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The Role of Small- and Micro-Enterprises in Regional Development: Literature Review and Guidelines for Project Design

by

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ABSTRACT

This paper begins by providing historical background on changing views toward regional development as distinct from national economic growth and the importance of small- and micro-enterprises in achieving this objective. It then summarizes the main research findings on the characteristics of firms of this scale and the experience with development projects in this area. Finally, it offers guidelines for designing successful projects to assist small- and micro-enterprises.

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Forthcoming in Project Appraisal

Regional Development as a Policy Objective

Balanced regional development is a relatively recent concern in less developed countries (LDCs). The economies and social and administrative structure of most of these countries are dominated by a large "primate city", while small towns and rural market centers remain underdeveloped and poorly linked (Rondinelli 1978). This development pattern, partly a result of colonial systems designed to establish a base for political control and export of primary commodities, has been perpetuated by independent national governments (Rondinelli and Ruddle 1978).

After World War II, conventional development theories neglected regional development and income distribution in favor of the single objective of rapid national economic growth to achieve a "take-off stage" (Rostow 1960). The prevailing view was that underdeveloped areas and disadvantaged groups would eventually gain as the benefits spread geographically from the center to the periphery and "trickled down" from the more affluent to the poor. This "magic of the market" philosophy was an outgrowth of the location theories of geographers such as von Thunen and Losch and economists like Adam Smith.

Various theories differed on the best ways to achieve national economic growth. Some saw government as an engine for promoting growth by providing a "big push" from expenditures on physical infrastructure such as roads, bridges, and dams. These economists recommended that donors concentrate aid on the countries "doing the most to help themselves", rather than the poorest ones.

Another approach, the growth pole strategy of the 1960s attempted to concentrate industrial development in several regional or provincial capitals by providing financing and incentives for firms to locate in these areas. The scattered enclaves that resulted often were both economically inefficient and poorly integrated with their rural environs (Rondinelli 1983).

The neglect of regional balance in development strategies had negative effects on both rural and urban areas because it accelerated rural-urban migration. Rural emigrants are often more productive, better educated, and have better skills and motivation than the ones who stay behind. This drain of human resources has also pulled capital out of rural areas. In the urban areas, the growth of the labor force outstripped the absorptive capacity of the formal economy and governments found it difficult to meet the rapidly increasing demand for social services and physical facilities.

Although the resulting urban problems such as the growth of slums, lack of safe drinking water and sanitation, and higher crime rates were considered in donor policy documents in the early 1970s (Miner and Chetwynd 1972; World Bank 1972), donor responses were sometimes counterproductive. Governments were encouraged to expand the centralization of administration and expenditures on large-scale urban infrastructure. Thus, the roots of the urban problems, which derived from the underdevelopment of rural areas, were not addressed.

Small-scale industry can be important in absorbing labor in

rural areas. Nonfarm enterprises in poor countries in Asia employ 25-45% of the labor force in rural areas and small market towns. An additional 10-20% of the male labor force has a secondary occupation outside of agriculture (Ho 1986). Defining "rural" as areas that service an agricultural hinterland, including towns of substantial size, the nonfarm share of rural employment in much of Sub-Saharan Africa is 10-20%. The nonfarm employment density in Asian LDCs ranges from 70-140 per 1,000 population, compared to 30-50 in most of Africa. It is generally higher in West Africa than in East Africa. In most of the developing world, rural nonfarm employment increased faster than farm employment over the past 20 years (Haggblade, Hazell, and Brown 1989).

Eventually, governments and some donors began to change their policies. In 1973, the U.S. Congress directed A.I.D. to focus its efforts on assisting the poorest of the poor. Two approaches to reducing poverty in rural areas were tried -- integrated rural development and community development projects.

As regional issues became an explicit part of donor and government economic plans, integrated regional development (IRD) projects were promoted for more balanced economic growth. Typically, these multi-sectoral projects included a series of unrelated components for agricultural production, provision of social services, improvement of physical infrastructure, and, less frequently, manufacturing. They were implemented by government, usually through creation of a new agency.

Most IRD projects were large in scale and geographic coverage, which led to high overhead costs and managerial problems.

Because the projects tried to assist too many different types of enterprises, they were unable to meet the needs of many businesses very well. The new administrative structures frequently proved cumbersome due to staff inexperience and difficulties in coordinating the services of a variety of other government agencies.

In most IRD projects, not enough was known about the characteristics and diversity of the targeted areas and the technologies promoted were often inappropriate for the needs and resources of the intended beneficiaries due to cost, risk, or cultural mismatch. The actual beneficiaries tended to be the relatively well-off and better educated. IRD projects also failed to address the policy issues that led to systemic problems (Lacroix 1985). Although the term IRD has fallen into disfavor, some donors have continued to develop projects along these lines.

Rural community development programs increased in number during the 1960s and 1970s, but received a relatively small amount of funding compared to IRD. Most community development projects were justified on equity grounds. They emphasized social welfare activities, village-level public works, formation of cooperatives, extension services for agriculture and health, and, sometimes, villager consciousness raising. For the most part, economic activities were not given much priority in community development projects and many exhibited an ideological bias against individual profit-making.

Nongovernmental organizations (NGOs) and private voluntary organizations (PVOs) had a large role in community development

projects in many countries. Usually, field workers were assigned to live in a particular village or travel to multiple villages while technical support was provided by a central office. The community development projects were not sustainable without indefinite external assistance and many did not bring about significant impacts in rural incomes or empowerment (Lacroix 1985).

In response to the problems with IRD and community development projects, more attention was devoted to priority locations for regional development programs. Rondinelli (1983) recommended focusing attention on "secondary cities" with a population of 100,000-300,000 and developing linkages to integrate them to the primate city and rural areas. He argued that investments in infrastructure are most feasible at this level and that economies of scale can be reaped in provision of government services.

A secondary cities strategy has some limitations. Farmers too distant from a secondary city may be forced to buy their inputs locally at high prices and sell their harvests through middlemen at low prices (Johnson 1970). Goods produced in urban areas do not always reach rural consumers due to weak distribution systems and high transport costs. Secondary cities have a limited capacity to absorb migrants from rural areas. Furthermore, efforts to build the administrative capacity of local governments in secondary cities do not improve the conditions of the rural poor. Extension services based in provincial capitals have generally failed to reach farmers and entrepreneurs in rural areas.

A balanced development pattern requires investment in social as well as physical infrastructure in rural areas, and increased economic access for disadvantaged groups (Rondinelli and Ruddle 1978). To support rural development, planning and administration may need to be decentralized. Yet, a survey of eighteen LDCs showed that most governmental institutions concerned with rural industries were geographically and administratively centralized. Few had good linkages to field level organizations in villages (Chuta 1988). It is important to adopt a needs-oriented approach that emphasizes working directly with the poor in rural areas, building on their own resources and skills.

Changing Views On Small- and Micro-Enterprises

Definitions of small- and micro-enterprises can be based on number of employees, capital investment, product or service turnover, net worth, sales volume, range of markets, or amount and type of energy used in production (Hunt 1983). Most commonly, the criterion is number of employees.

