SELECTED ECONOMIC DEVELOPMENT PROJECTS IN BURMA AND INDONESIA

NOTES AND COMMENTS

by

Charles Wolf, Jr.

Data Paper: Number 15
Southeast Asia Program
Department of Far Eastern Studies
Cornell University, Ithaca, New York
August, 1954

FOREWORD

Dr. Charles Wolf, Jr., was Visiting Professor of Economics and Southeast Asian Studies at Cornell University during 1953-54. Prior to this, Dr. Wolf was with the State Department and the Far Eastern Program Division of ECA-MSA-FOA. During the early part of 1953 while on a tour of inspection for the Foreign Operations Administration, Dr. Wolf observed the small scale economic development projects which he analyzes in his paper. The projects which he describes are not only of interest in themselves, but also contribute to our knowledge of the extent to which profitable opportunities can generally be expected to exist for the use of marginal increments of investment in underdeveloped areas.

Preliminary data concerning productivity, costs and returns suggest that the projects described are examples of successful economic development and that small-scale investment can succeed dramatically in underdeveloped countries: The first project described, land reclamation in Burma, is an example of successful social investment made by an outside agency (U.S., M.S.A.), an investment organized and executed with a minimum amount of local initiative and requiring no change in local production techniques, marketing, or credit arrangements. The third project, establishment of small-scale powered fishing boat building in Java, contrasts sharply with the Burmese land reclamation project. Here, a relatively small government investment produced a revolutionary and highly productive change in local fishing technology. This project is representative of the opportunities which may exist to utilize native skills more productively through liberal credit arrangements.

The second project, a small-scale ceramics development program in West Java is of interest because of the integration of (a) investment in research and training to develop skills, designs and standards for successful ceramics production, (b) investment in purchasing and marketing cooperatives to support the small-scale local producers and (c) investment in credit facilities to enable the local producers to acquire relatively costly but productive equipment. With development of the embryonic cooperative organization the heavy application of government initiative required to bring the project into being will dwindle away.

Dr. Wolf concludes that the specific projects described, while not warranting general conclusions, suggest that the limited extent of the internal market in underdeveloped countries may be offset by (a) production of substitutes for imports, (b) production of products for which consumer preferences are strong, or (c) production for a strong export market. The projects also suggest that larger, capital/intensive social investment may not be necessary to achieve economically successful small-scale development.

Frank H. Golay
Assistant Professor of Economics
and Far Eastern Studies

Department of Far Eastern Studies
Cornell University
Ithaca, New York
August, 1954

Contents

I - INTRODUCTION

One of the many unresolved questions in the field of economic development is whether or not, and to what extent, profitable opportunities can generally be expected to exist for the use of marginal increments of investment in underdeveloped areas (1). Considered in abstract, analytical terms, the affirmative side of this question is generally based on either or both of two lines of argument:

(1) The relative marginal physical productivity of any factor of production tends to vary with the scarcity of that factor relative to other factors. On the basis of the principle of diminishing returns, it is thus suggested that capital -- which is scarce in underdeveloped countriest-- should have a relatively high marginal physical productivity and profitable investment opportunities should normally tend to be abundant.

(2) In general, economically underdeveloped areas are technologically retarded in the obvious sense that the methods of production which they employ are less productive than those that are available elsewhere. Incremental doses of capital are likely to have an unusually large effect on output since such increments represent not only an increase in the stock of scarce capital, with a high marginal productivity, but also a means of changing existing production functions, i.e. introducing new methods of production which increase the productivity of existing resources as well (2). The resulting impact on total output is likely to increase the return to capital substantially.

The negative side of the question is usually stated in the following terms:

(1) The opportunity to invest is limited by the narrow size of the market in underdeveloped countries (3). This reformulation of Adam Smith's traditional proposition assumes: first, that units of investment are, technologically, not divisible beyond a certain point; and second, that increased investment therefore generally implies producing on a significantly larger scale. Where there is only a limited market to absorb the increased output, the investment itself is discouraged. Underdeveloped countries are thus prevented from realizing the increasing physical returns that large scale investment frequently entails. This situation may normally be expected to restrict sharply the availability of profitable investment opportunities;

---

1. The term "profitable," as here used, means that the discounted value of anticipated returns substantially exceeds the costs associated with a particular investment. How large the excess must be for a particular investment to be regarded as profitable varies over time and depends on the opportunity cost of capital as reflected by prevailing interest and profit rates.

