no programs specifically designed to put buyers in direct contact with sellers of particular commodities, with the exception of the Bapak Angkat linkage described earlier.

CREDIT

Credit services to private enterprise activities are provided primarily by the various commercial banks operating in the province. There are also a few credit programs such as the Badan Kredit Kecamatan (BKK) and Kredit Candak Kulak (KCK) which operate outside the normal banking system and attempt to reach the very small scale entrepreneurs near their place of business. A previous section of this paper (Chapter II) analyzes government credit policy as it affects the business climate and supports enterprise development programs in Central Java.

OTHER FOREIGN DONOR PROGRAMS

External donor assisted projects currently under way in Central Java aimed at various aspects of enterprise development in the province include the following:

- The World Bank supported small enterprise development project is active in Central Java through the Regional Project Management Unit (RPMU) in the Bank Indonesia branch in Semarang. The project is primarily concerned with expanding the facilities available to small-scale enterprises through the KIK (Small Investment Credit) and KMKP (Small Working Capital Credit) programs which are handled by the state and private commercial banks. The RPMU is also using World Bank funds in a few selected pilot efforts to link producer associations with appropriate sources of technical assistance such as between the Ceramics Institute and the roof-tile producers in Kebumen mentioned earlier.

- The Australian Government through Bank Indonesia is supporting the effort of an expatriate researcher to work with Diponegoro University in Semarang on the preparation of a baseline survey of industrial activity in Central Java. Once completed, this survey should be useful to others who are promoting enterprise activity and production in the province. It will represent a relatively comprehensive and consistent data source, two qualities often missing in the provincial level data which are currently available.
- UNIDO has placed one industrial engineer with the Department of Industries at the provincial level for one year to work at the small industrial estate (LIK) in Semarang. He is to look for ways to improve traditional small-scale production technologies. This engineer is part of the larger, nation-wide UNIDO project which is being coordinated by the Directorate General of Small Scale Industries.
- Both the Dutch and British governments are currently providing assistance to the BALATKOP (training center) of the Provincial Cooperative Department. The British advisors are working primarily on management training programs for cooperative (KUD) staff while the Dutch team is concentrating on the provision of technical assistance and training to the fisheries cooperatives in the province.
- There are two other USAID-sponsored projects in the province which relate to enterprise development. They are the Provincial Area Development Project (PDP), which is concentrated in the Northeastern part of the province, and the Citanduy Watershed Development Project, which is located primarily in West Java but also includes a small part of Southwestern Central Java. Both projects contain elements which are directed at promoting small scale enterprise activities in their target areas. The Credit Project, still in the planning phase, and the Private Sector Development Project, soon to be implemented, will also relate to issues which concern the CJEDP.

CONCLUSIONS

There is a profusion of enterprise development programs in Central Java, most of which are sponsored by various government agencies and directed at small scale and household producers.

The government has correctly determined that these very small scale entrepreneurs can best be assisted when they are joined together in groups or producer associations. Government policy supports the stimulation of this smallest scale private sector. Projects and programs are planned, funds are allocated, and assistance efforts are undertaken on a broad front. Many of these efforts, undertaken by government agencies and private agencies alike, are not only well-intended and well-planned, but also show real potential to contribute to upgrading small scale production activities if certain constraints can be overcome.

One overarching problem is the limited scope and perspective of each effort. Single factor "solutions" to complex enterprise development problems abound. No single agency has a charter, or has seized the opportunity to develop a comprehensive attack on all constraints which impede enterprise development.

One contribution which the CJEDP can make will be a comprehensive and in-depth analysis of selected industrial subsectors. Such research will help to narrow and focus the huge task of helping all small producers, to helping those engaged in one defined production effort. The enterprise development services which impact on a particular product line will be examined within the context of suppliers, producers, finishers, distributors and marketers as well as the government, PVO or private sector service providers.

With an overview of the industrial subsectors provided by the research and analysis carried out by CJEDP staff, it will be possible for the project to assist in refining and strengthening individual assistance efforts, provide complementary services to those already available and offer some guidance in the coordination of the overall effort to insure that small-scale and household entrepreneurs receive a full range of needed services effectively.

CHAPTER IV

RATIONALE FOR THE PROJECT

This chapter links the enterprise development environment, as presented in the prior three chapters, with the proposed project description, which follows. It is divided into four sections: A) project objectives, B) means of reaching the objectives, C) rationale for selecting project services, and D) criteria for selecting project activities.

PROJECT OBJECTIVES

The goal of this project is to increase productive employment in Central Java. Productive employment, in this context, has the following dimensions:

- direct employment, as measured by the wage bill of the firms or groups of associated producers involved;
- indirect employment, as measured by the wage bill of those suppliers, or retailers, or down-stream producers who are affected by an expansion in output, or the generation of new productive capacity;
- linkages backward into the more basic production units of the province, which may often be agriculturally-based, and forward into the sectors which package, ship, market, and service the increased output of the primary investment.

The first two benefits are likely to be quantifiable, the third is an aspect of economic growth which is often captured by the use of a multiplier.

Productive employment generated by the project must be weighed against any displacement effects of the increased productive capacity. Because of the importance of traditional producer units in a number of industries, the relatively "newness" of modern industrial development in Indonesia, and because of past government policy actions to protect small producers from competition with new, more efficient, technology, any project designed to increase employment in Central Java must be wary of labor displacement. The cost of employment lost must be included in any equation which calculates positive employment benefits.

Often in this paper, employment is joined with growth as a dual statement of what the project is attempting to accomplish. This recognizes that, over time, the dynamics of growth will demand more increasingly productive labor. Economic growth can be associated with various "employment contents". Since existing factor prices are not equal to shadow or optimum levels, when there are choices in technology reflected in capital-labor ratios, the positive employment goal provides a clear guideline to investment decisions.

It is possible to increase the employment content of growth through proper pricing and other incentives. While it is incorrect to select investment proposals on the basis of labor intensity alone, it is appropriate to bias selection based upon the return to capital by insuring that the capital-labor ratio matters. To elect to enter and prejudice the rules of investment decisionmaking, however, a broadly conceived definition of labor and employment must be used. A capital-intensive investment which displaces labor might be appropriate if it provides increased demand due to lower product prices, which draws forth more production and provides more employment in a second round. The multiplier concept of enterprise benefits should be calculated over the whole economic system in Central Java. It is the overall economic environment which is the target for this project, to encourage more and better employment from the energy, capital and management of the private sector.

The project may intervene to help generate positive employment in a limited number of instances and sectors over the course of the next five years. An equally powerful contribution to employment generation may be made by freeing the restraints to private sector initiatives which presently exist in the province. The government intervenes in the private sector to achieve specific goals. Some of the interventions do not support these goals, but are potentially counterproductive. It will be a sub-objective of the project to affect the environment, the climate in which business is conducted. The project will attempt to influence government policy and bureaucratic structure to facilitate the flow of investment capital, which in turn increases productive employment opportunities.

MEANS OF REACHING THE OBJECTIVES

This project has selected a special method of reaching the objectives of increased positive employment. Labor-intensive infrastructure construction under government work programs is not an alternative. Nor do programs designed to load the government with more civil servants represent an acceptable means of reaching the stated objectives. Rather, this project is designed as a test of the hypothesis that the private sector, when adequately supported, can be an effective engine for development and employment generation.

There are many paths to positive employment generation. One leads through government service organizations. This is particularly applicable to the household and small industry sector, whose 1.8 million workers are outside the reach of any individually-oriented private sector service net. These entrepreneurs must be aided in groups, as producer or marketing associations. As documented in Chapter III and several of the Working Papers, there are many government organizations chartered to help them be more efficient and productive. CJEDP will work to help the helpers, and attempt to increase the efficiency of subsidized government services provided to the household and small manufacturing sector. The project will also seek private sector solutions, by working directly with medium and large-scale firms, or through subcontracts with foundations or groups capable of selling services which are needed by enterprise in Central Java.

It is essential that CJEDP maintain sufficient flexibility in its program to respond effectively to varying needs of different client groups and service providers. Some enterprises will be directly assisted, some will be given assistance through other private sector service-sellers. Still others will be assisted by government service providers. CJEDP should be able to work with all groups, so long as the ultimate beneficiary is a private individual or enterprise. In this sense, the project will use capacity building and institutional development as a means of reaching primary objectives.

There is further an issue of the definition of private sector, particularly in the economy of Central Java. In this instance, wisdom suggests that entrepreneurial management rather than ownership be selected as the key ingredient. If the enterprise acts in the marketplace as a private entity with clearly defined requirements to deliver a positive return on the capital invested, particularly in a competitive situation, then that enterprise should be a candidate for CJEDP services. Such a criteria allows companies which have been capitalized by various government entities to compete for CJEDP assistance and funds, using the test for selection of project activities as proposed below.

RATIONALE FOR SELECTING PROJECT SERVICES

The preceding chapters set forth the environment in which enterprise development activities must take place. Distilling and regrouping the information presented, the following opportunities emerge for intervention into the existing system, which might have high payoff in the generation of increased employment opportunities in the province.

Labor-Intensive Manufacturing and Processing as the Priority Sectors

Productive employment opportunities are required for Central Java to be able to absorb the available work force at other than subsistence wages. While the trade and service sectors can accommodate large numbers of unskilled workers, such employment may be simply spreading the jobs across an increasing number of the underemployed, insuring that wages and returns to labor remain exceedingly low. Increasing the skill of workers who are provided with improved technology will increase the value added, and, over time, the wage bill. The second round of demand from the above-subsistence income of semi-skilled workers will bring forth new demand for labor-intensive services. Rather than starting at the bottom of the pyramid of labor skills, this project should focus on upgrading skills, improving productivity, increasing output. If this is achieved, the unemployed or underemployed can move into trade or service employment as the economy ratchets upward.

Agricultural processing, broadly defined to include animals, fish, essential oils, and animal feed, should be a second focus for project consideration. This is Central Java's greatest comparative advantage, along with hard-working and inexpensive labor. There is rich land with many workers for labor-intensive specialized agricultural tasks.

The CJEDP will examine the export potential--most clearly defined in the shrimp industry--and the import-substitution potential of the metal-working industry and direct its attention to subsectors where major employment gains can be made.

When manufacturing and agricultural processing are selected as the primary focus for achieving direct employment benefits, there are important implications for engineering and machine tool products. A drive to mechanization can be most effective if there is a local capacity to build and service the essential machinery required in Central Java. Surveys show this capacity to be well behind other provinces on Java, and threatened by imports and the high costs of raw materials. A deliberate intervention to build this capacity, to help Central Java obtain a high degree of capability and proficiency in the design, assembly, casting, machining and building of the machine tool industry, will exert a pull on the light manufacturing sector. This should result in pressure on labor demand from the supporting sectors of the economy.

As mentioned above, positive employment must be used as a guide to promoting investment in the manufacturing sector. BKPM promoted sectors are often highly capital-intensive. Using the figures for 1982, the projected cost per new job in textiles was \$6,383 in Central Java, while the cost in the miscellaneous industry group was \$11,807. The cost per new job for the ten enterprises who received approval to expand their operation, was \$26,825, driven by a very large, capital intensive investment in a rubber tire plant in Semarang. Total employment generation for

the \$150 million dollar investment in industrial expansion was projected to be 14,536, or a rough average of \$10,000 per new job.

In Central Java, where unskilled labor costs in agricultural and many other industries are less than one dollar per day, new capital intensive industrial capacity approved by BKPM reflects the subsidized cost of capital in factor use. While \$10,000 per new job is low for U.S. capital-intensive industry, the projects approved in Central Java included one horticulture estate enterprise which itself accounted for 20 percent of the total new employment estimated to be generated, at an average of \$867 per job. There are obviously other opportunities to generate high levels of employment at low capital cost. These opportunities should be the target of the CJED project.

Information as a Crucial Component of an Enterprise Development Project

Before assistance can be provided to enterprises or to producer associations, the project staff must understand the problem. Disentangling cause from effect in a society such as Indonesia's in which there is strong government intervention in the marketplace, protection of inefficient production technology, and large numbers of underemployed workers, requires an information base not presently available. The design team has undertaken a series of subsector analyses which suggest how information on particularly product lines or activities might be collected, organized, recorded and used as the basis for project activities. In implementation, knowledge of the workings of subsectors must be one important output before action can be proposed. Understanding the problems, by subsector, is a necessary project component.

A second type of information presently missing in Central Java is knowledge of opportunities, prices, demand and forward projections which could influence training, investment, and employment decisions. There is no public service which provides ready price estimates for skilled labor, commodities, or demand trends over a five or ten year period. Even the administrative process by which licenses are granted, taxes are collected and agreements are reached to buy and sell are filled with uncertainty, often based upon lack of knowledge. There are also questions of the availability of technology, the criteria for meeting export standards, the access to service organizations. Any attempt at enterprise development needs to address information gaps as one potentially important project component.

Providing Technical Services for Enterprise Development

Services to household and small industries producers should be provided, in almost all instances, through existing organizations, government or private, presently engaged in

enterprise development. Chapter III presents a set of autonomous and fragmented services, each defining and operating within a small self-limiting sphere of activities. While some PVD's take a broad point of view, their small size and meager resources limit the potential impact of their programs. CJEDP should test whether it is possible to link, coordinate and integrate, by subsector, the many service providers into a comprehensive package for the smallest enterprises in Central Java.

Any success will require strong support from national departments and the provincial government, acting to bring together otherwise independent actors with separate funding and charters from their national agencies. Success in building institutions which reach the bulk of those employed in the province could pay high dividends in increased efficiency, lower production costs, and more viable product lines--based in part upon the information and support provided by CJEDP.

A second set of services will be needed by the medium and larger scale industrial or agricultural processing enterprises. They need assistance in overcoming the particular constraints which beset their activities. Beginning with a knowledge of what exists, and how the producers and suppliers relate in a given subsector, it will be possible to specify the critical points of intervention. The project will need this capacity on its staff, or available by contract, to overcome the obstacles to increased enterprise viability, and employment.