In rural areas, micro-enterprises are often seasonal and built around farm activities in use of raw materials and labor (Akranasee 1983). Farm-related enterprises face large risks of raw material supply associated with weather and pests and diseases (Meyer 1988). In small towns, some small-scale firms cluster to benefit from economies of agglomeration (Oppenheim 1986).

Most small- and micro-enterprises are in the informal sector of the economy. The informal sector includes manufacturing and service enterprises, many of which are part-time, seasonal, or

itinerant. These enterprises do not have a business license or a recognized legal identity. Usually, the informal sector is outside the scope of government regulations on minimum wages and business taxes, but it faces market competition.

Other benefits of informality include greater freedom in operation, flexible hiring and firing, less paperwork, fewer administrative delays, and the potential for diversification. However, informal sector firms have disadvantages such as little protection from the courts in outside dealings, exposure to extortion by tax collectors or police, and lack of access to formal sector credit and government incentives (Bremer-Fox et al. 1989).

In the 1950s and 1960s, many economists and policy makers recommended favoring large-scale, capital-intensive industries because they generated more non-wage income, which was thought to increase investment rates. Small-scale businessmen and farmers were considered irrational or backward (Hull 1988; Sanyal 1988). Micro-enterprises were usually viewed as marginal, unproductive activities that did not contribute much to regional development, evaded taxes, and had little potential for growth or development of entrepreneurial capacity.

Many of the large-scale industrial projects failed because they did not meet the needs of target groups or clashed with local social structures and cultures (Schneider 1988). Nor were basic human needs being met for the masses of the population in either rural or urban areas (Burki and Haq 1981).

By the early 1970s, the views of critics that conventional

development strategies based on maximizing growth of national gross domestic product failed to achieve either efficient or equitable growth gained more acceptance (Owens and Shaw 1974; Amin 1975). The capital-intensive technologies used also consumed large amounts of fossil fuels and generated substantial pollution. As a result, some governments and donors were pressed to adopt requirements for environmental impact assessments of large projects (Hyman, Stiftel, Moreau, and Nichols 1988).

In response to the criticism, donors and governments in the 1970s began to pay more attention to the balance between agriculture and industry in rural areas and between small and large firms in urban areas (World Bank 1975; World Bank 1978). Nevertheless, most donor and government assistance still went to large-scale farmers and formal sector firms using imported technologies.

Urban informal industry also began to receive some recognition (ILO 1972; 1974), but was provided little tangible support. The first donor policy statements on the informal sector saw it as a reservoir of employment for new migrants to urban areas before they find jobs in the formal sector. This view has been contradicted by studies showing that the majority of urban informal workers are older residents of the city and that there is often more movement of labor from the formal sector to the informal than the reverse (Mohan 1979; Field 1980; Hackenberg 1980).

At present, some researchers view the informal sector as a symptom of an inadequate institutional environment and mercantilistic economy (de Soto 1986). Others see it as a

potential source of business creation and expansion that can contribute to national economic growth (Orsini 1989). Informal firms do pay indirect taxes on inputs (Tokman 1989).

Due to changes in the world economic climate in the late 1970s through the 1980s, the informal sector grew in importance in many LDCs. For example, in the Latin America/Caribbean region, the number of people employed in the informal sector increased 39% (Tokman 1989). This sector now employs one-third of the economically active population (Iglesias 1988).

In the mid-1980s, small- and micro-enterprise programs received more attention from donors and governments as a potentially sustainable way of combining equity with efficiency in the long term. Starting in fiscal year 1988, the U.S. Congress specified a minimum amount of budgetary resources to be allocated by A.I.D. for short-term loans to micro-enterprises representing the poorest half of the population in LDCs. Priority for lending was placed on productive activities with the potential for expansion, especially those owned and operated by the poorest 20% of the population. At least 50% of the funding was to assist women's activities. The average maximum loan size was set at $300, although exceptions could be made for group enterprises. These loans are supposed to incorporate unsubsidized interest rates (U.S. A.I.D. 1988).

Appropriate Technologies for Small- and Micro-Enterprises

Firms choose technologies based on their planned scale of production, awareness of the range of alternatives, resources, and expectations of relative factor prices. Thus, firms that

started at different times may make different decisions about what technologies are most appropriate for a particular scale of production. Entrepreneurial ability also affects choice of technologies (Biggs 1986).

Although Gandhi had promoted use of small-scale appropriate technologies based on local skills and resources for self reliance and rural development in India, the conventional view on technologies was not widely challenged until the early 1970s (Schumacher 1973; Owens and Shaw 1974). Since then, only a relatively small amount of resources has been channeled to development and use of appropriate technologies for rural nonfarm enterprises, mainly by smaller donors. In the early years of the appropriate technology movement, emphasis was on the hardware or equipment and it was assumed that a latent demand existed for this equipment. This "technology push" approach by inventors and tinkerers proved unsuccessful by itself and often led to museum-like installations that were not adopted by small- and micro-enterprises.

Nevertheless, by the mid-1980s, a significant body of experience with appropriate technologies demonstrating the case for these technologies had been accumulated (Hyman 1987). At present, a more sophisticated "needs-based" approach to appropriate technology is being implemented. This approach begins with an assessment of the needs, resources, and constraints of producers and consumers to determine the marketability and commercial viability of a technology.

In the Africa, Asia, and Latin America/Caribbean regions,

many government officials are now receptive to the promotion of appropriate technologies for regional development (Ahmad 1988; Bagachwa 1988; Gomes-Lorenzo 1988). The concept is no longer viewed as a neo-colonialist plot to keep poor countries backward. There is still controversy about whether small- and micro-scale firms are innovative and able to adopt efficient technologies on their own. Special attention is being paid to technologies that increase the productivity and reduce the burdens of women's work in rural areas (Charlton 1984; Carr and Sandhu 1987; Goldschmidt-Clermont 1987; International Center for Public Enterprise 1987).

At present, it is often argued that small firms use raw materials, labor, and capital more efficiently than larger ones; help mobilize and generate savings; and serve as places of learning by providing experience for workers and managers (Rahman 1989; Lassort and Clavier 1989). Small firms may be particularly efficient where dispersed raw materials are processed for local markets and transport costs are high or when craft or precision hand work is required (Hunt 1983). More empirical studies are needed to verify these hypotheses. Yet, the issue of efficiency is not static because more engineering R&D could be done to improve the relative productivity of labor-intensive, small-scale, production processes (McRobie 1981).

The question of economies of scale goes beyond technologies for production. It also encompasses power in factor and product markets, access to financing, and political influence. Noncompetitive behavior by large firms often allows smaller firms to co-exist with them in the same market niche for long periods

of time. Natural barriers to entry in regional markets, consumer loyalty, and institutional barriers can protect smaller firms (Biggs and Oppenheim 1986). Economies of scale are not important in small, segmented markets that do not warrant a large capital investment (Tokman 1989).