2. See Wolf, C. "Economic Development and Reform," Far Eastern Quarterly, November 1952, p. 33.

3. Nurkse, Ragnar, Problems of Capital Formation in Underdeveloped Countries, New York, 1953, pp. 6-9.

(2) In developed countries, a wealth of capital facilities has been built up over the years in such fields as power, transportation, communications, housing, education, etc., to "service" the needs of new industrial and agricultural investments. These facilities create economies "external" to an individual new firm or investment; from the standpoint of a prospective investor the provision of these services may therefore involve only small additional costs. By contrast, the lack of such social overhead in underdeveloped countries frequently means that particular services entail large fixed costs rather than small variable costs (4). The high initial costs of providing for "social" overhead may thus outweigh the high marginal productivity of the directly productive "private" component of investment, and hence may limit investment opportunities from the standpoint of the individual entrepreneur.

Rather than exploring these analytical alternatives in the abstract, the purpose of this paper is the more limited one of trying to shed some light on the problem by describing a few specific investment projects which the author had an opportunity to visit in Burma and Indonesia during the early part of 1953. The specific projects described in Part II are examples of apparently highly profitable, small-scale investments. Generalizations on the basis of these few cases would suggest an affirmative answer to the question whether profitable investment opportunities can be expected to exist in underdeveloped countries under present cost and market conditions. In Part III, an attempt is made to summarize some of the general implications of the projects discussed.

On the other hand, the projects are admittedly few and special, and perhaps offer little basis for generalization. Certainly, they afford no analytically satisfactory answer concerning the extent to which profitable investment opportunities can be expected in underdeveloped countries. It should also be noted that the data presented were gathered during brief visits which were made to the project sites in January and February 1953. The data are thus neither current nor complete; however, they may at least suggest that more detailed cost-benefit studies of these and other projects would be rewarding.

Recognizing these limitations the cases are offered partly for such bearing as they may have on the general problem of investment opportunities, and also partly because they should be of interest in themselves to those concerned with development at the micro-economic level generally, and, more specifically, to those who are interested particularly in economic development in Burma and Indonesia.

One final qualification to the project descriptions should be noted. In describing the projects, the writer does not pretend to technical competence in the specific fields covered. The project descriptions should be read with

---

4. The importance of a shortage of social overhead as a deterrent to new investment in underdeveloped areas has been emphasized especially by P.N. Rosenstein-Rodan, see, for example, the latter's "Problems of Industrialization of Eastern and Southeastern Europe," Economic Journal, June-September, 1943. See also Nurkse, op. cit., pp. 152-154.

this in mind. Nevertheless, the writer suggests that economists and "planners" should try to get increasingly familiar with some of the technical, engineering and organizational aspects of development projects if their judgment and analysis are to be relevant and useful. It is hoped that the present paper takes a step in this direction.

II - THREE PROJECTS

1. Burma - Small-scale Reclamation.

Some of the most fertile rice land in the world is located in the Irrawaddy delta region of Lower Burma, the "rice-basket" of Burma. Yields in this area are somewhat above yields in other rice areas of Southeast Asia, i.e. about two-thirds of a ton of milled rice per acre.

Two major problems have prevented a substantial rise in output under existing cultivation techniques, quite apart from such possible changes in cultivation techniques as use of improved seed, increased application of fertilizer, row-planting of seeds and transplanting of seedlings. The first of these problems involves the shortness of the growing (wet) season, which prevents double cropping. The second arises from the restrictive effects of topography, in conjunction with rainfall, on land use. The nature of this problem, and the way it is being solved throughout the delta region, by small-scale reclamation projects, can be illustrated by a specific example on Yandoon Island.

The island of Yandoon is about 50 miles north of Rangoon along the Irrawaddy River. It is one of many saucer-shaped islands and peninsulas dotting the Delta area. Typical of these islands, Yandoon is about 90,000 acres or about 140 square miles in total area. Cultivation is confined to a relatively narrow strip around the circumference, just inside the levees which protect the island from the rise in the Irrawaddy's water level during the monsoon. Of the total area, only about one-third or perhaps 30,000 acres is actually farmed.