Operating within the Policy Environment in Central Java

Information and documentation may be the most important methods of working within the policy environment. The credit and finance policy section (Chapter II) suggests several issues the project should address during its first three years;

- obtaining additional investment and linked working capital for high-return enterprises which wish to expand or construct new productive facilities in Central Java. This may be attempted, in a pilot test, to benefit very small entrepreneurs, through the addition of a manufacturing window to the BKK program operating in rural areas. A second endeavor should be a venture capital fund, to become operational in the third year of the project, which would test new procedures by which the formal banking system could provide additional investment capital to productive enterprises which have high employment generation potential.
- helping entrepreneurs secure funds from existing government programs by a careful matching of the enterprise needs to the many varied alternatives presented by the banking system.

- providing quality consulting services which are tailored to the requirements of the banking system or development institutions, to produce feasibility studies for appropriate high-potential projects. This will help insure that medium and larger scale lending ceilings in Central Java are reached by employment-generating businesses.

It is not a lack of credit within the financial system in Central Java which poses constraints to rapid industrial and manufacturing development. It is access to that credit by entrepreneurs seeking investment and working capital for enterprise expansion or construction. This is one of the problems which CJEDP should address.

Some entrepreneurs also need assistance understanding and operating within the existing system of licenses, taxation and investment incentives. For those opportunities which have high returns to employment and growth, CJEDP should provide help, making the uncertainties less problematic, smoothing and speeding the process to approval. If, when working within the system, major disincentives appear which slow or halt the investment process, CJEDP should document them and bring them to the attention of decisionmakers in Central Java, seeking their help in resolving the problems.

CRITERIA FOR THE SELECTION OF PROJECT ACTIVITIES

There is an enormous task to be accomplished with limited resources. An allocation system must schedule where the project elects to begin, and expand as a better understanding is gained of the possibilities in Central Java. Since the project is itself a systematic attempt to learn how to promote employment benefits in this particular environment, one criteria must be a diversity of experience, by scale, sector, and problem. The project also must show results, and thus requires a concentration in few enough instances to insure that the productive system has been explored, and the assistance provided is sufficient to overcome the constraints from the beginning of the supply chain, to the final sale.

Assume a matrix with the projects or enterprises which are requesting CJEDP assistance listed down the left hand column. Across the top of the matrix, ten criteria are listed. With the generation of a ranking system for each criteria, the cells in the matrix could be completed, and simple indices could be computed, such as an indicative cost-benefit ratio.

While the actual creation of the weighting system can be a subject for the policy advisory board, the following criteria would be almost certain to appear:

- positive return on invested capital;

- direct employment benefits, measured by the wage bill;
- indirect employment benefits, measured by the wage bill;
- multiplier benefits from backward and forward linkages;
- benefit distribution;
- systems (business climate) impact;
- institution and capacity building;
- implementability;
- cost to CJEDP;

A timetable and process for reaching implementation, and the steps to be taken which would bring the criteria into play are described in Chapter VI.

CHAPTER V

PROJECT DESCRIPTION

To address the objectives outlined above, it is proposed that a Central Java Enterprise Development Project be established to provide enterprise development services to entrepreneurs, business firms, and public and private sector assistance agencies throughout the province. The basic function of this project will be to strengthen and assist the programs of existing agencies which offer services to private enterprises, industry specific producer groups, and individual entrepreneurs. The CJEDP will perform this function in a variety of ways, including subcontracting to existing private firms or other public and private organizations providing appropriate services or offering direct assistance where there are gaps in available services. An emphasis will be placed on building permanent institutional capacity to provide high quality support services within both private sector organizations and appropriate public agencies in Central Java. Thus the project's mandate will be to support innovation, ease constraints, facilitate coordination, and improve capabilities affecting participants in the development of private enterprise activities in the province.

The CJEDP will concentrate its resources on the promotion of private sector productive enterprises in Central Java where the employment impact of enterprise development efforts is likely to be the greatest. Particular attention will be given to manufacturing and agro-processing firms but the needs of the private trade and service sectors will also be addressed when justified by the potential impact. It is possible that some assistance will be provided to public sector enterprises such as the state-owned vegetable oil mills or the forest product industries controlled by Perum Perhutani. Such enterprises will not be the primary clients of the project, however, and requests for assistance from them will be weighed against the priority of assisting private sector development.

The CJEDP will play a strong, but informal, role in the coordination of existing enterprise development efforts in the province. It will work closely with other service agencies to make the best use possible of the limited human and financial resources available for responding to the needs of Central Java's entrepreneurs. In this way, it will serve an intermediary function between private sector entrepreneurs on one side and public and private sector service providers and policy makers on the other.

To achieve these objectives, the project will develop staff, services, organization, and linkages over time. This gradual development will require flexibility and a process of learning during the first years of activity. As will be discussed in detail below, the CJEDP's organizational form is expected to evolve, and the focus of its service delivery capacity to shift, as the project matures.

As a result of its participation in the design, financing, management and evaluation of many different types of projects in various industries, the CJEDP may come to know more about the total level of enterprise development activity in the province than any other single agency. It will be able to influence proposed initiatives in the design phase so as to apply the lessons of experience and avoid wasteful duplication of efforts or replication of projects which have previously proven ineffective for one reason or another.

The CJEDP will require a highly committed team of full-time professionals on its staff if it is to effectively provide the range of assistance described above. The staff must eventually include experts in the fields of marketing, industrial engineering, management, finance, training and economic research. The shortage of such professionals in Indonesia and the very high level of importance which is placed on their presence on the staff lead to the recommendation that the CJEDP be implemented initially as a development project under the management of a contractor team. This team would be responsible for developing the operating procedures and program for the Center, and for recruiting and training local professional staff as required.

After an initial period of three years, a decision will be made if and how to continue the project for a longer period. Options include extension as a project or transition to a more permanent entity with its own staff who have been prepared for their positions during the initial phase. These options are discussed more fully below under "Project Organization."

PROJECT SERVICES

Based on the analysis of the environment for enterprise development in Central Java, certain types of potential program services can be suggested to address the most critical needs. Although there will be a considerable amount of overlap and interaction among and between these activities, each has a particular focus. Coordinating staff teams will be formed as required to carry out specific project activities requiring a mix of technical inputs.

Each of the recommended program areas is described briefly below. It is re-emphasized that any comprehensive set of capabilities represents an objective to be achieved over time as staff and organizational resources grow. The actual configuration of programs and services offered by this project

will evolve out of the experience of the first two or three years. The following descriptions, however, represent a potential response to currently observed needs.

Consulting Services

Consulting services will include assistance activities in the areas of management, finance, technology, and marketing.

Management

The CJEDP consulting staff will include management specialists who will oversee the provision of project consulting assistance to both private firms and public sector agencies. They will coordinate their efforts with the BKPM, the Departments of Trade and Industry, Bank Indonesia, and various other institutions in Central Java and Jakarta. They will actively promote new domestic and foreign investment in Central Java and provide direct assistance to firms that are seeking to establish or expand their operations here. The management consulting staff will draw upon the personnel and information resources of other CJEDP programs to provide the following types of assistance:

- For small scale producers -- cooperative and association organization and management, technical training, market development, and management training;
- For larger scale enterprises -- feasibility analysis, site selection and acquisition, licensing, strategic and operational planning, management and organizational systems, and data processing;
- For public agencies -- project planning, technical assistance, technical training, pilot project funding, and project evaluation.

Development Finance

The Development Finance staff will provide financial services in the following areas:

- financial consulting (with particular emphasis on problems of capitalizing new and expanding enterprises);
- equity brokerage (developing direct links between potential investors and enterprises or entrepreneurs seeking capital); and
- credit facilitation (assisting entrepreneurs to obtain credit from existing sources, possibly including a credit guarantee function).

These services will be made available to small firms to help them overcome transaction barriers. For medium and large scale firms they will be provided on a fee or commission basis with the intent of gradually reducing the subsidy required from government to operate the project. Initially, however, it will be necessary to provide subsidies until the value of these services is proven. For example, bank borrowing in Indonesia normally requires a feasibility study for amounts over Rp. 100 million (\$145,000). The cost of such studies often deters otherwise qualified borrowers, especially if there is risk the loan may not be granted. The CJEDP could facilitate the process by assisting with these feasibility studies on a shared cost basis in which the potential borrower's obligation is partially dependent on whether the loan is actually granted.

In the second or third year of the project, a venture capital fund should be established by the project, possibly within BAPINDO, to make equity investments in promising enterprises meeting criteria established by the CJEDP. CJEDP will retain approval authority for these investments although they will be managed by BAPINDO or other development finance institution. The purposes of this capital fund include facilitating investment procedures and mobilizing other private equity funds. An example of similar spin-off effects comes from support provided to the BKK credit program by the Provincial Area Development Program (PDP).

Technology

Consulting in the area of technology will be provided to various client groups in both the private and public sectors. The project will develop assistance programs in the areas of project design, engineering, and training. The consulting staff will draw on other project resources such as the Technical Information Center (see below) to provide this assistance. They will establish and maintain contact with other service agencies to determine their needs and promote an improved level of coordination among them and between them and the CJEDP.

The services of existing technical institutes, training organizations or PVDs will be used wherever possible. Where adequate, these services may simply be purchased or obtained through a subcontract. In other cases, CJEDP will play a dual role of building the capability of the existing service provider while delivering needed services to a client firm or entrepreneur.

Marketing

The Marketing Promotion staff will provide specialized assistance in marketing to enterprises in Central Java. Where appropriate, they will draw upon the resources of the project

research staff to provide help to companies in analyzing patterns of existing or potential consumer demand. The project will also help with planning and executing marketing strategies for industrial groups or individual companies. For smaller companies it will assist in developing links to distributors or to companies upstream in the production cycle.

Information Services

Potential information services programs include a Technical Information Center, research, and monitoring/evaluation.

Technical Information Center

The design team foresees the need for a Technical Information Center to serve as an informational link between the CJEDP and other sources of technical information in Indonesia and overseas. This need will be tested early in the life of the project to determine the appropriate form and scale of this center. In any case, the project will establish direct information exchange relationships with the various technical institutes, universities and other information centers in Indonesia. It will also maintain a computer (telex) link with various international technical information centers such as those that are maintained by VITA and the USDA in the United States, the ITDG (Intermediate Technology Development Group) in the United Kingdom or the Lucknow Institute in India.

The project will maintain an "in house" library of appropriate technical information which will be freely accessible to both program agencies and individual entrepreneurs. It will also develop a rapid response referral network which can generate answers for technical questions for which suitable information is not readily available locally and be capable of identifying technical consultants, in Indonesia or overseas, who may be required by specific agencies or individual enterprises for short periods. The services of the center will be actively promoted both within Central Java and to other parts of Indonesia.

Research

The research staff will carry out an ongoing program of research into specific economic and industrial issues of particular importance to Central Java for the purpose of assisting the private sector and various service agencies to identify opportunities for investment or technical assistance. They will monitor market trends and projections in major commodities or products and suggest areas in which new investment should be encouraged or discouraged. They will analyze policy and procedural constraints in areas such as licensing, finance, and cooperatives. to assist policymakers to reduce disincentives to investment and growth. This research will also be used to help

businessmen cope with existing bureaucratic obstacles. The research staff will have the capacity to perform research in economics, technology, policy, marketing, and industrial subsector analysis. Some of this research will be obtained by subcontract to existing educational and research organizations with appropriate capabilities.

Monitoring and Evaluation

The monitoring and evaluation staff will monitor the impact of various government programs on the development of labor-intensive productive enterprise in Central Java. They will recommend modifications in these programs when findings indicate specific opportunities for more effective service delivery. The project might, for example, study the impact of various subsidized credit programs on overall economic development in the province or study the impact of present industrial extension activities and suggest ways in which they might be streamlined. Such monitoring and evaluation activities will also be routinely carried out with regard to all CJEDP-supported projects in order to apply the lessons and experience gained on earlier project activities to those which come later. Specific project evaluation activities may also be conducted on behalf of other agencies who wish to take advantage of the professional ability to conduct such evaluations which is developed by the CJEDP Research staff.

Pilot Project Fund

An important program initiative of the project relating closely to information and consulting services will be a Pilot Project Fund. This fund will be used to support innovative project efforts in the field. Some projects will be selected by the CJEDP from among requests submitted by existing public and private sector service agencies. Others will be identified and designed by the CJEDP staff and contracted out to other agencies for implementation. In either case the project will provide management support and monitor the projects carefully to insure that the operational lessons arising from their implementation are captured and to assess the impact of each project in terms of its stated goals and the objectives of the CJEDP. Thus design and support of these programs will draw on the full range of CJEDP services such as research and technical assistance. Pilot project funding will be on a grant or contract basis.

A small staff will be responsible for management of the Pilot Project Fund and for coordinating the participation of other CJEDP units in project activities which are supported by the fund. It will specifically be responsible for the following activities:

- the review of project proposals received from various public and private sector implementing organizations and the funding of promising projects according to specific criteria to be drawn up by the CJEDP management team and approved by the advisory board;
- the design of specific project activities to be financed by the CJEDP and implemented by other service agencies;
- management of the disbursement of Pilot Project funds according to the budgets and implementation schedule of specific activities supported by the fund; and,
- coordination with the research staff for monitoring progress made on individual projects supported by the fund and the management of CJEDP relations with such projects and the implementing agencies.

Pilot projects will be distinguished from other CJEDP activities in that they will be specific, timebound activities with a plan, budget, defined set of hypotheses to test, specified evaluation mechanisms, and procedures to transfer control to a permanent sponsor if needed. Examples of specific pilot projects to address constraints observed by the design team in the Central Java environment are provided in the following section.

Of the programmatic activities described above, several are service oriented and will be sustainable only on the basis of continuing subsidies. These services will generally be aimed at the smaller scale enterprise and offered at little or no cost.