Small firms in LDCs could significantly improve their productivity if provided with technical assistance about the range of choice in technologies and access to better equipment, machinery, and processes. Reliance on appropriate technologies can help build up the confidence of small-scale entrepreneurs, allow greater economic participation of the masses, and instill pride in workmanship (Schumacher 1973). To achieve this, scientific knowledge needs to be extended to a wider range of production alternatives (Dickinson 1977). At the same time, indigenous innovations by producers in LDCs that have withstood the test of practical application should be encouraged, including those developed in the informal sector (Jéquier 1976).

A more balanced development pattern could be achieved through wide distribution of improved technologies for small-scale manufacturing and service industries in rural centers and market towns. In turn, these activities can stimulate the local economy by increasing aggregate demand and allowing greater reinvestment in agriculture (Pack 1977; Ashe 1987). Morecver, rural demand patterns for goods and services can often be met locally through labor-intensive production methods in rural towns, further stimulating regional development. Consequently, although it may be easier to work in urban areas than rural

areas, that strategy might not have the largest impacts in the long run.

The Policy Environment and Choice of Technologies and Scale

Government policies often present a major barrier to the growth and transformation of small- and micro-enterprises and their willingness and ability to adopt appropriate technologies. For the most part, government policies have favored adoption of large-scale, imported technologies by decreasing capital and foreign exchange costs and increasing labor costs (Anderson 1982; Haggblade, Liedholm, and Mead 1986; Stewart 1987). Bureaucratic requirements and red tape have often blocked the registration of formal sector firms (de Soto 1986).

LDC governments have promoted large-scale industries via trade regulation; credit controls and targeted, subsidized loans; infrastructure expenditures; tax and pricing policies; creation of industrial estates; and direct public investments in parastatals (Little, Mazumdar, and Page 1987). Usually, donor capital has been geared to encouraging foreign investment and providing risk guarantees for large firms (Hollis 1963).

This unfavorable policy environment is a result of the political economy of LDCs. Large-scale producers whose economic power had grown as a result of the trickle-down strategy also gained political clout, enabling them to influence government policy for their own further benefit (Sanyal 1988). By reducing potential employment opportunities, these policies placed the burdens of national economic growth on those who could least afford it. The wealthy beneficiaries of non-wage income

channeled much of their gains into consumption of imported luxury goods, "sterile assets" such as gold and jewelry that do not generate much productive activity, or investments outside the country.

In some countries, structural adjustment programs affected the scale and location of industrialization in the 1970s and 1980s. The effects of structural adjustments on the potential for adoption of appropriate technologies and the growth of small-scale industry have been mixed (Stewart 1988). In the short-run, it has depressed incomes and aggregate demand in urban areas and decreased the accessibility of certain raw materials and equipment for urban and rural industry (Hugon 1988).

On the other hand, structural adjustment has increased farmer incomes and stimulated industries supplying farm inputs, where government policies had kept farm prices artificially low (de Janvry and Sadoulet 1989). The effects on industries processing agricultural products have been variable. Structural adjustment has increased the awareness that large-scale industrial projects are too expensive, require too much scarce foreign exchange for their establishment and operation, and are often unprofitable due to technical and managerial problems. Structural adjustment may discourage rural-urban migration (Hugon 1988), but it may increase return migration between LDCs and urban migration to developed countries (Murillo and Cartier 1985).

In the 1990s, the impacts of government macro-economic and sectoral policies are likely to undergo greater scrutiny in many countries. One way of increasing the ability of informal sector

firms to influence policies is for them to organize into cooperatives or trade associations (de Soto 1986).

Characteristics of Small- and Micro-Enterprises and Programs

A.I.D. sponsored much of the early research on the characteristics of small- and micro-enterprises and the effectiveness of development assistance programs in this sector: the PISCES I and II studies, a series of studies by Michigan State University, and the micro-enterprise stock-taking exercise. In late 1989, A.I.D. funded a new research project in this area known as GEMINI. Other recent studies have been supported by the U.N. and the Government of the Netherlands, the Asian Development Bank, and the World Bank.

PISCES I

The first set of PISCES studies (Program for Investment in the Small Capital Enterprise Sector) concluded that it is possible to provide assistance to the economic activities of the urban poor. It found that many of the successful projects in this area shared common characteristics:

1. An extensive process of project design and evolution
2. Effective field staff at the grassroots level
3. An outreach program in the community
4. Flexible provision of credit
   a. Character-based rather than collateral-based lending
   b. Small loan amounts
   c. Short loan terms (less than 3-6 months)
   d. Interest rates that cover administrative costs and risks
   e. Schedule of frequent loan repayments
   f. Business-like approach to loan collection

Pisces I projects that provided bookkeeping and management training and job skills development for youth had mixed results,

often due to insufficient assistance in marketing (Farbman 1981). Table 1 compares the difficulty of providing assistance by characteristics of the beneficiaries. A retrospective look at projects reviewed in the PISCES I study found that few had resulted in sustainable long-term programs and concluded that a more businesslike approach to NGO lending is needed (de Wilde and Gupta 1989).

PISCES II

The main lessons learned in the second set of PISCES studies were that

1. Assistance to micro-enterprises is appropriate and can be delivered by local institutions in a cost-effective way.
2. Many organizations working in this sector in LDCs are NGOs and PVOs.
3. A.I.D. field missions had generally been slow in supporting micro-enterprises, compared to other sectors.
4. PVOs have shifted their activities from community development toward income-generating activities (Ashe 1985).

A.I.D. Microenterprise Stock-Taking

The A.I.D. micro-enterprise stock-taking report identified distinguishing characteristics of small- and micro-enterprises (table 2). It noted that little is known about the impacts of most A.I.D.-assisted micro-enterprise programs on beneficiaries (Boomgard 1989). In some cases, anecdotal information was available, but no statistical data to judge the extent, significance, and sustainability of benefits or their

TABLE 1. Comparison of the Difficulty of Providing Assistance to Micro-Enterprises By Characteristics of the Beneficiaries

CHARACTERISTICS OF BENEFICIARIES

	Urban Experience	Knowledge of Business	Income	Education	Residence
PROVIDING ASSISTANCE LESS DIFFICULT	Established Urban Dwellers: — "street wise" — good contacts with suppliers, buyers, money lenders, officials, etc. — oriented to urban values	— grew up in community surrounded by business activity — parents work as artisans or vendors — worked with business from early age — grasps concepts of credit, costs, markets, etc. — has developed marketable skills	Near Poverty line: — can meet basic needs of family at low level — some capacity to reinvest savings — access to basic services	Basic reading, writing, and arithmetic skills	— lives in central city — markets, supplies, and raw materials close at hand
PROVIDING ASSISTANCE MORE DIFFICULT	Recent Immigrants: — little urban experience — few contacts outside of family or recent migrants like themselves — oriented to rural values	— parents are farmers — no personal business experience — little exposure to business activities in rural community — little grasp of concepts of credit, markets, etc. — few or no marketable skills	Extreme Poverty: — fundamental concern is day to day survival — almost no capacity to save and reinvest — little access to basic services	Illiterate	— lives in settlements distant from city — transportation to markets costly and time consuming

SOURCE: Farbman 1981.