The remainder of the island comprises the downward-sloping sides and low inner-basin of the saucer. This larger section of Yandoon is uncultivated throughout the year because of inundation during the monsoon and an accumulation of stagnant, brackish water during the dry season. The problem is one that was familiar in the rice areas of Louisiana in the United States, and it is being overcome by similar measures.

The basic principle involved in reclaiming the idle two-thirds of Yandoon island is to bring Irrawaddy water into the inner basin under controlled conditions at the beginning of the monsoon. At this time of the year, the Irrawaddy is heavily-silted, and the controlled inflow deposits the rich silt just inside the outer cultivated rim of the island, thereby building up the sloping sides and eventually the flat basin at the center of the island.

At Yandoon this operation is being accomplished by the installation of a steel sluice gate, 18 feet high, 40 feet wide and six inches thick, at one point close to the island's rim. Grounded in concrete, the gate is at the

head of a concrete channel 3200 feet in length, about 10 feet in depth and about 40 feet in width. The channel is dotted with groupings of concrete friction blocks to slow down the Irrawaddy waters when the gate is raised. A shallower dirt channel runs from the concrete runway farther into the center basin.

When the control gate is raised, the silted water rushes into the concrete runway, is slowed down by the friction blocks and then flows farther down the dirt channel. At the end of the channel, the water spreads out around the island, backwashing against the higher cultivated rim, and depositing the silt, to build up the sloping sides of the inner basin (5). The sluicing operation is repeated several times during the early stage of the monsoon, and adds a total of about 750 acre-feet of silt to the inner basin each year. This siltage results in a reclamation of 300 acres annually in the early years; the reclaimed acreage rising above this rate in the later years.

The total investment required in the Yandoon project is 500,000 kyats (6), or slightly over $100,000, of which approximately one-third represents foreign exchange costs (largely for the steel gate and concrete mixer), and the remainder represents local costs for labor and materials. Of the local costs, the labor used is provided by local farmers (7), who are otherwise idle during the dry season, i.e. their social or opportunity cost is zero.

Against these costs, the current (spring 1954) export price of rice is about $140 per ton f.o.b. Rangoon. Assuming an average value at the farm of $100 to allow for milling and transportation costs, and assuming an average yield of two-thirds ton of milled rice per acre on each of the 300 acres returned to cultivation annually, total output would be raised by $20,000 at the end of the first year's operation, $40,000 at the end of the second, $60,000 at the end of the third, etc. If it takes one year to complete the project, these increases in output would not be realized until the second, third and fourth years, respectively. (8)

---

5. At the end of the island, diametrically opposite the sluice gate, a drainage canal was to be installed to permit the water to drain back into the Irrawaddy after the silt has been deposited. This had not been completed, though ground had been broken, at the time of my visit in February 1953. By installing lift pumps, this drainage operation can be further expanded to drain off the continued accumulation of brackish water until the surface of the inner basin has been built up.

6. 4.75 kyatso= $1.00 U.S.

7. At an average wage of 2.50 ks or about $.50 U.S. per day.

8. Thus, if a = annual increase in cultivated acreage,
   y = the average yield per acre,
   p = average price of rice at the farm, and
   n = the number of years of operation, including one year for completion of the project,

   Then the annual output O, attributable to the project in yearon, can be expressed as:

   $$O = ayp\,(n-1).$$

(continued on next page)

Clearly, as output rises, additional capital, as well as current, expenditures would be required to permit cultivation of the increased acreage and movement of the increased output. Additional capital outlay would be needed, for example, to provide roads, bullocks, plows, storage, etc. Additional current costs would be incurred for seed and labor. If the additional capital costs equalled the total cost of the original reclamation project (i.e. $100,000), and the additional current costs amounted to 20% of annual output, amortization of the initial project costs, as well as the additional capital outlays, would still be possible in six years.

While these data are rough approximations, and in no sense constitute a full analysis of costs and benefits, they at least suggest the orders of magnitude which are involved.