Consulting services offered by CJEDP to medium and large-scale enterprises and to foreign investors will have to be aggressively marketed. To the extent that the project achieves credibility with these clients, services will be sold on a fee or other compensation basis through normal commercial transactions. In general, the project will avoid offering subsidized services that compete with private firms marketing similar programs.

As noted above, while CJEDP will develop the competence to offer support in each of its program categories, its preferred approach will be to support or coordinate existing government programs or to subcontract to existing private sector organizations as an intermediary. Direct services will be provided where there are gaps to be filled. Even so, opportunity will be sought to spin off these new activities to the private sector whenever possible. In each case, an underlying principle will be to strengthen the institutional capacity of organizations in the province which are promoting the development of private enterprise.

PROJECT ORGANIZATION

A small administrative staff will be necessary to carry out normal administrative functions of the project such as financial management, personnel administration, purchasing, recordkeeping, and other control and accountability functions. This staff will also provide basic logistical and clerical support for the program staff of the CJEDP as required.

There are several criteria which should be applied in determining the type of organizational arrangements the project will require if its effectiveness and impact are to be maximized. These include:

- the capacity to analyze policy and influence policy decisionmakers;
- the ability to develop credibility and impact in the private sector;
- the ability to develop effective working linkages with public sector agencies (line ministries, development banks, local government),
- the ability to obtain sufficient operating resources to sustain its operation over the long run;
- a recognized mandate to support/provide a wide array of services both to individual entrepreneurs or enterprises and to public and private sector service agencies;
- the ability to attract and retain highly qualified professional staff;
- management flexibility and freedom from bureaucratic constraints; and,
- control over available resources outside of the normal government budget cycle and procedures.

These criteria need to be applied to several organizational issues including the project's institutional placement, service delivery, staffing, and structure.

Institutional Placement

Potential alternatives for the project's institutional home include the following:

- an existing line ministry or other government body which currently offers enterprise development services to private sector entrepreneurs (e.g. the Departments of Industry and Trade);
- a new or existing private company or foundation (e.g. LP3ES, Yayasan Purba Danartha or Yayasan Dian Desa);
- an existing banking or credit institution currently providing credit, other capital, and related services to private enterprise (e.g. Bank Indonesia or Bank Pembangunan Daerah); or
- the office of the Governor of Central Java or the provincial Bappeda.

Placing project functions within a single line ministry or other government agency is not a promising alternative as was discussed in the section of this design on existing enterprise services. Such agencies lack effective private sector links and credibility. They have very limited ability to hire professional staff who are highly knowledgeable about private sector management and technical issues. And, they suffer serious constraints on their management flexibility. Any single agency is unlikely to have the ability to offer a wide array of services or have major policy influence. Were this proposed project situated within an existing government agency, it would be very difficult to avoid having its program skewed toward the particular programmatic interests of that agency to the exclusion of other types of efforts.

A purely private sector firm or foundation is also not a feasible choice for project placement. Such an organization would have little policy influence, minimal links to public agencies, and doubtful capacity to provide a wide array of services. Most important, the sustainability of subsidized services through a private organization is a somewhat uncertain prospect since the subsidy must come from governmental funds. The role of private consulting firms, technical institutions, and foundations supporting enterprise development is critically important for the operation of CJEDP. But this role is best played as a subcontractor for or client of services managed by the project.

A banking or credit institution as a home for CJEDP has some appeal since these organizations are active in providing financial assistance to the private sector. The Badan Kredit Kecamatan (BKK) program of the Bank Pembangunan Daerah, for example, takes an effective programmatic view of its credit services to small scale traders and entrepreneurs. Bank Indonesia, through a variety of programs handled by several state and commercial banks, provides subsidized credit to various types and scales of industry. The proposed project is not primarily a credit project, however, and includes a variety of services and

activities which are not usually considered appropriate banking functions. Experience in providing technical assistance or utilizing field staff is limited in the banks as is coordination with agencies providing other enterprise services.

The most effective organizational setting for responding to the suggested criteria will be a project responsible to the Governor of Central Java but free of direct identification with any particular program agency. All of the potential project activities described above fall within the reasonable purview of the provincial government. Properly structured, a project directly under the Governor would have the freedom to contract or hire appropriate staff, control its resources, and engage in activities responsive to market factors. Through its links to the Governor and the quality of its research into existing constraints on enterprise development in Central Java, it has the potential for policy impact, credibility with the private sector, and the sustainability of those portions of its activities requiring continuing public subsidy.

Project linkage to the Governor's office could occur through the BAPPEDA which has been the counterpart agency for the design process. This might offer some advantages in terms of continuity with the design, but might be less advantageous than a direct link with the Governor's Office in terms of the political and bureaucratic credibility of the organization. Either option--a direct link to the Governor or one through the BAPPEDA--would provide a conduit for central government financial support for the project through the Ministry of Finance or the Ministry of Home Affairs. The precise nature of the project's link to the Governor will, of course, depend on future negotiations between AID and the Government of Indonesia after the project design is approved.

Further aspects of project accountability to the government are discussed below under "organizational structure." But first it is important to consider the evolution of project services and the development of its staff.

Service Delivery:

The types of project services which the CJEDP should offer have been described above in terms of general categories and some specific examples of programs keyed to the subsector analysis portion of this report have been given. This design has emphasized the importance of step-by-step development of both services and organization in order to benefit from a continuous process of learning about effective interventions. The CJEDP should continue activities begun in the design phase to determine what clients might best be served and in what ways.

The project will begin with a small staff and will target initial activities to address constraints such as those identified in the subsector analysis portion of this report.

This will require some technical assistance capability, probable recourse to pilot project funds, and the capacity to continue industry subsector analysis to identify constraints to investment, production, distribution, and marketing. Actual interventions will be selected on the basis of criteria such as those outlined above in the "Project Rationale" section of this report.

In the first year of the project, most services will be subsidized activities to serve smaller scale enterprises, either directly or through existing agencies. The project will not have much credibility with the larger scale private sector at this point nor will it have had opportunity to develop an active marketing program for its own consulting services.

In the second year, development of a paying clientele in the private sector should occur. The project may also be more active by this point in identifying promising private agency enterprise services and subcontracting for their delivery to clients of CJEOP services. The Technical Information Center will be established and the scale of other research broadened. A functioning monitoring and evaluation process should also be in place. Pilot project activities will have expanded, especially in support of other agencies.

In the third year, the full range of services then deemed necessary should be developed. The configuration of services may or may not match the indicative set described in this design. They will be developed in response to actual needs as the project comes to understand them. If the design assumption that an equity capital fund would be helpful is validated, then this should be activated in the third year. This fund would provide investment capital to new or growing enterprises, probably in conjunction with BAPINDO which has a mandate to make such investments but is not now active in providing equity capital in Central Java.

This portrayal of the trend of service delivery is based on current assessments of need and an appropriate pace of project development. It is not intended as a definitive blueprint. The CJEOP through its own research capability will be able to reassess where project resources can be most productively employed.

Staffing

It is strongly recommended that staff levels be built gradually over at least a three year period. This will give some flexibility as the project gains an improved understanding of demand and need for its services. It will also permit more careful recruiting than would be possible if a full staff were hired immediately.

For the first three years, project staff should consist of both contract team personnel and professionals and support staff hired locally within the contract budget and under the direct control of the contractor. The contract team will be a mix of expatriates and Indonesians. The locally-hired professionals, although recruited under the contract as project staff (under the control of the contract team Chief of Party), should provide a staff resource from which long term leadership will emerge. For this reason, these locally-hired professionals should be full-time project staff with a high level of commitment to the objectives of the project.

Indicative professional staffing level targets for start-up and one year milestones are displayed below. These tables are intended to portray the trend of staff development. Actual staff size and characteristics will depend on the growth of services and demand for them over time.

In the tables below, "contract staff" refers to persons hired in-country to fill full-time positions in the project organization. "Contract team" refers to persons, both expatriate and Indonesian, provided by the contractor during the life of the contract. Clerical and support staff and drivers are not included in the totals below.

Table V-1

Staffing at Start Up

Function -----	Contract Staff -----	Contract Team -----
Program Management	-	1 (1)*
Information Services	1	2 (1)
Consulting Services	1	2 (1)
Administration	2	-
	-----	-----
Totals	4	5 (3)

* Numbers in parenthesis refer to positions which are likely to be filled by expatriates.

This staffing arrangement assumes that the contractor Chief-of-Party will serve as the program director for this period of building the organization and initiating service delivery. Within the information services and consulting services program areas, staff will cover multiple "desks" during this development period.

The degree to which the staff needs to be developed during the first year of operations is presented in Table V-2.

Table V-1

Staffing at One Year

<u>Function</u>	<u>Contract Staff</u>	<u>Contract Team</u>
Program Management		1 (1)*
Information Services	2	3 (1)
Consulting Services	2	3 (2)
Pilot Project Fund	1	-
Administration	3	-
Totals	8	7 (4)

* Numbers in parentheses refer to positions which likely to be filled by expatriates.

By this stage in the development of the project, the Pilot Project Fund will have begun its activities. Additional Indonesian personnel will staff component desks in the information and consulting services areas. Contract team personnel will also have been added to the service components.

In the second and third years of the project, at least four additional staff will be added. During this period, one of the Indonesian staff members will be identified and trained to serve as the chief-of-party counterpart for program management. Other new staff will be qualified in areas where demand for the project's services is growing the fastest.

These indicative staff levels are to be flexible. If demand is great, the project should have the ability to add personnel in both the contract staff and contract team categories.

Substantial provision should be made in the project budget for the use of short-term technical specialists to augment the CJEDP full-time staff. This will be particularly important in the early months when CJEDP is not fully staffed. However, there will be continuing need for access to persons with specialized technical and management skills which are not represented on the regular staff. Such technical expertise should be drawn first from Indonesian sources, such as foundations, consulting firms, technical institutes, PVDs and universities, and only secondarily from overseas sources when the need cannot be filled locally. Locally obtained consultants will constitute a possible source of permanent staff in future years.

Most members of the locally hired professional staff will require training if they are to contribute their best to the development of the program. In some cases this training can be

accomplished "on-the-job" through seminars and lectures prepared by members of the contract team and practical work experience. In other cases it will be necessary to arrange for special training programs in specific subject areas. Such training should be provided for in the CJEDP budget.

Staffing and organizational options for the period beyond the initial three year project phase are discussed below.

Organizational Structure

Figure V-1 presents an organogram of a possible internal project structure based on the services outlined above. This is only one possibility and is presented to indicate a rational division of service delivery and administrative functions as well as portray the project's link to the Governor and an Advisory Board. The actual structure that evolves should serve the interests of the best possible service delivery and thus will depend on the actual configuration of programs which develop. The organization of the small initial project staff will be a management concern of the contract chief of party and will depend on the focus of initial programs and particular qualifications of contract team and locally hired staff at the time.

Policy level advice and assistance should be provided by the Governor of Central Java and an Advisory Board appointed by him. The Advisory Board should be made up of 9 to 15 senior representatives of various public and private sector service agencies (Dept. of Industries, Dept. of Trade, Export Promotion Officer, Bank Indonesia, Yayasan Dian Desa, etc.) along with representatives of various private sector client groups such as KADIN, HIPPI and IWAPI.

The Advisory Board will have an important role in assisting the project to gain the acceptance and confidence of existing service agencies and private sector entrepreneurs. It will provide a valuable forum for discussion among the various groups represented and provide the nucleus around which greater coordination can be developed. In order for the Advisory Board to be effective in these functions it is essential that the members be high level officials of the agencies and organizations they represent. They must be able to speak for their respective organizations on matters of Central Java policy and discuss the various issues freely with their colleagues on the Board.

The Advisory Board is not intended to have a control function over the project nor is it a typical "coordinating committee." Rather it is intended as a support group and a policy link to existing systems whose cooperation is essential to project success.