TABLE 2. Distinguishing Characteristics of Small- and Micro-Enterprises

	Microenterprise	Small-enterprise
Number of Workers	Roughly 10 or less full-time workers.	Roughly 10 to 50 full-time workers.
Work-force	The work-force is comprised primarily of family labor.	Hired workers comprise a significant share of the total work-force.
Sources of Finance	Rely almost entirely on cash transactions, informal credit markets, and supplier credit. Start-up commonly funded by family savings.	Limited access to formal financial markets; commonly rely on informal financial markets, supplier credit and reinvested earnings.
Management	Little management specialization.	Some specialization in management functions.
Technology	Traditional - based on widely existing technical knowledge, existing labor skills and existing raw materials supplies.	Less traditional: innovation required in some aspect of the transformation process.
Products	Products and services are generally simple and unsophisticated; prices are low; cater to "basic-needs" of low-income consumers.	Products and services range from simple to more complex; span a relatively broad range of consumer types.
Markets	Typically serve highly localized markets through simple marketing channels.	Marketing patterns somewhat more complex reflecting innovation in raw material procurement or in output sales.
Competition	Competition intense as a result of ease of entry and localized market area.	Competition somewhat less intense due to barriers to entry.
Earnings	Returns to owners/entrepreneurs generally very low.	Returns higher but subject to greater variation and risk.

SOURCE: Boomgard 1989.

relationship to different approaches to enterprise assistance.

Three types of enterprise support were distinguished in the study: (1) enterprise formation -- creation of new micro-enterprises out of pre-entrepreneurial activities, (2) enterprise expansion -- enlarging the production or profitability of existing micro-enterprises, and (3) enterprise transformation -- increasing the size of micro-enterprises to small enterprises having more than 10 workers or making informal sector activities into formal sector firms.

The stock-taking enterprise examined 32 projects in 10 LDCs, with field assessments conducted for 24 of these projects. These projects were selected because they were sufficiently mature and of an innovative nature and thus might not be representative of A.I.D.'s entire program in this area. Table 3 shows selected features of the sampled programs by type of enterprise assisted. The costs and benefits per beneficiary varied considerably, depending on the nature of services provided, the status of the firm, maturity of the project, remoteness of the area, and the institutional arrangements.

GEMINI

The purpose of the GEMINI (Growth and Equity through Micro-enterprise Investment and Institutions) project is to advance the state of knowledge about micro-enterprises and their role in economic development to increase the effectiveness of development assistance efforts. The project has three components: basic economic research and sector studies; design, implementation, and assessment of project assistance; and organizational development.

TABLE 3. Selected Characteristics of Projects Analyzed in A.I.D. Microenterprise Stock-Taking Report

Project Type	Yrs. Operating	Beneficiaries Total	Beneficiaries Per Yr.	Avg. Loan Size($)	A (%)	B (%)
Ent. Formation	3.7	1,845	328	508	54	25
Ent. Expansion-NFI	2.7	3,264	642	714	44	26
Ent. Expansion-FI	7.3	1,350,224	393,172	676	23	9
Ent. Transformation	2.3	603	264	3,261	63	45

	C (%)	D (%)	E (%)	F (%)	G (%)	H ($)	I ($)
Ent. Formation	43	24	3	1.3	59	948	3.24
Ent. Expansion-NFI	1	16	25	0.9	43	ND	0.43
Ent. Expansion-FI	1	22	17	2.2	41	575	0.51
Ent. Transformation	28	18	0	10.2	27	2,549	1.08

NFI -- through nonfinancial institutions
FI-- working with financial institutions

A = % of total number of loans to manufacturing enterprises
B = % of loans used for fixed capital
C = new ents. as % of total
D = % of loan fund in arrears
E = real interest rate
F = avg. loan size/per capita GDP
G = % of beneficiaries who are women
H = life-of-project cost per beneficiary
I = latest cost per dollar loaned

The GEMINI project will address six major themes: (1) growth and dynamics of micro-enterprises; (2) economic and social impacts; (3) subsector analysis and assistance to clusters of firms producing or marketing similar goods and services; (4) improvement in delivery of nonfinancial assistance; (5) design of strategies to take advantage of institutional alternatives for provision of assistance; and (6) institutional strengthening of locally based assistance organizations by disseminating training materials, and providing training and technical assistance.

Michigan State University Studies

Between 1974 and 1982, Michigan State University conducted a series of studies on small-scale manufacturing in parts of twelve countries. These studies defined small-scale firms as those with less than 50 workers. Two-thirds of the enterprises had fewer than 10 employees, and the average number per firm ranged from 1.6 to 5.5 employees. In five of the countries, over half of these jobs were part-time or seasonal, often absorbing surplus rural labor during off-peak periods for agriculture. An average of 63% of the jobs in small-scale manufacturing were located in rural areas, using the U.N. definition of rural areas as places with a population below 20,000 (Liedholm and Mead 1987).

The evidence is mixed on the potential for absorption of new workers in small-scale manufacturing. Although these firms provide a large share of total current employment, new employment only grows faster in the small firms than in large firms when per capita income is very low and household activities are

predominant. As industrialization proceeds, the fastest growing firms tend to be the ones with 10-49 workers, and household manufacturing decreases first in relative terms than in absolute terms. Firms with 1-9 workers tend to increase employment faster in urban areas than in rural areas, while rural firms with more than 10 workers grow faster than urban ones. Beyond a threshold of 10 workers, many small firms find it difficult to grow due to greater managerial complexity, reluctance to move from family labor to hired labor, and technological bottlenecks (Liedholm and Mead 1987).

Small-scale manufacturers tend to use less capital per unit of output than large ones, but firms with more than ten workers are more capital-efficient than the smallest ones due to a greater volume of production. The commercial viability of one-person firms tends to be more marginal, but they are still important sources of income for rural women. There is limited evidence on the total factor productivity of small versus large firms and the results can be reversed if shadow pricing is used (Liedholm and Mead 1987). The study found that productivity varies more by type of industry than by size within the same industry.

Hardly any information exists on secondary benefits in regional development from small-scale manufacturing. Linkages from agriculture to equipment manufacturing are more significant in Asia than in Africa. Subcontracting from large-scale industry to small-scale manufacturing occurs in a few product lines in Asia, but is rare in Africa (Liedholm and Mead 1987).

A subsequent set of studies examined how small manufacturing firms in Africa enter, grow, and exit over time (Liedholm and

Parker 1989). Frequently, small- and medium-scale enterprises started as an outgrowth of larger firms. In general, exit rates have been higher for micro-enterprises than large firms. The first three or four years of existence appear to be most difficult, but some firms might be hard to find because of changes in location. Few of the rural micro-enterprises in Africa that survived grew into small- or medium-sized firms, probably due to regulatory disincentives or the desire to keep companies as family endeavors. Between 20 and 45% of the small- and medium-scale firms grew to another size category, lower than the 50-67% proportion typically found in Asia and Latin America.