2. Indonesia - Small Industry (9).

The arguments for development of small-scale industry in underdeveloped countries, generally, are too well-known to need elaboration. As a partial answer to the problem of rural underemployment and urban unemployment, and as an investment which does not require large capital outlays and is presumed to yield fairly rapid returns, small-scale industry is accorded considerable attention in current discussions of economic development (10). At the same time, serious questions are frequently raised concerning the problem of organizing and initiating small-scale industrial development, and of the ability of small industry to compete with larger-scale industry, either domestic or foreign. Against this background, a description of Indonesia's experience with one particular aspect of small-scale industrial development is of particular interest.

---

8. (Continued from page 4)
The total cumulative increase in output (ΣO) can then be expressed as the sum of an arithmetic progression whose first term is zero, or

$$\Sigma O = \frac{n}{2}\left[ayp\ (n-1)\right] = \frac{nayp}{2}\ (n-1)$$

In this case, the capital-output ratio in any year is a function of time, rather than being constant once the project is in full operation. Within the limits of the total area available, the capital-output coefficient v, in yearon, is:

$$v_n = \frac{I}{ayp\ (n-1)}$$

where I is the original investment.

9. The description and discussion which follows is only a partial microcosm of a large effort in this field. It is understood that the UN Technical Assistance Board will soon publish a detailed description and analysis of work in this field in Indonesia. The writer has not seen this report to date, although he has profited from conversations about this project with two of its major organizers, Messrs. Stepanek and Rao. However, neither has reviewed the facts here presented and any errors are the author's.

10. See, for example, Aubrey, H. G., "Small Industry in Economic Development," Social Research, September 1951.

The area of Plered near Bandung, in West Java, has long been a center of small scale pottery production. Plered was therefore selected in 1951 as the site for initiating a ceramics development program by the Indonesian Government with assistance from the United Nations and the United States Economic Cooperation Administration.

The ceramics program consists of three interrelated parts (11): (a) the Research and Training Institute in Bandung; (b) the processing, credit and marketing "centrale" (or Induk) in Plered; and (c) the privately owned and managed potters' shops in the Plered area.

The Training and Research Institute develops new and marketable product designs and standards, and trains local workers from the Plered area in using new techniques and equipment and in meeting the established designs and standards (12). Housed in a rehabilitated pre-war municipal building in Bandung, the Institute's equipment represents an investment of $30,000 for sagger machines, jigger arms, and slip-cast moulds.

Situated in a former warehouse, reconstructed with voluntary local labor and materials provided by the Ministry of Economic Affairs in Jakarta, the ceramics Induk functions as a combined purchasing, credit, and marketing "cooperative." It purchases and processes clay and glaze for distribution to the surrounding potters' shops. For its processing operations, the Induk has a stock of equipment, imported with ECA aid, valued at approximately $50,000. The equipment consists of ball mills for mixing clay and glaze, clay mixers, water presses, and "pug" mills which refine and prepare the raw clay in the form of solid slabs or "pugs." The daily output of prepared clay is 10 tons.

With a capital fund of 500,000 (13) rupiahs provided by government appropriation, the Induk also makes loans, for both working and fixed capital, to producing units. The typical loan, received by each of the four producing shops visited by the writer, was 40,000 rs (about $3,500) to be repaid over a six year period at an annual interest charge of 12% on the unpaid principal. The interest rate includes a premium designed to amortize the original investment by the Central Government in building the installation, and to cover maintenance and operating costs of the imported equipment.

---

11. Although the description which follows is confined to the ceramics industry, the general approach and pattern is also being applied in a number of other fields including leather-working, metal working, furniture making and wood-working. The detailed U.N. report on small industry work in Indonesia will, I understand, cover these other fields as well.

12. In addition, the Ceramics Institute, and the Research and Training Institutes in other fields, service technical requests from private industry and from the ten Industrial Inspectors' Offices in Java. These offices, with a small but growing technical staff, function as an individual extension service to assist local industries to solve production and marketing problems, and to give technical assistance to new industries. It would be highly useful to undertake a detailed study of the scope and effectiveness of this potentially important institution.

13. 11.40 rupiah = $1.00 U.S.

In large part, these loans are used to meet the fixed capital requirements of the individual shops for high-heat kilns, and better potter's equipment (e.g. casting moulds, new kick wheels, jigger arms for cutting and shaping, etc.). Initially, the loans are also used to meet part of the wages of the potters working in the shop.