The functional link between the project and the Governor should be filled by a highly qualified project officer appointed by the Governor to serve in a liaison role. Qualifications,

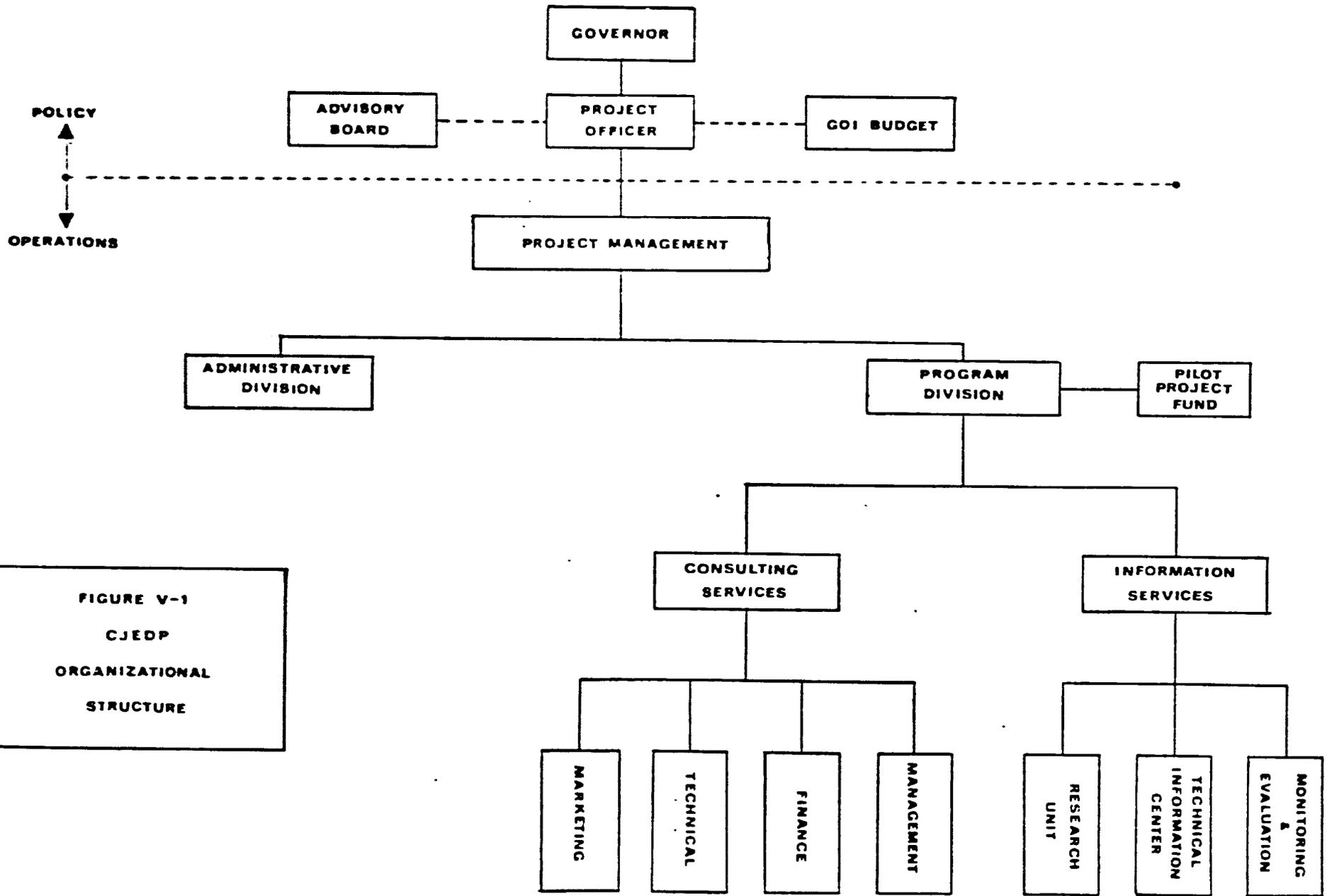


FIGURE V-1
CJEDP
ORGANIZATIONAL
STRUCTURE

responsibilities, and functions of this person should be jointly agreed upon by the contractor, USAID, and the Governor. He or she will be selected by the Governor from a list of candidates recommended jointly by the project contractor and USAID. This representative would probably not be a government employee nor would necessarily serve in a full-time capacity. But he or she must have the confidence of the Governor and BAPPEDA and should be able to make a substantive professional contribution to the implementation of the project. In addition, the project officer will be a point of accountability for the use of project funds provided by the Government of Indonesia budget.

There are, of course, certain risks involved in the development of any new organization. These risks are greatly magnified when it is necessary to develop and staff this type of service agency before developing its program. To develop a staff and operating procedures and a new and challenging program all at the same time is an extremely difficult task. The price of failing to accomplish all three is the failure of the organization to achieve its goal of increasing employment opportunities and productivity in Central Java.

As noted above, this risk is reduced by initiating the CJEDP as a development project rather than as a new institution. It is recommended that this be done by means of a five-year project authorization contracted in two phases of three and two years. During the first three-year phase, a contract team working under the supervision of the Governor's Office (or the BAPPEDA) would take management responsibility for hiring and training qualified staff, developing the programs of the project and preparing to hand over management responsibility for a mature, operating project after a period of three to five years.

Such an arrangement would offer two major benefits over the alternative of setting up a new institution at the beginning of project activities. First, the risk and delays in establishing a new organization would be minimized. That is, the program could begin immediately. Second, it would call for closer monitoring and direction from funding sources and thus would provide more effective control mechanisms as the project develops.

After a period of three to five years it should be possible for the contract team to hand over management responsibility for the program to a management team that has gained experience working within the project and which is competent to continue the development of the program.

At this point, there are three broad options for the continuation of CJEDP activities for the fourth and fifth years. One is to simply extend its life as a project. Under this option, the original contractor could be retained and continue to employ the locally-hired project staff recruited during the first three year phase. Expatriate contract team personnel could either be gradually replaced by locally-hired project staff recruited and trained during the first three years or, if necessary,

continued throughout the second phase. The feasibility and timing of this transition would need to be carefully studied after the third year. In any case, the contractor could continue to provide needed short term technical assistance.

A second option would be to use the second phase to develop a new autonomous organization to absorb project staff and continue the operations of the CJEDP. This option assumes that an organization can be developed that is linked to the Governor's office and that meets the criteria for effectiveness listed above in the section on "organizational placement." Such an organization would have to be free of usual bureaucratic constraints, able to hire and compensate high quality professional staff, and in control of its own resources in order to effectively continue the work of the CJEDP. This design also assumes transfer of management and program responsibilities to Indonesian staff during the second phase. It differs from the first option in that responsibility for the CJEDP programs would be transferred from contractor responsibility to a new organization in the fifth year. Further technical assistance would then be contracted by this organization.

The advantage of such an organization is the potential to institutionalize a set of proven procedures and functions supporting enterprise development in the province. If the CJEDP proves deserving of permanence, then a permanent structure should be developed. Clearly this is a decision that must be deferred until the lessons of experience can be carefully evaluated.

The third option is to discontinue the project at the end of the third year if it is sufficiently successful in achieving its objectives by that time. In this event, it may be possible to spin off worthwhile activities to other institutional homes in the public or private sector. But this opportunity would be constrained by the difficulty these agencies would have in absorbing staff from the CJEDP.

PROJECT LINKAGES

The ultimate success of the CJEDP will depend on the linkages established with key actors in the Indonesian business and government systems. The nature of these links will vary. Generally, CJEDP will deal with some profit making organizations on commercial terms. It will also assist small-scale and household enterprises on concessional terms, most often by supporting other service providers, public and private. Most complex are the necessary links to policy and program decisionmakers in such government agencies as national ministries, the Central Java government, state banks, and BAPINDU. Aspects of these linkages are discussed below.

The Private Sector

CJEDP will operate on a commercial basis with private sector clients or intermediaries who are able to buy its services. CJEDP will thus be a competitor in the market for consulting and financial services. Its success in this market will depend on its ability to respond to market needs and demand while building its own credibility as a source of cost-effective services.

CJEDP's technical and management consulting services will include assistance to potential foreign investors in identifying opportunities, the preparation of feasibility studies, and dealing with local procedures. These services will be provided on a fee basis.

CJEDP will be more program and service oriented with smaller scale enterprises. It may offer subsidized services to support enterprise development or may assist other providers of such services with information, technical assistance, and/or funding through the pilot project fund. The relationship of the CJEDP with these other agencies will be a two-way street. While providing them support, the project will frequently make use of their resources as well. For example, the extension agents of the Department of Industry can play an important role as an outreach arm for CJEDP.

CJEDP will relate to non-governmental organizations, technical institutes, and other service providers outside the bureaucracy in two ways. First, it will directly support effective programs through technical assistance and/or pilot project funding. Second, it may purchase services from these organizations for application to program support activities on behalf of private enterprise beneficiaries (for example, technical training, specialized research, or consultant services).

The Government

CJEDP will have several roles vis-a-vis the bureaucracy. These include influence, program support, and facilitation.

As an independent entity, CJEDP will have no direct policy or program control over any agency of government. Yet, as noted above, it has a critical role to play as an influence both on relevant policy and the programs of government agencies now providing enterprise development services. Such influence will depend on four factors:

- strong and visible backing from the Governor of Central Java;
- links with key decisionmakers in government agencies, especially those represented on the Advisory Board;

- the quality of CJEDP information, analysis, and services, and the degree to which they are perceived as supportive of various agency objectives; and
- ability to provide financial assistance or other resources to selected programs.

Program support will be a major CJEDP function. The project will identify and assist existing government activities which are or have the potential to provide effective services to enterprise development. Such support may take the form of technical assistance, funding, or research. An emphasis will be placed on targeting technical assistance and funding on particular interventions that meet established criteria for impact. Some such interventions may be of a pilot project nature.

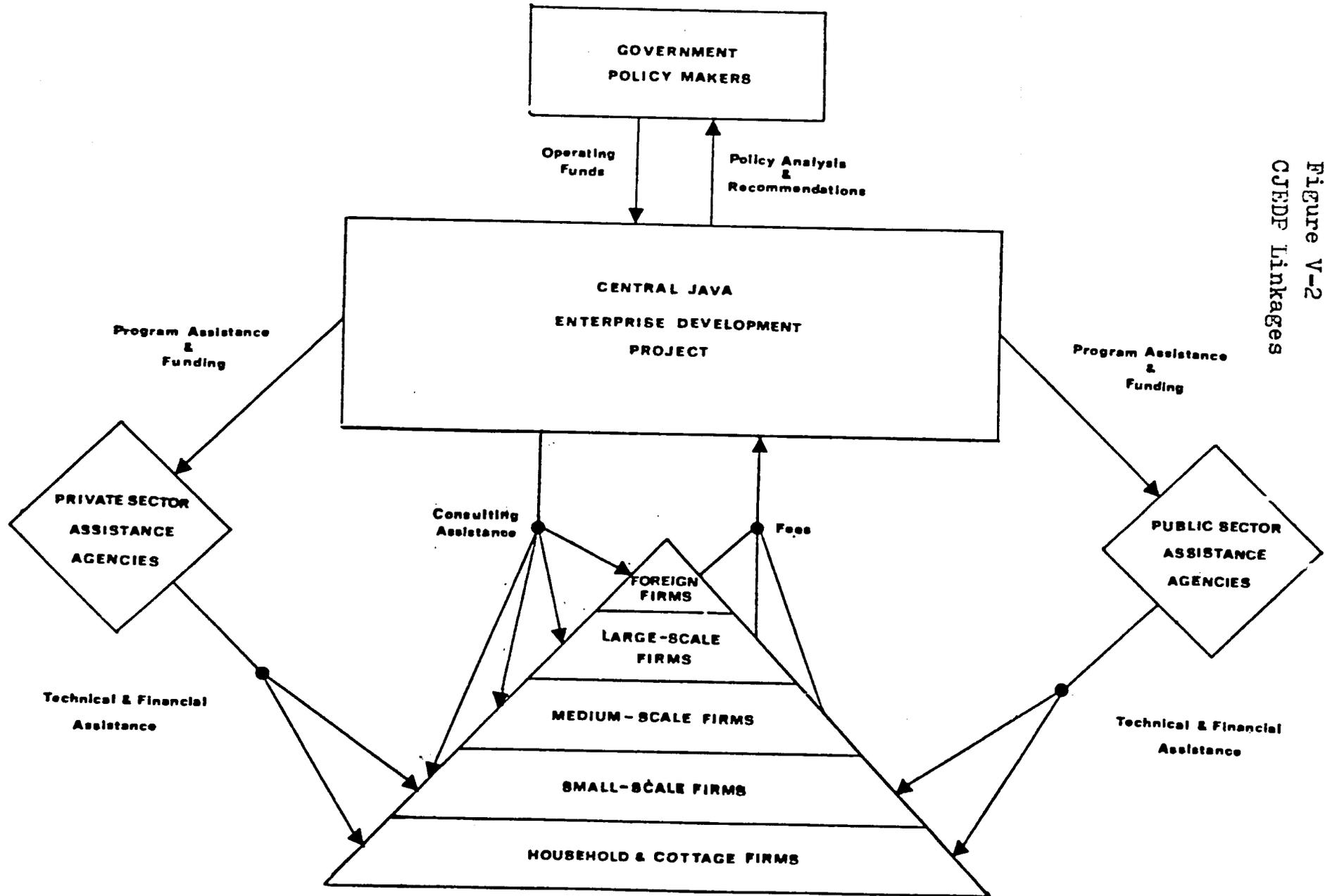
Potential clients of government services for enterprise assistance are often constrained from using such services by a lack of information, bureaucratic barriers, or other access problems. CJEDP can reduce this problem by promoting effective services, identifying and attempting to reduce transaction barriers, and assisting agencies providing services to improve availability of those services to enterprises which would most benefit from them. Credit is one area, for example, where facilitation could improve the impact of several existing government programs for small scale enterprise assistance. Transaction costs and other barriers are currently more of a constraint than the amount of credit available. By working with both the credit agencies and potential clients, CJEDP could offer an integrated approach to reducing barriers to program utilization and benefits. A similar role could be played for several other programs.

Figure V-2 displays these potential relationships with various client groups and assistance agencies. It summarizes the way that the project will give priority to supporting and strengthening existing institutions which are capable of providing needed services. CJEDP will serve as a resource to such institutions and as a point of coordination for the overall enterprise development effort in the province.

PROJECT EVALUATION

At several points the above discussion has referred to reviews or evaluations which the CJEDP must undertake to guide development of program, staff, and organizational form. As part of its learning process, the project will take self-assessment seriously. While its monitoring and evaluation staff will direct this effort, it will be an integral part of all program operations and a concern of all staff.

Figure V-2
CJEDP Linkages



Internal Monitoring

Internal monitoring activities will be of particular importance in guiding program development. As noted above, this monitoring will be concerned with programs both within and outside of the project. An awareness of the overall environment of enterprise services in Central Java is obviously important to program decisions of the CJEDP. In particular, such awareness will avert the risk of duplicating or competing with effective services already in place from another source. It will also help the project pinpoint effective programs which it can support or utilize through subcontracting.

Monitoring of staff development, operational procedures and financial management will help the project phase its staff and program growth intelligently. There is considerable risk of trying to do too much too soon. The point of the CJEDP is to improve, not proliferate, services. Project management will have the responsibility of continually assessing organizational effectiveness.

The primary client of internal monitoring is the project organization itself although summary reports of these assessments will be provided to USAID and the Government of Indonesia as part of the project's exercise of accountability. The project will use short term technical assistance or subcontracted assistance in-country to assist with the internal monitoring effort.