The relative growth in the number of firms was highest for those with 10-49 workers. In some LDCs, the number of one-person firms declined over time. Employment grew more slowly in small- and micro-enterprises than in medium- and large-sized firms, but the smaller firms generated more new jobs in total. The growth in manufacturing employment was higher in urban areas than in rural areas (Liedholm and Mead 1987).

The RSIE Study

A U.N. study on rural small industrial enterprise (RSIE) projects reviewed 56 projects (Keddie et al. 1989). It undertook field visits to 6 countries -- Indonesia, Pakistan, Peru, Senegal, Tanzania, and Zambia -- and included desk studies of 3 others -- Colombia, Kenya, and the Philippines. This study defined micro-enterprises as firms with 0-4 employees in addition to the owner and small enterprises as those with 25 or fewer employees. It adopted the same definition of rural areas as the

Michigan State studies.

This study found that the share of total manufacturing located in rural areas varies with the degree of industrialization of the country -- 65-80% in least developed countries, 45-60% in somewhat more developed countries, and 10-30% in newly industrializing countries. About one quarter of rural primary employment was off-farm.

The authors noted that there is considerable scope for expanding RSIE, and that although these firms may be "passive with regard to innovation, they are good at exploiting market and technology opportunities once these are introduced to them" if a suitable policy environment exists. They also recommend greater emphasis on linkages between small-scale firms and medium or large enterprises and between agricultural and nonfarm activities.

ADB Studies

The Asian Development Bank commissioned a series of studies on approaches for development of small and medium-sized industries in its region. The synthesis report argued that number of workers is a poor indicator of either productivity, labor intensity, or the social benefits of firms. It suggested that firm size is better measured by a firm's capital stock (Little 1988).

There was some evidence that small firms are more labor intensive than large ones because the small firms face lower prices for labor and higher prices for capital. However, medium-sized firms with 50-199 workers often use labor and capital more

efficiently than small firms. Small firms may be more likely to be in the start-up phase before maximum employment and output have been reached. Differences between industries usually outweigh differences by firm size within an industry. The general conclusion was that subsidized loans, tax relief, industrial estates, and product reservation set-asides are not an efficient way of stimulating labor-intensive small enterprises (Little 1988).

The South Korean approach was to foster growth of small firms to the medium scale, initially through import substitution for the domestic market and later for export (Yun 1988). Although the Government of Thailand has recognized the importance of small-scale firms, its programs to assist this sector have been overshadowed by the effects of macro-economic policies (Krongkaew 1988). Indonesia targeted programs for small industries, but the results have been inconclusive. It is uncertain whether small firms in that country are more efficient, less capital intensive, or more labor intensive than larger firms (Suhartono 1988).

India, more than any other LDC, has an extensive network of public institutions for promotion of small and medium-sized enterprises. It offers subsidies of up to 70% of the value of their output. Yet, non-assisted enterprises have done at least as well as those that have received special support. A large number of firms have not taken advantage of available incentives due to lack of knowledge, procedural formalities, or desire to maintain a low profile. Some firms that received concessional

financing terms adopted more capital-intensive techniques and have excess capacity as a result. In a minority of cases, "ghost firms" were established just to obtain government financial assistance (Sandesara 1988). Even in India, manufacturing has been dominated by large firms.

Other Studies of Small Enterprises

Little, Page and Mazumdar (1987) found that firms in India that employ 50-200 workers and rely on modern technologies tend to have a higher total factor productivity than firms with only 1-10 workers. However, small industries above the cottage scale would be more efficient if policy-induced barriers were removed and firm size defined in terms of capital stock instead of employment Wages were generally lower in the smaller firms as well.

In most cases, the output of large and small firms in India was potentially competitive. Many small-scale firms found reaching good markets difficult. One exception was the soap industry where small firms filled a market niche for low-income consumers. In addition to firm size, the age of the firm appeared to have a large effect on its growth potential. Indian policies of reserving some products for small firms have had some undesirable effects by reducing competition and economies of scale. Moreover, subsidized credit policies have had negative effects on the volume of credit available to small firms.

A study in Colombia, a middle-income country, found that small and medium-sized firms grew more rapidly than large firms over the 1970s, both in terms of output and urban employment.

Cortes, Berry, and Ishaq (1987) noted that many of these expanding firms had benefited from entrepreneurial, technical, and worker skills developed through previous experience in large-scale, import-substitution industries. Small firms were also able to buy low-cost, second-hand machinery and equipment from displaced large-scale firms. Although some Colombian government policies favored large firms more than small ones, the playing field was more level than in most LDCs. Economies of scale did not provide much of a barrier to smaller firms, but these firms generally offered lower wages and less job security.

Ahkiapor (1989) tested whether a sample of manufacturing firms in Ghana chose appropriate technologies. He defined appropriateness as a composite of low capital intensity, low skills requirements, and low dependence on imported raw materials. In some cases, these factors may conflict. Firms were classified by ownership -- private foreign, state, mixed state, mixed private, and private local. In general, local firms chose the most appropriate techniques while mixed state and private foreign firms chose the least appropriate techniques. However, no statistically significant correlations could be found in comparisons across different industries.

The Design and Implementation of Development Projects

The Provision of Credit

In most LDCs, small- and micro-scale entrepreneurs in rural areas find it difficult to obtain formal sector credit to upgrade technologies, expand production, or start a new business. Additional working capital may be particularly important for the

smaller firms so that they can decrease time-consuming trips for purchase of raw materials, reduce the costs of raw materials through bulk purchases, finance inventories, reach new markets, and pay off moneylenders.

Commercial banks and government development banks often shy away from investing in this sector because of the high perceived risks and the expense of appraising and administering a large number of small loans. Governments have tried to influence the supply of loanable funds to the sector through portfolio quotas, rediscount programs, and creation of public banks, but these supply-leading finance approaches do little to mobilize local savings (Meyer 1988).

When conventional financing is available, new entrepreneurs might be unable to meet collateral and equity requirements and often find it difficult to surmount bureaucratic hurdles. Consequently, donors and governments have often created special credit programs specifically for small- and micro-enterprises through various types of institutions: (1) commercial bank schemes, (2) intermediary organizations working with financial institutions, (3) parallel credit programs of NGOs, and (4) poverty-focused development banks (Berger 1989).

Even under special credit programs, loans are often only available for fixed assets, even though many firms may need working capital more (McKean and Binnedijk 1988). Furthermore, the procedures are often too expensive to attract borrowers because of the costs of preparing business plans and commercial analyses, traveling and missing work while arranging the loan or formalizing the enterprise, and in some cases, paying bribes to

secure loan approval or disbursements. Another common problem is that interest rates are set too low, leading to decapitalization of loan funds. As a result, only a small number of borrowers can benefit, usually those who are relatively affluent or well connected politically. Some small enterprise loan programs do not take a businesslike approach to collection of loan repayments due to a "dole mentality" (Meyer 1988).