Finally, the Induk functions as a marketing cooperative, securing large urban orders for cooking utensils, tea sets, vases, ash trays and other products of the Plered shops, and sub-contracting these orders among the shops (14). Delivery is then made to the Induk which distributes directly to the wholesaler in Jakarta, Surabaya, Medan and other urban areas.

Administratively, the Induk is not, or at least not yet, a genuine cooperative. Its assets and physical plant are owned by the government. Its advisory board consists of the individual shop owners in Plered, although operating control is exercised by a Director appointed by the Ministry of Economic Affairs in Jakarta. The expressed intention, however, is for ownership and management to pass into the hands of the advisory board upon repayment of the loans made from the Induk's original 500,000 rs. capital fund.

In the individual producing shops, eight or ten potters work under the general supervision of the owner-manager of the shop. In the shops visited, from five to seven men worked on kick wheels, or hand wheels, and occasionally with cast moulds; one man (and in one shop, a woman) glazed the work by passing it through a glazing solution; and one man was in charge of the kiln, assembling the glazed work in sagger pots and then baking the work in the kiln. The working day was seven hours; the daily wage was six rupiahs, representing -- according to several of the workers -- a 50% rise over the initial wage five or six months previously. It might be noted that no significant rise in the cost of living had occurred in this period. The writer was told that the increased wage was due to higher productivity and to competitive bidding for skilled workers among the individual shops.

Data were not obtained on productivity, profits, or return on capital. However, it is understood that the output of the Plered shops is being delivered in Jakarta, at a cost, including a margin for amortization and profits, 40% below the price of competing Japanese imports of comparable products. Since Indonesia's imports of pottery and related products, largely from Japan, were in 1951 about 45 million rupiah (about $4,000,000) (15), there would appear to be no immediate obstacle to a substantial growth in domestic output and sales even within the limits of the present market.

3. Indonesia - Fisheries Development.

Fish is the main source of protein in the typical Indonesian diet. Annual imports of fish and fish products in 1952 were about 140,000 tons by

---

14. At the time of my visit the Induk was planning to open its own sales offices in Jakarta.

15. Monthly Survey of Statistics, Ichtisar Bulanan, Republic of Indonesia, June 1952, p. 23.

volume (16) with an estimated value of over 200,000,000 rupiah or about $17,000,000. Fish occupies a high place in consumer preferences; it is perhaps one of the few products for which there is a large unfilled demand at the current market price and at current levels of money income. It is also probable that the demand for fish will significantly increase with any increase in income as well as with increases in population.

Along with the currently strong and potentially growing demand, the Indonesian archipelago is one of the most richly endowed fishing areas in the world; the Pacific waters surrounding and dividing the archipelago are heavily laden with a wide variety of edible fish, large and small.

To a great extent, this rich resource remains untapped. Due largely to the small size and slow speed of the fishing craft used, fishing in Indonesia has typically been confined to a limited area close to shore. This limitation has left the bulk of Indonesia's rich deep-sea fish resources, which lie perhaps forty miles and farther from shore, untapped; it also accounts for the low productivity and income of the small segment of the population engaged in fishing.

In the past three years, a program to expand the fishing sector of the economy, by building a motorized fishing fleet, has produced significant results. This program was started with assistance from the Economic Co-operation Administration in 1951-1952. Initially, eighty motorized fishing boats were purchased in Japan and brought to Indonesia to be used by the Sea Fisheries Service of the Ministry of Agriculture for training Indonesian fishermen in deep-sea fishing, and subsequently to be sold to fishing cooperatives. The performance of these craft was not wholly satisfactory largely due to the fact that the wooden hulls began to deteriorate after one or two years in the tropical, borer-laden harbor waters (17).

The import of these Japanese majang boats was followed by the establishment of small shipyards in East Java and Celebes for building similar craft in Indonesia. Over three hundred 40-horsepower diesel engines were imported from Japan and Holland in 1952-3 under the ECA-MSA-TCA program, for installation in the domestically-constructed craft.