External Evaluation

The first external evaluation of the project will be conducted during the third year. This evaluation will provide information to help the Government of Indonesia and USAID determine: 1) whether to continue the project after the initial three year term, and 2) whether continuation should retain the form of a project or be placed within a new organizational entity. This evaluation will assess the following issues:

- the impact of CJEDP-funded pilot projects;
- the effectiveness of its mechanisms for delivering services;
- the quality of its technical assistance activities;
- its impact on organizations to which technical support has been given;
- its progress in staff development;
- the degree to which there is evident demand for its services from private sector clients;

- the degree to which effective coordination links have been developed between the CJEDP and other service providers;
- the results and impact of its research activities;
- the effectiveness of its systems for learning from its enterprise development activities and applying that learning to new programs and organizational arrangements.

CHAPTER VI

PROJECT DEVELOPMENT

In March, 1983, the Central Java Enterprise Development Project is not yet ready for full implementation. While significant strides have been made, particularly in learning what impedes private sector growth in selected sectors of the economy, much remains to be done. This Chapter proposes a project development schedule, beginning with the completion of this interim report, to the end of the five-year USAID-sponsored project.

From the Interim Report to the Project Paper

The design team will undertake three different types of activities during this period. First, three additional Working Papers on the methodology of subsector analysis, existing marketing channels and the potential for developing sub-contracting relationships in manufacturing will be written. Second, the team will also respond to questions coming from USAID and the GOI reviewers of the Interim Report, to clarify points which may be raised, or provide additional data as requested. In this connection, the team will assemble the information to satisfy the Handbook Three requirements for the preparation of the Project Paper.

At the same time these activities are underway, the team will undertake the third assignment, that of deepening its understanding of at least two subsectors already studied, in order to:

- determine the specific interventions which should be carried out within each industry, based upon the criteria proposed in Chapter IV, for the testing phase (October 1983 through June 1984) and the implementation phase (beginning July 1984);
- estimate the cost of specific interventions for each industry, to include both the dollar (U.S. Government) and Rupiah (Government of Indonesia) amounts which will be required for the implementation phase;

- o prepare detailed staffing and budget estimates for the five-year life of project, based upon the average intervention cost for each industry, the number of industries to be aided, and the other activities (assisting entrepreneurs, pilot project fund, etc.) which the project will support;

This additional research will provide the detail necessary to fulfill the specific requirements for AID and the GOI to commit funds for project implementation. The Project Paper should be completed in draft in August 1983, reviewed for improvements by USAID/Jakarta, and submitted to USAID/Jakarta for final approval in October 1983.

This schedule would call for extending the design team through October 1983.

From the Completion of the Project Paper to the Beginning of Project Implementation (September 1983 to June 1984)

During this period, the design team should:

- conduct exploratory research on four additional industrial subsectors with the goal of deepening research on two additional subsectors and identifying and designing appropriate interventions as specified above, including dollar and Rupiah budgets;
- initiate up to five small sub-projects which will test the operating hypotheses of the project and assist in refining the methodology based on experience while delivering positive benefits to the target population;
- develop appropriate administrative and management procedures so as to satisfy the reporting and accountability requirements of USAID and the GOI, while maintaining maximum operating flexibility for the project.

The BAPPEDA is eager to begin pilot tests as soon as the required paperwork has been completed. With the continuation of the design effort, and the use of funds available from the BAPPEDA for the FY 83-84 fiscal year, pilot tests could be initiated as early as August of 1983.

Suggestions for pilot sub-projects have been drawn from three sources: the research conducted to date on three subsectors in Central Java; research conducted on subsectors not yet ready for compilation; and suggestions received from entrepreneurs who are interested in pursuing new investment activities. These ideas, to be refined as the Project Paper is being completed, include:

- o working to solve the technical problems faced by shrimp hatcheries; establishing linkages between shrimp exporters and shrimp growers; investigating direct exports to the U.S. market; developing a shrimp food for use by tambak farmers.
- o supporting the bronze casting producers in the Juwana area, to improve their efficiency, lower costs, upgrade finishing and seek new domestic and export markets. This will call for working with the staff of Dinas Perindustrian's Industry Service Center, as well as specialists from MIDC.
- o completing a local demand study for Central Java's roof tile industry;
- o assisting in the search for joint-venture partners and other market possibilities for wood products and handicraft exports from Central Java, including carved teak furniture, brass and knocked-down wooded and rattan furniture;
- o starting a rabbit breeding farm to sell pairs to aspiring local entrepreneurs, to increase meat supplies and animal processing activities;
- o testing the marketability of processed winged bean, grown as a labor-intensive, small farmer crop, into high-quality cooking oil and animal (including shrimp and rabbits) feed;

In each instance, the design team will seek a local businessman, or producer group, willing to cooperate and bear all, or almost all, the capital and operating costs. Technical assistance will be furnished without charge from CJEDP. Initiation of these or other selected tests would generate a quantum leap in the knowledge of how to intervene in specific enterprise activities in the province.

This schedule would call for continuation of the design project from November 1983 to June 1984, to complete the listed activities and insure a smooth transition to the implementation team.

From the Beginning of Implementation to the Mid-Point Review

In the first three years of the project, the core of CJEDP is proposed to be a contract team of expatriates and Indonesians. As described in Chapter V, some of the Indonesians would be candidates for long term placement into a more permanent institution which can continue CJEDP services, should that be the decision of the mid-point review. At the end of year three, USAID and the GOI should conduct a joint evaluation which determines whether the project will continue, the contract team

will continue to provide CJEDP services for the next two years, or the contract team will take steps to transform the capacity developed into an institution in Central Java. In this later instance, the expatriates and Indonesians who, because of their affiliation with the home office of the contracting companies, are not candidates for long term continuation, will be withdrawn and replaced as locally-hired specialists are trained and employed.

Summary of the Project Development Cycle

April 1983 to September 1983

Deepening of the research on two sectors which will lead to detailed interventions, completing the Project Paper and the working papers shown as "forthcoming" in the Interim Report.

October 1983 to June 1984

Deepening research in two more subsectors, with pilot tests initiated in six priority areas.

July 1984 to June 1987

Project implementation in five subsectors, plus those targets of opportunity which emerge, with services through the CJEDP contract team.

July 1987 to June 1989

Project continuation (as one option) through contract team services, or institutionalization within a structure determined by USAID/GOI.

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CASE I THE SHRIMP EXPORT INDUSTRY

Introduction and overview

The export of frozen shrimp is the leading foreign exchange earning trade activity in Central Java. In spite of policy changes which have made the procurement of supplies by processors more difficult and widespread inefficiencies in the aquaculture production systems, exports have responded to strong international market conditions and continued to show strength even as aggregate world demand has weakened.

Table 1 illustrates the quantity, importance and resilience of Central Java's shrimp exports. In each year since 1976 shrimp exports have accounted for over 20 percent of all Central Java's known exports. In 1982, the share reached 40 percent as a consequence of declining exports of other commodities resulting from the global recession. Except for 1980, the first year of Indonesia's ban on trawling, shrimp exports have consistently been Central Java's number one export commodity.

In spite of this record of successful growth, there is considerable untapped potential in the Central Java shrimp industry. The supply of shrimp for export is far below what it could be as the aquaculture systems are presently producing far below their potential capacity. A larger supply of exportable shrimp would provide incentives for the extension of export markets beyond the current focus on Japan.

The majority of problems facing the industry are of a technical nature. They result not from the absence of technical

skills, however, but rather from problems relating to the absence of adequate mechanisms for coordinating the interactions among the participants in a complex industry. Coordination mechanisms generally are slow in developing by themselves as a consequence of the divergence between private incentives and aggregate performance outcomes.

This section will explore the problems, opportunities and constraints facing the industry and the potential for effective CJEDP intervention. Before addressing these issues, however, it is necessary to describe the overall structure and organization of the shrimp export industry.

Table 1

Exports of Frozen Shrimp from Central Java 1976-1982

Year	Value of Exports, FOB (\$ millions)	Volume of Exports (M tons)	Export Price (\$/kg.)	Percentage of Total C.J. Exports	Rank in Total C.J. Exports
1976	14.8	3389.7	4.37	29.4	1
1977	18.8	5488.5	3.43	31.0	1
1978	16.7	3478.3	4.80	20.7	1
1979	23.5	4344.6	5.41	21.6	1
1980	20.2	3241.0	6.23	20.1	2
1981	23.0	3026.7	7.60	23.1	1
1982	26.7	3204.7	8.33	40.4	1

Source: Dinas Perikanan, Semarang

The Structure and Organization of the Shrimp Export Industry

Figure 1 presents our understanding of the structure and organization of the shrimp industry from the perspective of the

export market. The diagram begins at the left with shrimp supplies and ends at the right with product flows into the export market. Before examining product flows through the system, a brief overview of each participant will be presented.

There are three types of shrimp exporters. The primary type is the integrated processing, freezing and cold storage factory. There are three firms of this type in the province. Two are located in Semarang and one is based in Cilacap. These firms are quite large, employing an average of 350 persons with an initial investment in the area of 900 million Rupiah (\$1.3 million) each. At least one of these firms is a joint-venture between Indonesian and Japanese partners. Export volume varies from 500 to 1500 metric tons per year per firm.

The second type of exporter is an independent agent who purchases the use of the facilities of other freezing and cold storage factories. There are at least two businesses of this type operating in Central Java, one in Semarang and one in Pekalongan. The third exporter type is the government PUSKUD cooperative which currently falls into the second category but is in the process of constructing its own processing facility in Semarang. It should be noted that there are several other exporter-processors in East Java, West Java and Jakarta. These firms compete with the Central Java firms in both input (shrimp) and output markets.

There are also three main sources of shrimp supply: large-scale fishermen, small-scale traditional fishermen and aquaculture shrimp (or "tambak") farms. The relative importance

of these sources varies according to the procurement practices of the exporters. One of the largest exporters, for example, purchases 35 percent of its shrimp from traditional fishermen, 15 percent from shrimp farmers, 30 percent from large-scale fishermen and the remaining 20 percent from the large fishing boats of its sister firm. Another exporter relies more heavily on farmers and traditional fishermen.

The relative importance of supply sources also varies over the course of the year. April and October are the primary pond harvest months. January through March is the peak fishing season for the North Coast while August through December is the peak on the South Coast. Exporters procure supplies primarily in Central Java but also have agents operating in East Java.

These supply sources are linked with the exporters in two ways apart from integrated links with large-scale fishermen. Government-owned and operated fish wholesale markets (Tempat Pelelangan Ikan - TPI) are located in every fishing port in Central Java. All fishermen are required by law to sell their produce through these markets. The market is organized as an auction but entry into the shrimp auction is restricted in certain areas.

In Cilacap for example, the site of the largest TPI, only "registered agents" of the major export firms are allowed to participate in the shrimp auction. There are presently seven authorized buyers from Central, East and West Java and Jakarta allowed to participate in the bidding at the Cilacap TPI.

In 1982, an average of just over 63 metric tons of shrimp were sold in the Cilacap market each month for a total of 762.5

tons for the year. The average price was Rp 3100 (\$4.50) per kilogram. Eight percent of the selling price is taken by the TPI (5 percent from the seller and 3 percent from the buyer) along with a small share to the scale operator who removes a handful of fish and shrimp from each basket as he weighs them. Shrimp farmers may also sell their produce through the TPI, but it is not known how commonly this practice is followed.

The second way involves the primary marketing agents in the system, the brokers who procure supplies for the exporters. Many of these brokers have long-standing patron-client type relationships with the farmers which facilitate their ability to conduct business in this industry. Our information is still quite limited on this important set of participants, but it is typically more difficult to make contact with middlemen in any industry. It is known, however, that each exporter employs (on a commission basis) a number of representatives who are assigned to cover specific geographic areas. The exporters know little about the practices or sources of supply used by the agents. One agent who was interviewed (the largest buyer for the largest exporter) claimed that eight percent of his purchases were from the TPI and the remaining 92 percent directly from tambak farmers.

It is commonly stated by government officials that the middlemen are exploiting the farmers, although we do not yet have sufficient evidence to test this hypothesis. Certainly, much more needs to be learned about the marketing agents as they have played a key role in the success or failure of many essentially similar agro-processing enterprises.

Another important set of actors in the system are the suppliers of fry (baby shrimp) to the tambak pond system. Traditionally, shrimp were secondary pond products with the fry coming from the sea as a by-product of the filling of the pond. As shrimp became a more important product, suppliers emerged who collected fry from mangrove coastal areas and sold them to the farmers. The destruction of many of these estuarian areas (virtual elimination in Central Java) has substantially diminished the supply of fry available from these traditional sources.

Recently several government and private shrimp hatcheries have begun production in the province. As will be shown later, however, they have experienced a number of problems and the supply of fry represents a key constraint on the development of the tambak system.

The final participant in the shrimp industry which must be mentioned is the government-sponsored cooperative, PUSKUD. While technically its membership includes all shrimp farmers and fishermen, we have located it apart from its "members" on the diagram because at its present stage of development it is more of an independent state enterprise than an actual cooperative. Its basic premise is that it can compete in the export market directly via its own freezing and cold storage plant and at the same time circumvent the "exploitive games" played by the wholesalers (middlemen). This will increase the incomes of the producers presumably because the coop will buy at a higher price than the brokers currently offer. The coop also intends to become involved in pond management and the hatchery business. As

long as the coop does not succeed in becoming a sole agent for tambak farmers it is prudent to adopt a "wait and see" attitude towards this institution.

Problems, Opportunities and Constraints Facing the Industry

The problems, opportunities and constraints facing the shrimp industry are complex in that they involve a number of different issues at different stages of the system. This section will focus on four parts of the system, consider the most important issues at each stage, and attempt to illustrate the interrelation between the opportunities and constraints among different levels. The objective of this analysis is to make a first effort to understand the types of interventions which could likely have the greatest impact in coordinating the development of the shrimp export industry.