Many successful small credit programs have relied on flexible loan periods; a frequent payment schedule; alternatives to collateral such as co-signers, solidarity groups, or non-land collateral such as jewelry and other personal assets; a simple application procedure; and a convenient location near the borrower (Hossain 1988; Timberg 1988). Some of these features resemble characteristics of informal sector credit. The benefit of using solidarity groups may be mainly due to the bundling of clients to reduce the administrative costs of loans rather than social pressures for repayment.

Although graduation of clients from NGO programs to formal sector banks is much discussed as an objective, there is little institutional incentive for this. The NGOs do not want to lose their best clients, whose regular repayments replenish revolving loan funds. The banks would face higher administrative costs in dealing with many small borrowers. Moreover, many borrowers would have to pay higher transaction costs and interest rates than they do in the special programs (Berger 1989). Graduation may be more relevant for whole groups of borrowers rather than an individual, and one way of accomplishing this is by having an NGO

serve as an intermediary for a financial institution (Jackelen 1988).

Alternatives to direct loans exist. Loan guarantee arrangements can help mobilize commercial bank funds, but may reduce the incentive for careful loan screening and collection (Anderson 1982). Loan guarantees may not always increase the lending volume (Meyer 1988). Another possible source of financing that has been neglected is to build on connections between producers and their raw material suppliers or product marketers.

There is considerable controversy about whether credit is the main constraint for small- and micro-enterprises (Bigelow 1987). Minimalist credit programs provide financing without other types of support. The relative merits of minimalist credit versus broader packages of support may vary according to the scale of enterprise, type of industry, location, and quality of the services provided. Hull (1988) argued that credit alone is the main constraint for small enterprises, while micro-enterprises need other types of assistance. Yet, the opposite may be true because micro-enterprises have little capital available, and the managerial and technological complexity of small enterprises is greater (Gross 1988; Yanovitch 1988). In fact, most minimalist credit programs have emphasized provision of credit for the smallest of firms.

The recent PVO trend toward credit alone may be more a product of the financial and logistical limitations of donors than the needs of potential beneficiaries. The debate over minimalist credit has been overly simplistic. Credit alone may

only allow a marginal increase in the size or profitability of an existing business. In fact, one of the most cited examples of minimalist credit, the Grameen Bank in Bangladesh, plans in its next phase to include marketing and technical assistance to enable micro-enterprises firms to grow (Hossain 1988; Yunus 1988). Another well-known credit program for micro-enterprises, the Carvajal Foundation in Colombia, only provides loans to firms that participate in training and technical assistance activities.

Non-financial Assistance

Non-financial assistance may be necessary for successful enterprise formation or transformation, even though this boosts the costs over programs that provide credit alone. Although development projects can be implemented more smoothly when there is only a single "missing ingredient" such as credit (Liedholm and Mead 1987; Tendler 1989), seldom is there just one constraint. Without organized assistance to share the risk and provide other missing ingredients, potential opportunities for small- and micro-enterprises might not be exploited (Grindle, Mann, and Shipton 1987; Bowman 1988). Important types of nonfinancial assistance include technology dissemination, technical and managerial assistance, training, business planning, and marketing.

Because of the difficulty and expense of eliminating multiple constraints simultaneously, it may be necessary to resolve particular bottlenecks successively, letting existing enterprises operate on their own until the next problem prevents further growth (van Dijk 1988). Attempts to start new

enterprises from scratch through government-sponsored industrial estates that provide a comprehensive range of services have been largely unsuccessful, as the experience in Kenya shows (Kilby 1988).

Technology upgrading is often essential in achieving a sustainable productivity increase in existing businesses, rather than just shifting employment and income from one producer or seller to another. Rural entrepreneurs may be unaware of the existence or availability of appropriate technologies that are more productive than the traditional alternatives. When new technologies might not yet have been commercialized in a particular area, little information may be available on their costs and benefits.

Besides technology, some small-scale entrepreneurs have too few clients or irregular sales; competition from large or small enterprises and imports; and badly located or inadequately sized workshops (van Dijk 1988). Other common constraints include inadequate maintenance and repairs of plant, equipment, and machines; failure to diversify; lack of land tenure rights; and difficulty in recruiting and retaining skilled workers and managers.

Most successful small entrepreneurs have at least an intuitive sense of business planning. However, many other people do not even attempt to start a small business or fail because they do not know how to go about it. This is particularly true when innovative technologies, products, or processes are involved. Systematic business planning, including commercial

analysis, is often neglected even though it is important in reducing the risks associated with establishing a new venture or revamping operations. The smallest businesses cannot afford not to plan because they are even more vulnerable to changes affecting supply or demand than larger firms. Simple business planning techniques need to be adapted to the scale and type of enterprise and the local culture.

Within every major market, there are usually many niches for different uses or product specifications. The demand for a new product is unproven and entrepreneurs might not know the best way to reach potential markets. It can be difficult to convince the rural poor to buy a new product because they cannot afford to take risks and have limited information about the choices in products. Market research and marketing strategy must be matched to the resources available to small- and micro-enterprises as well as the characteristics of consumers, who may be illiterate or reluctant to accept new products and ideas.

Although a scarcity of entrepreneurial skills is a major constraint in rural development (Pack 1977), it is not clear whether entrepreneurship is a product of long-term personality characteristics or a set of behaviors that can be acquired through short-term training (Cruz-Villaba 1988). Most of the learning needed to build entrepreneurial capacity may come from accumulated social attitudes, formal education, and work experience (Kilby 1988). Some researchers doubt that there are certain entrepreneurial characteristics required for successful management (Chico 1988).

Training and technical assistance are most useful when

tailored to the immediate business needs of existing enterprises and delivered on a fee basis (McKean and Binnendijk 1988). Simple methods that build on locally available knowledge work best (U.S. A.I.D. 1988). Frequently, training and managerial assistance are expensive, difficult to deliver, and only available to a small proportion of firms (Ashe 1985; Harper 1988). A major reason for these failures is that training and technical assistance packages are often inappropriate for the needs of small firms or are badly communicated to participants. The provision of training in some skills such as bookkeeping might not be very important to the profitability of firms operating at a low level of complexity. Training and technical assistance programs frequently are hindered by inadequate financial and technical support and coordination.

New approaches to technical assistance based on links between small and large firms or small firms and their suppliers may be promising (Bigelow 1987). More needs to be done to improve the design of appropriate training and technical assistance programs and assess their impacts. Venture capital mechanisms that combine financing with technical and managerial assistance deserve further attention.

Project Structure and Institutional Issues

Relatively little has been written on the best way to structure a small enterprise project, particularly whether it should focus on a geographic area, a specific group of beneficiaries, or a commodity or industrial sector. The predominant approach of NGOs and many government projects has been "area or

beneficiary focused".

An area or beneficiary-focused approach can make the gathering of baseline information about needs in rural areas more cost effective. This is an important advantage because lack of information on local conditions is a major obstacle to good project planning and implementation (Rondinelli and Ruddle 1978). Concentrating on a particular area or group can increase the likelihood of reaching the intended beneficiaries by allowing more intensive field staff involvement (McKee 1988). Geographic-based projects may be most successful as vehicles for replication of approaches that worked elsewhere.

Area/beneficiary focused projects have some disadvantages. First, it is often difficult to bring about significant economic gains for a large number of people. Second, these multiple-goal projects are usually too complex to implement well and often require involvement by many different government agencies (McKee 1988). Third, there typically is an inadequate base of appropriate technologies and technical support to increase the productivity of the wide variety of economic activities in an area.

By contrast, a commodity/sector approach begins by examining the relationships between suppliers, primary producers, processing firms, the distribution system, and markets so that the bottlenecks limiting a whole industry can be resolved. The sectors and occupations may either be chosen to benefit disadvantaged groups through ownership or employment of productive resources, or to "pick winners" that have a large

potential for increased productivity in under-served markets. A commodity/sector approach is most appropriate when: (1) a large number of poor people are already involved in the sector, (2) there is a strong market for the goods and services produced, and (3) government and donors recognize the importance of the sector (McKee 1988).

In general, specialized commodity/sector projects have been more successful than multipurpose geographic-based projects (Tendler 1989). The commodity/sector approach makes it possible to design specific interventions that are more likely to have a significant impact than merely providing credit or trying to determine the problems facing a large number of unrelated economic activities (Rhyne 1988). It can make it easier to reap economies of scale or agglomeration because it is easier to organize members of a trade or sector than people who just happen to live in the same area (Dichter 1986). It may also be easier to influence government policies affecting small enterprises when representation is made on behalf of a trade or sector, rather than unrelated businesses in a particular location (Tendler 1989). Furthermore, sector-focused strategies are more likely to focus on market and technology options.

Some problems for the commodity/sector approach include the constraints facing rural producers and the fragmentation of the urban informal sector. Many poor people are involved in multiple economic activities depending on the time and resources available and market conditions. Interventions in a single occupation may not interest them unless the potential gains are sufficiently high and risks low enough to motivate them to specialize in a

particular activity. Many commodity/sector projects have been biased toward occupations carried out by men (McKee 1988). Both the commodity/sector approach and the area/beneficiary approach are hindered by the short time horizon of donor projects and rarely create sustainable institutions or funding sources to continue development after the project is over.

Keddie et al. (1989) compared the effectiveness of different types of institutions for small- and micro-enterprise development. In general, special government development agencies have tended to be overly centralized, biased toward urban enterprises, and have overemphasized technical hardware. Functionally based institutions that assist in raw material supply and marketing have worked best when they stimulate the private sector to perform these roles. Public sector institutions for production training have had a poor record, especially in dealing with new entrants. Some public agencies have been successful in promotion of cooperatives. Few technology development and diffusion centers have devoted much attention to small-scale technologies, except for agricultural implements.

For the most part, commercial banks and government development banks have not effectively promoted small enterprises. Business extension services may be effective when combined with savings and loan programs. Industrial estates are mainly suitable for medium-scale industry. Trade associations can be useful in providing a range of services in regional towns, but take time to build up (Keddie et al. 1989).

To avoid the perceived red tape and corruption of working with some government agencies, many donor-funded small- and micro-enterprise programs have been implemented by PVOs and other NGOs. NGOs often have a comparative advantage in carrying out a "needs-oriented approach" because of their local knowledge, grassroots field presence, responsiveness, and flexibility. However, NGOs often have financial problems and high rates of staff turnover. Their cost per beneficiary is often high and they frequently do not reach enough beneficiaries to have a significant regional economic impact. Also, they may have difficulties in scaling up successful programs. Few NGOs have cooperated or even communicated well with government (Kindervatter 1988; Sanyal 1988; Tendler 1989). Many NGOs are skilled at field work and the organization of small enterprises, but some have overemphasized social welfare over economic development and underemphasized the role of technology.

Lassen (1988) listed the common weaknesses of the small- and micro-enterprise development programs of PVOs and NGOs:

1. Lack of underlying principles for the program
2. Planning and design problems
3. Poor management information systems
4. Too little differentiation of different intensities of services delivery for different client groups
5. Reluctance to introduce user fees for nonfinancial services
6. Lack of clarity of desired benefits or a mismatch of methods and clients to achieve these benefits
7. Insufficient accounting of service costs
8. Lack of a model for commercial viability
9. Too little of a results orientation and the lack of methods for selecting

10. Absence of the principles of credit programs in nonfinancial assistance programs (selectivity, analysis of project characteristics, reliance on incentives and disincentives, and cost minimization)

Dissemination of training materials for trainers in local NGOs could strengthen some of these weak areas (Grindle, Mann, and Shipton 1987).

Women and Small- and Micro-Enterprise Programs

Women are heavily involved in small- and micro-enterprises both as entrepreneurs and workers, despite only recently being discovered on the "development map". In 1950, 37% of women in LDCs participated in the labor force. By 1985, the proportion reached 42% overall, although it varied considerably by region -- 25% in Latin America, 36% in South Asia, 42% in Africa, and 52% in East Asia (Grown and Sebstad 1989).

Most businesswomen in LDCs are from the least educated groups. Female entrepreneurship and self-employment are important to enhance women's economic and social status and also because of their comparative advantage in certain businesses (Weidemann and Craig 1989). In some cultures, the income earned by women is more likely to be spent in a way that benefits the nutrition, health care, and education of the children in the household than the income of men.

In particular, women are heavily involved in enterprises based on food preparation, handicrafts such as basket making and ceramics, weaving and tailoring, and retailing (Haggblade, Hazell, and Brown 1989). There is considerable opportunity for increasing women's integration in economic development. Part-time

activities should not be neglected, including those in which women work in partnership with men in a family business.

Women could play a larger role in development if economic and social constraints can be overcome. Women's nonfarm activities are usually limited by their agricultural responsibilities; in Sub-Saharan Africa, women provide as much as 80% of the farm labor (Jiggins 1989). Women also have to devote much time to arduous manual household tasks. If women had access to more appropriate technologies, some of this unpaid household labor time could be freed up for income-generating activities. Other economic constraints on the productivity of women include lack of access to capital and skills.

In some cultures, women are limited to home-based work by the purdah system. More universally, the absence of adequate child care services prevents women from maximizing business profits. Legal restrictions in some countries block women from borrowing money or owning land without their husband's formal approval. Even when women are not directly barred form participating, a restriction that only one person in a household can take a loan out at a time usually means that this will be the man. The male head of household may also intervene in the management decisions or supervision of labor.

A.I.D. policy states that at least 50% of its resources for micro-enterprise development should be used for women. At first, there was an emphasis on special programs that target women alone. Many of the early targeted projects by NGOs and governments failed to take a businesslike approach to production and marketing.

At present, there is a push for mainstreaming women in regular programs since targeted programs are usually separate and far from equal. Targeted programs are no substitute for ensuring equal access for women in broader programs and removing barriers to their participation (Orsini 1989). Mainstreaming could increase the total resources available to women, allow greater recognition of their importance for economic rather than just equity concerns, and highlight the problems women face in securing access to resources.