The Tambak Aquaculture System

The general consensus of the observers of, and participants in, the shrimp industry is that further development of shrimp exports from Central Java depends upon the improvement of the tambak aquaculture system. Overfishing, non-selective trawling and the complexity of controlling foreign incursions into Indonesian waters resulted in a complete ban on trawling beginning in 1980. This has placed rather severe constraints on the potential supply capacity of the large-scale fishermen. Even with the recent decision to allow the trawlers to operate with a modified, more selective, net in certain areas, it is unlikely that these fishermen will be able to adequately support further growth in the export industry.

Traditional small-scale fishermen have benefited from the ban on trawling, realizing somewhat larger catches and receiving subsidized credit for upgrading their boats and equipment. The limited range and already large number of these fishermen, however, raises considerable doubt as to the wisdom of placing too much reliance on this source of supply even in the foreseeable future. Not only are they now not able to catch sufficient quantities of exportable size prawns, but the situation is likely to worsen.

The general feeling, even among those involved in the upgrading program is that there is an upper limit on the potential catch of these fishermen. Every effort to improve their capacity to operate has the counterproductive consequence of bringing the absolute supply constraint that much closer. According to the experts, the future is likely to bring a decline in the importance of the traditional fishermen as a source of supply of all sea products including shrimp.

These considerations lead directly to the conclusion that the tambak system represents the one bright spot in an otherwise rather dismal outlook. At the present time, however, farmers are regarded as basically unreliable, secondary sources of supply. At the same time, it is recognized that the tambak system is operating at a level far below its potential capacity. This system appears to offer a number of potential areas for CJEDP intervention and therefore it justifies a certain amount of detailed discussion.

Tambak fish and shrimp culture has been extensively practiced in Indonesia for more than five centuries. As one

author noted, "... as far as it is known, nowhere else in the world do there exist joined pond systems which, in regard to their extent, surpass the 'tambak' system of Java." In spite of (or perhaps as a result of) its long history, the Indonesian tambaks are characterized by one of the least intensive production systems anywhere in the world that such aquaculture is practiced. Annual production is on the order of from 25 to 400 kilograms of shrimp per hectare with an average yield of approximately 150 kilograms. It is estimated that with current tambak conditions and only minor changes in farming practices, average yields could easily surpass 500 kg per hectare. This compares with ten-year-old estimates of 300 to 1600 kilograms per hectare in India, 250 to 500 kilograms per hectare in the Philippines, 750 to 1500 kilograms per hectare in Taiwan and 2000 to 6000 in Japan. Indonesian officials feel that an eventual goal of 100,000 kilograms per hectare is not unreasonable.

There are a number of factors which contribute to the poor performance of the Indonesian tambaks. The most important relate to fresh and salt water supplies, water quality and pollution, feeding practices (or their absence) and low stocking densities. Other problems concern the lack of accessibility to many of the ponds, spoilage resulting from failure to use ice in the initial marketing stage and a shortage of available fry. It is also claimed that there is a shortage of funds available for pond improvement.

Certain of these problems are essentially questions of infrastructural investment. Access roads and improved irrigation systems for both fresh and salt water require rather large investments, the benefits of which are difficult for any one owner to capture. The shortage of fry is an issue that the farmers have little direct control over but which constrains stocking densities. There is also an incentives question related to the reluctance of the farmers to purchase food and feed their shrimp on a regular basis which could, by itself, dramatically improve productivity.

There are presently several programs underway to try to remedy some of these difficulties. As far as we can tell they are all "single-issue" interventions such as water quality analysis, improvement of the extension system through the Fisheries Department, and so on, which by themselves can only have a limited impact. The Asian Development Bank is launching a shrimp project to finance hatchery development and tambak improvement, but only a small share of the project resources are for Central Java. The Regional Project Management Unit of the KIX/KYKP program is in the process of designing a small pilot project to establish a model tambak system in Pati.

The development of the tambak system is a complicated problem. Farming practices are based on a long tradition which seems to earn the farmer a satisfactory level of income. Efforts to improve practices have not met with success in the past. One possible reason for this failure is that the complexities associated with vertically interconnected systems have not been adequately taken into account in the analysis of alternative

interventions. In this kind of situation, each set of participants in the system responds to different incentives and constraints. Since the successful development of one part of the system is closely dependent on what happens in other parts of the system there is a built-in tendency for such systems to resist development efforts.

The Shrimp Hatcheries

A number of factors can be blamed for the poor performance of the tambak farms. The most critical issue, however, is considered to be the shortage of available fry. There is a binding constraint on the supply of fry (post-larvae or PL) for stocking the tambaks. Traditionally, fry were collected in estuarian areas in Central Java and East Java. Destruction of mangrove forests suitable for breeding and larval development, depletion of coastal shrimp supplies by traditional fishermen and contamination of brackish water areas have placed severe limitations on the availability of fry from traditional sources. Essentially, no traditional fry are currently available from sources within Central Java. It is estimated that presently only 20 percent of the total fry supply in the province comes from traditional sources (outside Central Java) and this figure is likely to decline.

The alternative to traditional sources is the production of post-larvae in hatcheries. There are presently three government hatcheries and three private hatcheries "operating" in the province. Their production record has been poor and has not come close to satisfying the demand of the tambak farmers. At best 20

percent of total needs (total demand less traditional supplies) are currently being met. There are an estimated 6500 hectares of shrimp tambak in Central Java. At the very low stocking density of 10,000 fry per hectare and with a sub-optimal single crop per year the total demand for fry is approximately 65 million per year. If it is assumed that 20 percent of these needs can be supplied by traditional sources then the hatcheries must produce a minimum of 52 million fry per year. The existing capacity of hatcheries in Central Java is approximately 7 million per year. There is therefore a deficit of 45 million fry. A relatively large hatchery under local conditions would have a production capacity of 4 million fry per year. Therefore there is a need for as many as 13 hatcheries of this size in Central Java at the present time under present tambak production systems.

Against this background is the rather disappointing performance of the hatcheries which are now operating in Central Java. The hatchery business is very difficult, especially in the start-up phase. There are many technical factors which can cause problems including diseases, water quality and pollution. The most important measure of hatchery performance is the "survival rate". This measures the percentage of hatched eggs (Nauplius) which survive to some specified age, commonly to post larval nine to 15 days. The average survival rates at the Brackish Water Aquaculture Institute in Jepara, one of the three government hatcheries in Central Java, is 10 percent with a wide variance. The private hatcheries have much lower survival rates. Care must be exercised in interpreting these figures, however, because many

of the problems faced by hatcheries are related to the fact that eggs never hatch. Hence, the survival rates apply to a very small population of Nauplii. This problem has brought the private hatcheries to a very difficult business position.

Technical support for the hatcheries is based at the Brackish Water Institute in Jepara. While this organization is staffed by a competent group of individuals and equipped with modern facilities there appear to be constraints in its ability to deliver technical services to the private sector. This opinion is based on the finding that the private hatcheries are not, in their view, able to get the required support from the Institute. The experts consulted have followed a "trial and error" approach to solving the hatchery problems but have not systematically attempted to find the cause of the problems. This may, in part, be due to weaknesses in the Institute's ability to diagnose and solve disease-related concerns. In any case there is a need to strengthen the relationship between this organization and the private shrimp hatcheries.

Fresh Water Tambak Potential

While no primary work was done on the fresh water shrimp production potential, USAID has taken a keen interest in the possibility of promoting the development of this system. Currently, fresh water prawn (Macrobrachium) fry are being thrown away because of a lack of demand. According to one expert, these prawn are almost perfect substitutes for salt and brackish water prawn in the fresh and export market. There are also plenty of

fresh water tambaks which could intensify production of these prawns.

The problem in this system is a typical coordination deficiency. A primary feature of the Macroprachium is that they spoil rapidly after harvesting. If kept for even as little as 30 minutes without ice, spoilage can turn the prawns to mush. The AID contract expert is now investigating hatchery and production potential but is not able to look at marketing issues. He has suggested that CUEDP may be able to play an important role in stimulating the development of effective market linkages with the export sector. This is an area worthy of further investigation.

The Role of the Exporters and the Cooperative

It is often easy to confuse means with ends in considering market structure and organizational alternatives. The objective of the development of the shrimp industry is likely to differ from the perspective of the different groups of participants in the system. The national economic goal of the exporters is to buy cheap, sell dear and process as efficiently as possible. The goal of the tambak farmers is to sell their produce at the highest possible price while at the same time producing as much as is profitable in an efficient manner. The brokers will attempt to buy cheap and sell to the exporters at the highest possible price while at the same time keeping their costs as low as possible.

From the perspective of the system as a whole, some of the important performance criteria include increasing exports, increasing incomes for all the system's participants, generating

productive employment opportunities and that the interactions among participants be conducted according to an equitable set of rules. A case for changing or adjusting the organization of the system can be made when the system's performance record is inadequate. This implies that the opportunities and incentives of the participant groups are not consistent with the generation of the desired system performance outcomes.

In Indonesia, as in many other developing and developed countries, there tend to be package solutions which are instituted when performance is found wanting. Here in Indonesia the solution is often for the government to establish a cooperative. In the current view of USAID the solution is to unleash the private sector. Neither, however, is, at this level, more than ideology. The problem is not to choose one or the other market organization but instead to find the proper mix of alternative market structures which can generate the desired performance outcomes. After all, it is never a question of regulation or no regulation. There is no such thing as a private market in the absence of a set of rules to govern the interaction of individuals or businesses. The very existence of a business entity presumes public sector intervention. It presents a curious picture to many that the United States preaches the private sector in one breathe and then sends out the FDA to inspect and "license" potential exporters of shrimp.

The best way to achieve the desired performance of the shrimp industry is to promote the development of a mix of competing production-distribution systems. This means there is

just as legitimate a role for the cooperative as for the promotion of direct exporter-agent-tambak farmer linkages. As long as participants at each level can choose to conduct business in the channel of their preference, system performance is likely to improve. This is not to say, however, that there is no need for directed support. There are several ways that CJEDP intervention could promote the desired pattern and rate of development and growth in this industry.

Implications for CJEDP Intervention

There are several different ways that the development of the shrimp export industry could be accelerated with the assistance of timely and appropriate CJEDP intervention. Further work needs to be done, however, before our information base would be sufficient to plan and design specific activities. In particular it is necessary to take better stock of the nature and content of current programs of the relevant service ministries and other international donors. It is expected that one key role of the CJEDP would be to coordinate these efforts in an attempt to identify gaps in existing assistance efforts.

Other potential CJEDP activities might include the following:

- o Support the development of the private hatchery system through the improvement of linkages with indigenous and foreign technical assistance.
- o Support the development of shrimp food manufacture in Central Java.
- o Provide consulting services to exporters for the development of integrated or contract linkages with farmers and hatcheries. This includes assisting in the development of technical and

financial support to the farmers through private sector marketing channels.

- o Promote the development of markets and marketing systems for fresh water shrimp.
- o Provide technical assistance to the development of the business operations of the PUSKUD cooperative.
- o Assist the exporters in market research and development, including the satisfaction of all requirements placed by shrimp importers. This may require technical expertise related to food processing and sanitation control.

CASE 11. THE CLAY ROOF TILE INDUSTRY

Introduction and Overview

The island of Java can easily be distinguished from the air by the orange aura which characterizes virtually every population settlement. The clay roof tile (genting) which is the source of this coloration is ubiquitous in Indonesia. Roof tile manufacturing is distributed throughout the country but Central Java is the home of an important portion of the industry. Between 1968 and 1975 the output of the provincial producers grew by more than fifteen times. Continued rapid growth in the number of producers since that time has gone hand in hand with improvements in production technology, the emergence of modern large-scale factories and increasing competition from other roofing materials.

This set of factors has created an extremely dynamic business environment which tends to cloud the picture of the industry. Opinions concerning the prospects for the industry are mixed, reflecting genuine uncertainty as to what the future holds. The brief amount of time available for research has had the result of raising more questions than were able to be

answered. More work needs to be done in this sector before it is possible to satisfactorily assess the need for or usefulness of EJEDP intervention.

The Structure and Unorganization of the Roof Tile Industry

Central Java's roof tile industry is composed of household, small, medium and relatively large producers which are, for the most part, concentrated in five or six major production areas. There is a wide geographic distribution of household and small manufacturers, however, which reflects dispersed demand conditions and ease of entry based on the simple, traditional production technology. The concentrated areas correspond to regions of abundant clay supplies and the historical development of the industry. The dispersed producers rely on lower quality materials from nearby areas.

In 1975, as illustrated in Table 2, there were 18 medium and large-scale (more than 20 workers) producers, 197 small (5 to 19 workers) firms and 16,269 cottage and household production units in Central Java. Value added was concentrated in the household units as a consequence of the enormous number of these enterprises. Value added per worker, however was positively related to firm size suggesting either some economies of scale or difference in the products manufactured. Total employment in the industry in 1975 was nearly 51,000 persons. The greatest proportion of this probably represents part-time workers.

More recent data are not available on the household and cottage industries, but do exist for other firm categories. Between 1975 and 1979 the number of firms in the small, medium

and large category grew impressively. This was associated with increasing employment, value added and productivity. The labor productivity differential between small, medium and large firms moved slightly in favor of the larger enterprises over this period. The differences still are quite small reflecting the adaptability of the improved technology to small as well as larger firms.

Given the importance of the technological developments in tile production it will be useful to briefly discuss the most important dimensions of these changes. Roof tiles are made from a combination of clay, sand and water. The manufacturing process involves mixing the materials, shaping the tile and then removing the remaining moisture. Traditionally the clay, sand and water were combined by foot. This mixture was then shaped against a piece of wood and dried using a combination of sun baking and a kiln which used rice husks as fuel. This method is still employed in practically all of the household and some of the small firms. In one man-day between 100 and 300 tiles can be produced using this method. The final product is of low quality and is sold for approximately 19 Rupian (less than three cents).

Improvements have gradually been made in each of the production steps. Sand, clay and water can now be mixed in a power driven "pug mill" and appropriate water content can be obtained through the use of a mill-fed extruder. Shaping and compressing is now done with a cast iron mold with either a manual or power-driven press. Average productivity with a manual press is between 1500 and 1700 tiles per day and can reach 2000

Table 2

Economic Characteristics of the Central Java Clay Roof
Tile Industry, 1974/5 to 1979, by firm size.