The mainstreaming strategy is controversial because it can be misused as an excuse for not doing anything to remove barriers for women's participation. When discriminatory laws and social attitudes remain in place, women may need extra resources to be able to compete on a more equal footing. Thus, an effective monitoring system is needed to determine how many women are being reached by a mainstreaming program. Although direct discrimination against women does exist in the formal banking system in some countries, the usual barriers to credit for small and rural enterprises is the main problem.

Effective mainstreaming will require (1) an understanding of women's economic activities and their constraints, (2) wider availability of private sector services for credit and technical assistance since government agencies often deliver the bulk of their services to those best connected, (3) decentralized location of the services since low-income people have many pressing demands on their time, and (4) inclusion of activities that provide employment for women.

Guidelines for Enterprise Development

The entrepreneurial aspirations of the rural poor in LDCs often go unrealized for lack of access to financing, management skills, knowledge of appropriate technologies suitable for commercialization, and information on the potential market for the product. Small- and micro-enterprises may need help with business planning. Before creating or expanding an enterprise, it is important to have a thorough understanding of the competition, demand, availability and price of inputs, and prices for the product. Other important questions include

1. Who else is producing the goods and at what cost and quality?
2. What are the trends in production and consumption and why?
3. Do a few firms control the market or vital inputs to the manufacturing process?
4. How do government policies affect the market?
5. Who are the targeted consumers?
6. How much can people afford to pay for the product?
7. How will people get information about the product and at what cost?
8. Does the market vary seasonally?
9. Is there a new market opportunity and why has no one else acted upon it?
10. Is there an adequate transportation and distribution system for the products?
11. What level of skills is needed to produce, process and market the product?
12. What are the social constraints and advantages for the new product or process?
13. Who will gain and lose by introduction of the new technology?

Within every major market, there are usually many niches for different uses or product specifications. Market research and marketing techniques must be matched to the resources available to small- and micro-enterprises as well as the characteristics of consumers who may be illiterate or reluctant to accept new

products and ideas.

Some important lessons that have been learned on how to assist small- and micro-enterprises:

*A niche frequently exists for businesses of various scales using different technologies. The appropriateness of a technology may vary in different parts of a country and across LDCs due to variations in social, economic, and environmental conditions. The context for a technology should be carefully assessed before planning a dissemination strategy.

*Assessments of the appropriateness of a technology should examine (1) the scale of equipment or processes; (2) cost savings in capital, maintenance, and replacement, and foreign exchange; (3) the generation of profits through increased production, higher product prices, and local retention of value added in processing; (4) extent of the socio-economic impacts and the distribution of benefits via (a) job creation, higher wages, reduced labor displacement; (b) increases in net incomes of other enterprises from a greater demand for locally produced raw materials, and higher profits in use or processing; and (c) benefits to rural or low-income consumers through lower prices, improved quality of products, and greater availability of products; and (5) environmental impacts including natural resources consumption, amenities, and health and safety for workers and the public.

*A needs-oriented approach emphasizes working directly with the poor, building on their own skills and locally available resources. The key constraints facing entrepreneurs are limited access to physical capital or working capital, too few clients or an irregular sales pattern, unequal market power, unfair competition, and absence of legal status. Organized assistance may be needed to remove key constraints. Field testing followed by further modifications where needed is one way of helping to ensure that the technology meets the needs of small businesses and consumers.

*Small- and micro-enterprises often lack information on the range of choice in technologies or how to obtain improved equipment that they might have heard about. Greater exchange of information within and between developing countries can help in this regard. Rural and urban industries do not have access to technology extension services like those available to farmers.

*Although the informal sector does not have the ability to conduct R&D or testing of a new technology, it can adapt rapidly to introduced designs by making and marketing simple producer and consumer goods at a relatively low cost. External assistance from donors and governments can play a catalytic role in upgrading

traditional rural technologies as the relatively small investments needed for this purpose are not likely to be made by the private sector.

*Reliance on existing enterprises is usually more successful than starting new ones because it avoids the need to establish a whole new infrastructure and completely train inexperienced workers.

*In many countries, small- and micro-enterprises in rural areas have little access to credit due to collateral requirements, registration requirements, high transaction costs for both the firms and banks, and a bias toward larger and urban enterprises in rationing limited funds. Subsidized interest rate policies may exacerbate the problem of credit availability, which is usually more of a concern to small firms than its cost. Lending criteria may also need to be revised to emphasize cashflow considerations or character-based or group guarantees instead of collateral and land titles.

*Alternatives to credit that share the risks and benefits of financing may be important in allowing small- and micro-enterprises to adopt innovations. These may include equity financing mechanisms such as venture capital, lease-purchase arrangements, and franchises.

*Access to appropriate equipment and financing are necessary, but not always sufficient for wide-scale technology transfer. Small firms may need technical assistance and training as well as managerial assistance. NGOs and producer associations can have an important role in providing this assistance at the grassroots level. Better approaches and materials may be needed to ensure that the assistance meets the needs of the enterprises.

*Market assessments and market strategy planning have been neglected in many small- and micro-enterprise assistance programs as well as private sector attempts at business creation and expansion. Deficiencies in the area of marketing are common causes of business failure.

*Although one-person cottage industries may be of marginal macro-economic importance, they are critical sources of income and employment for the rural poor. Thus, particular attention needs to be devoted to technologies and methods of assistance for one-person firms. These activities are often carried out by women seasonally or part-time. Rural women in many LDCs are burdened by a heavy load of time-consuming and arduous work. There is still debate as to whether this is best accomplished through targeted programs or mainstreaming.

*The design of many donor-funded small enterprise programs has been paternalistic or biased against individual economic activities in favor of collective ownership and control. This orientation may reduce the rate of spontaneous replication of a technology and the maturation of social and individual attitudes that

promote economic development. Programs should address the identification of ownership and management patterns that facilitate profitable use of specific technologies by small firms.

*The sustainability of donor and government enterprise development programs and the firms they assist once the tap of external assistance is turned off deserves greater attention in program design and implementation. The availability of equipment and spare parts, skilled labor for repairs, and continued financing after "graduation" from special programs is especially important in sustainability.

*The environment in which businesses operate is heavily influenced by government macro-economic and sectoral policies. In most countries, policies generally place small and rural enterprises at a disadvantage compared to larger and urban firms after accounting for differential subsidization and taxes, trade restrictions, labor costs, costs and availability of capital and foreign exchange, price controls, infrastructure establishment, and research expenditures. Export industries often receive preferential treatment over firms producing for the domestic market. Public investments in large and often inefficient parastatals are frequently sheltered from competition through marketing board monopolies and processing restrictions, to the detriment of artisanal-scale production.

*A commodity/sector approach can facilitate dissemination of a technology. Replication projects can be promoted through regional (inter-country) networks for information exchange and interchange of experts.

*There may be some tradeoffs between economic growth and poverty alleviation. It may be necessary to favor the equity side in programs to address the needs of those at the survival levels, rather than just entrepreneurs. Usually, however, a justification based on "broad-based economic growth" is more persuasive to governments than an equity rationale.

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