Characteristic	Firm Size Class and Year of Survey				
	Household and Cottage Firms (< 5 workers)		Small Firms (5 to 19 Workers)		Medium and Large Firms (> 20 employees and over)
	1974/5	1974/5	1979	1974/5	1979
Number of Firms	16,259	197	281	18	28
Number of workers	46,679	1376	2187	756	1234
- Per Firm	3.0	7.0	7.8	42.0	44.1
Total Value Added (million Rupiah)	1405.2	66.5	244.1	41.7	174.2
- Per Firm (1000 Rp)	86.4	337.4	868.5	2316.7	6221.4
- Per worker (1000 Rp)	28.9	48.3	111.6	55.2	141.2
Constant Price Value Added * (1975 Prices)	1405.2	66.5	146.5	41.7	174.5
- Per Firm	86.4	337.4	521.2	2316.7	3732.9
- Per worker	28.9	48.3	66.8	55.2	84.6

Notes: * Computed using manufacturing sector price deflators from
GDP calculations.

per day with a diesel-driven model. Sun baking is still practiced but it is followed by oil or wood-fueled oven baking and curing.

The advantage of the modern process is not only due to productivity improvements but also as a result of the superior quality of the tile. Heavier compression improves the tensile strength of the product and the use of the cast iron mold assures standardization. Improved mixing and control of water content also contributes to the strength of the tiles but perhaps more importantly substantially reduces warping and fracture during baking. Formerly, up to 40 percent of pressed tiles had to be rejected for these reasons. This number has been reduced to between five and ten percent with the new technology. The best quality tiles produced in this manner sell for approximately 60 Rupian (nine cents) per piece.

As was noted earlier, the market for the low quality tile is primarily local while the higher quality product serves a wider market radius. For the most part tiles are sold either from the factory or from marketing agents located at the roadside near producing areas. These sellers normally represent one or two producers and may sell on a consignment basis. The marketing system is extremely competitive and there need be little concern with the possibility of non-competitive practices at this level of the system. The primary services provided by the seller are that he represents a quality "filter" and may offer credit to certain buyers. The extent and significance of these practices is not known.

The primary buyers of roof tiles are, as might be expected, building contractors and construction firms. The state of the tile market then can be expected to vary with the condition of the construction market. This will include the seasonal fluctuations of the industry as well as longer-term trends of growth and development.

A development of some significance has been the emergence of the long distance retailing of tiles produced in large-scale factories. The largest factory in the major producing area in Central Java had approximately 150 workers. By contract businessmen in the province told us that in Jatiwangi, West Java, there is a manufacturer employing over 3000 persons. This factory has established a distribution network which extends well into Central Java. Some sellers will stock some of the Jatiwangi tile and promote it as the best quality product (which it may well be). Also there are sellers who now are specialized in selling tile from outside the province. The price of this tile is somewhat higher, however, contractors are said to be willing to pay a rather large (up to 20 percent) premium for first quality roofing.

There is also a technical institute which in part serves the tile industry. The Ceramics Institute in Bandung was responsible for the design of the cast iron mold, and the manual press now widely used by small and medium-scale firms and is continually involved in the search for deposits of high quality clay. This institute is said to be technically strong but somewhat weak in its ability to work closely with the industry. When a coordination linkage can be established, as with the KIK/RMKP

APMO project (discussed below), the Ceramics Institute has the capacity to make an important contribution to the improvement of the industry.

Problems, Opportunities and Constraints Facing the Clay Roof Tile Industry

One of the more difficult issues to resolve about the industry concerns the state of and prospects for the roof tile market. All of the usual signs of either market weakness or excess production capacity exist in the industry. Producers complain of a declining trend in demand and a number of small and medium sized firms claimed to be on the verge of exiting the industry. Stocks of tiles in the hands of manufacturers and sellers appear enormous and the businesses attribute this phenomenon to long-term market trends. However, our visits to the producing areas were during the slow season and so large stocks may be justifiable. Furthermore, the same, seemingly uneconomic levels of inventories were noted in 1974 visits to the same areas by a team of Japanese consultants. There seemed to be genuine uncertainty on the part of many businessmen as to what the "foreseeable future" will bring.

There are several factors which contribute to this uncertainty. The decade of the seventies was a period of rapid economic growth for the nation and for the province. In particular, from 1971 to 1980, the national construction sector grew at a real average annual rate of 15.6 percent and in Central Java at 9.9 percent. This rate of growth is sufficient to support quite a large increase in the roof tile industry.

The data are incomplete but we can compute from Table 2 that real value added among small, medium and large tile producers grew at an average annual rate of 23.4 percent between 1975 and 1979. Since the trend for the household firms is not known, it is difficult to draw any strong conclusions. It appears, however, that either household production was displaced to some extent by the larger-sized firms or that the industry may have found itself growing even faster than the growth in demand. This is not an uncommon phenomenon in a growing industry characterized by easy entry, but suggests that some structural adjustments must eventually be expected.

Another factor which needs to be considered is the nature of competition in the industry. Roof tile manufacturers in any of the major production centers find themselves facing competition from other producers in the same area. Furthermore, each area is also competing against the other areas. This inter-regional competition has now extended to include inter-provincial product flows. Given the homogeneity of the basic product, especially since practically all of the press tile producers use the mold from the Ceramics Institute, the industry fits the perfectly competitive "price-taker" theoretical model quite well.

On top of this is increasing competition from other roofing materials. Cement roofing, zinc and aluminum plate, asbestos and several other expensive imported products have all made inroads into the Indonesian construction industry roofing market. In 1974, prior to the improvement in roof tile production technology, the government encouraged the use of alternative roofing materials due to the low quality of the clay tiles then

produced. The technological advances outlined earlier apparently led to a resurgence in the demand for roof tiles. After all, they are a traditional product which according to the Institute is long lasting and which has the best insulating properties of any roofing material available in Indonesia. Those manufacturing the alternative material, however, are not taking all this lightly and are engaged in active product promotional efforts. One large tile manufacturer interviewed explained that the informal payments required to get government contract orders are increasing rapidly due to this competition.

The rapid growth of the tile industry in combination with the strong competitive forces has certainly contributed to the difficult financial position of many roof tile manufacturers. Costs of clay, wood, oil and labor have risen but the market structure has forced profits to absorb much of this increase. Many producers complained that they are having increasing difficulty paying back the loans taken to upgrade their technology.

This rather dismal portrait must be balanced against another contrasting view of the industry. During 1979 and 1980 the RPMU of the KIK/KMKP credit program launched a pilot project in Kebumen to demonstrate that substantial gains could be made by the tile manufacturers. With technical support from the Ceramics Institute, 10 million Rupian (approximately \$10,000) was made available to each of five client firms. A full package of improved technology was adopted by these manufacturers.

According to the RPMU, this investment has had extremely impressive results. Employment has increased substantially; wages have increased by 80 percent and average monthly profits grew by more than ten times in the client firms, from 175,000 Rp per month before the intervention to 2,300,000 Rp per month after the project. According to the officials involved in the program 87 other firms have adopted a similar package of technology and have experienced similar results.

The RPMU conducted a market study in 1979 and estimated that a 100 percent growth in demand was possible for the Central Java roof tile producers. If this is true it is difficult to reconcile our findings, reported earlier with this estimate. The most probable explanation is that as a result of the slowdown in economic growth which began after 1980, the highly competitive environment, the penetration of interregional trade by large-scale manufacturers and the increase in production capacity brought about by technological improvement, the outlook has faced for much of the industry. We should expect structural adjustment away from smaller firms towards larger firms and eventually decreases in employment in the industry in the years of slow growth which lie ahead.

Implications for CJEDP Intervention

The findings of our research suggest that there may be little direct role for CJEDP intervention in the industry. Much more has yet to be learned which could alter this judgment but, for now, this industry should be given a relatively low priority as a possible target sector. It might be profitable, however, to

attempt to resolve a number of the uncertainties characterizing the industry by conducting a thorough market study for clay tiles. This would dramatically improve the ability of QJEDP and other assistance agencies to evaluate the types of support which should be offered to the industry. Requests for assistance from the Ceramics Institute or BIPK should be evaluated on an individual basis but there is no need to launch any major new promotion efforts until some of the uncertainty is resolved.

CASE III ENGINEERING, MACHINERY AND METAL CASTING INDUSTRY

Introduction and Overview

The engineering, machinery and casting industries are central elements in the development of a strong and progressive industrial sector. The Government of Indonesia has recognized the importance of this sector and has established the highly regarded Metal Industries Development Center (MIDC) to support its growth. The wide range of technical services available from this institute, however, are not, in our opinion, sufficient by themselves to stimulate the optimal rate of development in these industries. While progress has and continues to be made on this front much can still be done to accelerate the rate of growth in this sector.

Slow and gradual improvement of the basic machinery and metal processing industries is not likely to be sufficient to support rapid advancement of the industrial sector of Indonesia. There is a thin line between a metal industry which lags behind

the demands and needs of industry and one which can lead and support industrialization. When industry requires parts or equipment it naturally will turn towards suppliers who are most able to satisfy its needs in a timely fashion. In many cases this means turning to foreign sources. This process tends to retard the development of the indigenous industry which is denied the opportunity to gain experience.

In order to play a leadership role in the development of industry, however, it is necessary for the metal businessmen to exercise considerable entrepreneurial foresight, projecting market needs well into the future and investing at some risk to be "on line" when the demand materializes. The CJEDP can be of assistance in helping Central Java metal industries prepare themselves for the role they must inevitably fill. This case study will provide a brief overview of certain aspects of the provinces' metal industry and suggest ways in which CJEDP can assist in developing this important sector.

The Structure and Organization of the Central Java Metal Industries

The Central Java metal industry is concentrated in four areas of the province. The more sophisticated engineering and machinery firms are located in the Semarang area. The other center of heterogeneous metal processors is located in Tegal. The village of Batur in Klaten and Juwana in Pati are centers of the foundry industry. Heyneker took a careful look at the engineering component of the industry and reported his findings in CJEDP Working Paper No. 2. This paper focuses primarily on the casting and surface finishing components of the industry.

The conclusions of this section, however, draw from Heyneker's work as well as the present report.

The casting and surface finishing industry is concentrated in Tegai, Batur and Juwana. Tegai is noted for the diversity and heterogeneity of its industry. Production is concentrated in 12 medium and large firms and perhaps 20 small and household firms. In addition there is a LIK (small industrial estate) outside the city which is the home for 26 firms. (Many of these 26 are owned by town-based firms so it is difficult to estimate the total number of firms in the area). The Tegai industry grew up around the train repair and sugar industries. While the train repair workshops have now moved the local producers still do a large share of their business providing spare parts to the sugar industry. Other products include roof and floor tile presses, sand mixers for the roof-tile industry, air and sludge pumps, pipe fittings and numerous other component and spare parts. Both ferrous and non-ferrous casting and finishing is done in Tegai. There are also two government cooperatives which serve the local industry.

In Batur there are 126 small and medium-scale firms. The area is specialized in ferrous metal casting and surface finishing. The products of the local industry include pipe fittings for water, oil and sludge pumps, water pumps, rice mill spare parts, diesel engine component parts, ornamental aluminum goods and miscellaneous household equipment such as pans, irons and bases for sewing machines. The industry began in 1915 with the manufacture of frying pans and irons. Since that time the

local firms have produced bomb casing for the Japanese during World War II and swords for the Sultan of Yogyakarta. The growth of the industry followed major contracts for sugar mill spare parts. This lucrative business was eventually lost to Tegai producers but, by that time, the industry was standing on its own. In 1976, more than 30 percent of all cast iron in Indonesia was produced in Batur. There is also a cooperative in this village.

Juwana is primarily specialized in brass casting and finishing. The most important products are ornamental brass items. There is a desire on the part of businessmen there to move into more technical areas of production. Some water meter housings were ordered from this area by MIDD and this has further encouraged producers to begin to move away from the crowded ornamental brass market. There are 128 small firms and two large firms in Juwana. There is also a cooperative.

The products manufactured in the non-brass portion of the metal industry serve three primary markets. The most important is the government, either through direct procurement from a line ministry (Public Works, Health, etc.) or indirectly through the government sugar mills, MIDD, or other government bodies. A smaller part of the total output is sold through a distribution system to consumers. This includes some of the pumps, ornamental products, and so on. The third source of demand is from private industry. One portion included capital goods and spare parts. There is also the component-part market which is primarily based on sub-contracting.

Raw material supplies present little problem to the industry. Imported pig iron and local scrap are the primary inputs. Loke is also imported at the present time. All firms in the survey purchased materials through agents. Businessmen were generally supportive of the proposed regulation which would require all scrap to be processed by Krakatca steel prior to use in the industry. The higher price would affect all firms alike and would likely be offset by the higher quality.

There appears to be little specialization by function even given the large number of firms in Tegai and Satun. All of the firms visited did their own casting and finishing. One firm in Tegai reported that it occasionally contracts to do some finishing for another firm. There also is little if any inter-regional interaction. Satun, for example, does not have its products finished in Tegai.

The coop system is difficult to assess. Two businessmen of the total interviewed in Tegai, Satun and Juwana, expressed the opinion that the coops were performing a useful function. They were two of the three coop managers in the survey. The coop system has been established as a government institution rather than as a collective organization of the producers. Hence, most of the businessmen interviewed perceived it as a vehicle serving government rather than producers' interests. The general attitude was a guarded "wait and see", but one businessman summed up the situation by saying, "If we become totally dependent on the government, the industry will never develop; we must do our own work and not wait for the government to make business decisions for us."

Culture, Trade, Cooperatives and Labor. Training is largely financed, controlled and administered by Central Government officials but implemented by provincial and local governments. About 15 percent of all training programs in the province are provided by private foundations. In these cases there is generally more local direction and control.

Available training courses cover a wide variety of subjects including management, entrepreneurship, motivation, exporting, production technologies and marketing. The duration of individual courses ranges from two days to six months with an average of about two weeks. Average training course size runs from twenty to fifty participants. Training participants are usually reimbursed for transportation and room and board charges and receive "pocket money" ranging from Rp.1500 to 12,000 (\$ 2.00 to 18.00) per day. Two months of training may provide an extra income more than equal to a full year's formal salary for some participants in government-sponsored training programs.

Although some of the agencies which offer regular training programs maintain a full time training staff, most training instructors are hired temporarily from outside the sponsoring agency: from other government agencies, universities, private businesses and PVDs. This arrangement provides attractive income supplements to the temporary instructors while being relatively efficient for the training agencies.

Among the more important providers of training in Central Java are the following agencies:

- BIPIK, which provides a variety of training programs including the introductory nine-week training course for new TPLs and various technical and managerial training activities organized around the industry service centers;
- BLKI (Balai Latihan Kerja Industri), an agency of the Department of Labor which focuses on technical training in fields such as mechanics, electronics, woodworking and construction, with well-equipped facilities in Semarang, Surakarta and Yogyakarta;
- BLPT (Balai Latihan Pendidikan Teknik), focuses on technical training and the provision of equipment to graduates of the junior technical schools who could not otherwise use the skills they have been taught;
- BALATKOP (Balai Latihan Koperasi), regularly uses 25 different training modules focused on various management issues to help strengthen existing cooperatives and stimulate the growth of enterprises under the cooperative umbrella;

its workshops are equipped to focus on welding, casting and surface finishing, prototyping, machining and dies, destructive and non-destructive testing, construction materials and heat treatment. In addition there are well equipped laboratories specializing in foundry chemicals and metallographical areas. Other divisions of the organization include consulting in quality improvement, mechanical engineering, industrial management and casting and surface finishing. There is also a division concerned with advanced planning and product development.

The primary problem facing the institute is that it is not satisfied with its ability to reach the more than 10,000 enterprises which it has the mandate to assist. It extends assistance and training through the BPIK program which suffers from the problems discussed in the Working Paper on enterprise support services. It has also attempted to work through the cooperative system but primarily as a way to distribute product orders. The Director of MIDU was very interested in the possibility of having another channel through which businessmen could be reached.

One example of the work of MIDU is illustrated by the case of the water meter housings. Indonesia formerly imported water meter housings from all over the world. Kepres 10 required that whenever possible, all government procurement should come from local sources. With Kepres 14A this mandate was extended to specify a preference for small-scale pribumi suppliers. The Kepres 10 Committee requested that MIDU assist in assessing the feasibility of the domestic production and import substitution of water meter housings. MIDU spent six months and 3 million Rupiah

to prepare molds, core patterns, quality control equipment, etc. and came to the conclusion that it was indeed feasible. MIDC was then asked by the Kepres Committee to conduct a survey to determine how production orders should be allocated and to act as an agent for the raw materials. The BC-6 special copper, zinc, tin, and lead alloy used by Japanese producers proved inappropriate for the sand casting methods used in Indonesia. Further development of the alloy mixture was conducted by MIDC. Once satisfied with the formula, 35 tons of the material was purchased from Japan. The alloy delivered was the wrong mixture (not more than the required .3 percent iron) and so the material had to be re-ordered.

The Department of Public Works contracted the order of 200,000 water meter housings to MIDC which in turn allocated the orders to two cooperatives in legal, one Cooperative in Pati and two medium-scale producers in Bandung. Direct quality control supervision was provided by MIDC in the form of placing supervisory workers in the production factories. The Institute was satisfied with the result of this effort. Of the several businessmen interviewed during the course of our research who received meter orders most felt that they had learned quite a great deal from the experience as it was a new product using new materials. The fact that it was a learning process, however, made it economically a losing proposition for most of those surveyed. The producers seem happy to wait for MIDC, the Kepres Committee and the Department of Public Works to place similar orders.

MIDC currently has 25 major projects. Most are government initiated. Consulting services to medium and large-scale factories are given directly for a fee with overhead expenses allocated according to the ability to pay. MIDC gets around the "low government pay syndrome" by using a profit (fee) sharing system among the employees working on a given project. They also organize training programs and seminars. They will tailor make training programs for workers, managers, single firms or groups of firms. The training is sold on a fee basis (200,000 Rs per man month, minimum 5 trainees; 60 percent theoretical, 20 percent practical) with the fee depending on the theoretical versus practical content of the training. This will be done at the Institute or in the factory.

Problems, Opportunities and Constraints Facing the Industry

If you ask the foundry businessmen about the problems facing their firms and the industry in general, a wide range of responses will be heard. Most of the issues they raise can be grouped under the following issues:

- o Existing technology is inadequate to meet the quality standards demanded in many spare and component parts markets. This is especially the case with finishing machinery. Normally, this problem goes hand in hand with perceived and actual problems with the availability of fixed asset finance.
- o Existing skills of the workforce and management in the engineering area are inadequate to achieve potential levels of efficiency and to meet rigorous quality specifications. This includes a recognition of deficiencies in skill-intensive activities related to product design, production engineering, firm organization, casting and finishing. Furthermore there is a felt limitation on the part of some entrepreneurs concerning their ability to effectively deal with

marketing challenges such as the anticipation of demand.

- o Government policy and support is not felt to be providing the required mix of appropriate regulation, support and guidance to the industry. This reflects both deficiencies in the government support systems and policy but also the acquired dependence on government guidance and support. Specific causes of this problem are expressed in the widely held view of the poor performance of the coop system, the policy bias in procurement towards small-scale and pribumi firms (at the expense of the Indonesian-Chinese and the medium-scale businesses) and the perception of widespread corruption in the government contracting system.

It is also felt that the MIDL and coops are primarily serving only the government's needs and are not oriented sufficiently towards the potential private-sector requirements from the metal industry. Finally, support programs have gotten a bad reputation in some areas because they tend to select businessmen with "good images or lots of money" to serve as examples even if they are not particularly capable businessmen. This comes at the expense, it is claimed, of providing support for the young, forward-thinking entrepreneurs.

These producer perceptions are essentially consistent with the more general, inherent problem facing this industry. In order to tap existing markets, which are now served by imports, and to be prepared to respond to future demand for machinery, spare and component parts it is necessary that the capability of the industry be increased. Given the overall importance of the metal industries it can reasonably be argued that the rate of development is sub-optimal. Lagging development of the industry tends to place it at progressively greater disadvantage when compared with foreign suppliers. Furthermore, if the development

of the Central Java portion of the industry lags behind the development of the industry in other regions, demand will tend to be pulled away from the province.

This sub-optimal growth and development is a reflection of clear cut market failures and uncertainties, especially regarding future market conditions. Improvement in quality requires significant new investments in both physical and human capital. Businessmen in this setting are reluctant to invest because of the risks involved and financial institutions are reluctant to lend money in situations of such uncertainty. Furthermore, the present significance of government contracts as a source of demand adds to the problem because of inconsistent enforcement of the basic contracting regulations. If firms were certain that contracts would be allocated on competitive principles the incentive for innovating would be enhanced.

The GOI through MIDU offers an effective subsidy, reducing the costs and uncertainties of certain types of product development and advanced planning. The water meter example illustrates one way in which this subsidy operates. This case, however, also illustrates that these efforts are skewed towards government program needs rather than to the needs of the private sector. These needs are not necessarily at odds and there is no inherent reason for the MIDU focus. This is just the way the incentives have worked themselves out. There is considerable room for the UJADP to play an important role in combining the talent of MIDU with its own expertise and resource pool to close this gap and to adjust the orientation of this subsidy towards

the development needs of the private industrial sector.

It should also be noted that there is a major need to improve the efficiency of the casting and surface-finishing industry. A study commissioned by MIDC found that, given identical product designs, European producers were six times as efficient in manufacturing the final product. While a part of this differential is due to the technical conditions of the production process a more important cause is related to the ability of the European firms to move efficiently from the design to the production stage. Instead of relying on a competent engineer to map out the production process the Indonesian firms relied on a trial and error approach to mold design, quality control, etc. Some firms recognized this deficiency and said that they felt they needed an engineer on their staff but no further action has as yet been taken.

The ornamental brass producers in Juwana face some of the same problems as the non-brass portion of the industry. According to the Work Study Analysis carried out by Yayasan Dian Desa in connection with the CJEDP design process (Working Paper No. 8), efficiency, in terms of plant layout and organization, could be improved substantially. Furthermore, the manufacturers are anxious to adopt improved casting and finishing technologies which are presently felt to be inadequate for the particular quality demands of the ornamental brass market. There are also problems with product design and quality control.

One of the large firms, clearly the industry leader, is very interested in attempting to move into the export market. Of all

of the "handicraft"-type products in Central Java, this firm's brass stands out in terms of quality and workmanship.

Furthermore, this firm has developed an extensive local subcontracting system with twenty-five small manufacturers in Juwana. This presents an attractive possibility for CJEDP assistance.

Implications for CJEDP Intervention

There are a number of ways that the CJEDP could intervene in support of the development of the metal processing industries in Central Java:

- o Immediately organize and support market research in conjunction with MIDC to analyze the present and future characteristics of the metal products market. This would include looking at machinery, spare and component parts which are presently imported or produced in other provinces, planned investments in the industrial sector anticipating their needs and projecting further into the future the pattern of industrial development and associated product requirements.
- o Serve as a clearinghouse for information on metal products which can be produced in Central Java. Develop a system that would provide an incentive for investors to assess the potential availability of machinery and parts in Central Java before orders are placed elsewhere.
- o Find ways to generate improved efficiency in the industry including encouraging specialization among firms and between areas so that the gains from specialization, especially in the separation of founding from finishing, can be realized. Also, we need to look at ways to get more engineers into the private sector firms.
- o Assist in facilitating the relationship between the private sector and MIDC, especially in the training and product development areas.

- o Encourage sub-contracting relationships with assembly and machine making plants that contain technical and financial support arrangements. CJEDP may want to promote the development of such linkages into more sophisticated product lines.

- o Work to support MIDC, including using the Pilot Project Fund, in orienting some of its activities towards the needs of the private sector.

The following (Table B-1) is an illustrative budget for the first five years of project implementation. It is intended only as a means of providing USAID and GOI decisionmakers with a rough approximation of anticipated project development costs. More detailed cost estimates will be developed in the Final Report which will be produced by the contract team in the next planning phase. This budget does not consider the potential for the project to earn revenue by selling consulting services as the demand for such services will have to be tested and developed during the early years of project implementation.

 Table B-1

FIVE YEAR ILLUSTRATIVE BUDGET
 (USD thousands)

	USAID	GOI
Contract Personnel	4,200	1,500
Vehicles and Equipment	50	300
Operating Costs	--	700
Pilot Project Fund	1,000	10,000
Venture Capital Fund	3,000	--
Total	<u>8,250</u>	<u>12,500</u>

Table B-2 is a more detailed estimate of the cost of extending the current contract until October 31, 1983 when a Project Paper can be produced and reviewed. Table B-3 is a suggested budget for an interim phase of project development between the time a Project Paper is approved and the time formal project implementation can begin. Both of these phases are explained in more detail in Chapter VI of the main report.

Table B-2

Phase III (July 1 - October 31, 1983)

	USD thousands		
	USAID	GOI	
Salaries and Wages		19.25	8.00
Field Staff	17.15	--	--
Field Associates	2.10	--	--
Local Professionals	--	5.00	--
Local Clerical Staff	--	3.00	--
Fringe Benefits		2.65	--
Field Staff (15.2%)	2.60	--	--
Field Associates (2.2%)	.05	--	--
Overhead (66.5%)		13.90	--
Post Differential		3.50	--
Education Allowance		.80	--
Housing		--	4.60
Rent	--		2.00
Utilities	--		2.00
Maintenance	--		.60
Travel and Transportation		3.30	7.70
International Travel	2.50	--	--
In-country Travel	--		3.70
Per Diem	--		4.00
Storage of RHE	.80	--	--
Other Direct Costs		5.70	16.70
Communications	1.00	--	--
Translation and Production	--		5.00
Language Training	1.00	--	--
Office Supplies	--		2.00
Office Utilities	--		1.20
Printing and Photocopy Supplies	--		1.00
Photocopy Machine	--		4.00
Honorariums	--		3.50
Miscellaneous Costs	3.00	--	--
D.B.A. Insurance	.70	--	--
Subcontracts		15.00	--
Research Triangle Institute	7.50	--	--
Yayasan Dian Desa	7.50	--	--
Fee (7.38%)		4.73	--
Total		68.83	37.00

Table B-3

Phase IV (Nov. 1, 1983 - June 30, 1984)

	USD thousands	
	USAID	GOI
Salaries and Wages		
Field Staff	52.20	--
Field Associates	7.75	--
Local Professionals	--	10.00
Local Clerical Staff	--	6.00
Fringe Benefits		
Field Staff (15.2%)	7.90	--
Field Associates (2.2%)	.17	--
Overhead (66.5%)	45.23	--
Short-term Specialists	24.00	10.00
Post Differential	12.25	--
Education Allowance	1.60	--
Housing	--	18.40
Travel and Transportation		
International Travel	2.50	--
In-country Travel	--	6.00
Per diem	--	8.00
Storage of HHE	3.20	--
Other Direct Costs	9.70	17.40
Communications	3.00	--
Translation and Production	--	2.00
Language Training	1.50	--
Office Supplies	--	4.00
Office Utilities	--	2.40
Printing and Photocopy Supplies	--	2.00
Honorariums	--	7.00
Miscellaneous Costs	3.00	--
D.B.A. Insurance	2.20	--
Pilot Project Fund	--	27.20
Subcontracts		
Research Triangle Institute	7.50	--
Yayasan Dian Desas	15.00	--
Fee (7.38%)		
Total	202.95	103.00