Shipyards have been established in Java at Tegal, Cheribon, and Djuana, near Semarang, as well as in the Celebes. The yard visited at Djuana was about as striking an example of economic development in action as any the writer has seen in Asia. There were six or seven ways, each with a boat hull nearing completion. Construction methods were crude, in some cases representing an interesting combination of modern mechanization and crude hand-labor. Two-man hand-sawyer teams, with locally made whipsaws, cut the 45-foot teak wood strips to form the hull; steel rivets were forced and hammered by hand, and the brass castings for the bow were hand-filed. At the same time, mechanical drills and riveters were used in fastening the hull components and the bow together. About one hundred and fifty workers,

---

16. See Java Bank Report (1952-3), p. 145.

17. Either the hulls had not been creosoted, or the creosoting was ineffective under the Indonesian conditions. The same complaint was made in several different fishing docks near Semarang in February 1953.

under Indonesian supervision, were working in the government-owned Djuana yard. At the time of the visit, the yard, which had been in operation about five or six months, was producing at an annual rate of fifty ships. The supervisor of the yard indicated that the target of the Djuana yard for 1954 was 100 ships, and for the several yards in Java a total of 400.

Information on the economics of the ship-building program was not available. The writer was told, however, that there was no problem in selling the boats. This is not surprising in view of the fact that government credit is readily available to finance the sales, in whole or in part. In any event, there is apparently a greater demand for the Indonesian boats than there was for the original Japanese-made boats because the Indonesian teak is more resistant to marine-borers than the softer Japanese wood (18).

Data concerning the economics of the individual majang boat were obtained from the Sea Fisheries Service office in Jakarta and Semarang and are worth describing (19).

The boats are sold to fishing cooperatives organized by groups of fishermen, who agree to work together under a captain whom they select. The cooperatives receive partial or full loans from the Credit Office of the Ministry of Economic Affairs (20) to finance the purchase of a 45-foot, 40-horsepower diesel engine majang boat at a cost of 140,000 rs. (about $12,000). (21)

Majang boats operate with a 16 man crew, including the captain. Their greater speed, range, and seaworthiness enable them to operate in the most productive fishing areas, and in climatic conditions that keep smaller, non-powered craft at shore. As an accounting average, the boats catch between 750-1000 kilograms of fresh fish per day and are able to operate two-thirds of the year or about 240 days. The fish is marketed at a harbor auction sale, at an average auction price of 2 rs. per kilo. The annual income per boat is thus 36,000 rs. (about $300,000) using the lower figure for catch. Of this sum, according to the by-laws of the cooperative, 40% or 144,000 rs. (about $13,000) is distributed among the crew with the captain receiving one and a half shares. The annual income per fisherman figures out to 8,700 rs. (about $760) or about 25 rs. per day, which is about nine or ten times greater than prior to mechanization. Of the total operating income, 20% is

---

18. At a fishing village near Djuana an Indonesian fisherman showed me a beached Japanese majang boat in an advanced stage of deterioration. The fisherman said, with some pride, that this didn't happen to hulls made of Indonesian teak.

19. These data were checked with three sources, and insofar as possible compared for consistency with gross data on fleet mechanization and fishing output published by the Bank Indonesia (Java Bank) - cf. Report of the Java Bank for the Financial Year 1952-53, p. 145.

20. Typically, these loans run from 3 to 5 years at an interest charge of 8-12% on the unpaid balance.

21. This is apparently an unsubsidized price, covering both current and overhead costs of construction.

for fuel and other operating costs, 5% for repair and maintenance, 5% for auction expenses, 15% for repayment of interest and principal of the boat loan, and 15% is a contribution to the cooperative reserve fund.

Treating the individual cooperative, owning one majang boat, as an "enterprise," the operating statement of the enterprise would thus be as follows:

Illustrative Annual Operating Statement of
Majang Fishing Boat Cooperative

(in thousands of rupiah)

	Payments
144	Wages (captain and crew)
72	Fuel, other current costs
18	Repair and Maintenance
18	Auction (marketing) costs
54	Repayment of Principal and Interest
54	Contribution to Coop. Reserve Fund
360	

On this basis, the original loan would be repaid in three to four years, depending on the size of the interest payments involved.

Though a digression, it is also interesting to draw up an illustrative balance sheet for the individual cooperative, as an example of the potentialities which the fishing cooperatives have for accumulating capital. On the basis of the previous data, and assuming a rate of interest on the original loan of 10%, and a similar rate of depreciation on the boat after allowing for maintenance and repair costs, the cooperative's balance sheet at the end of one year's operation would be as follows:

Illustrative Balance Sheet of Fishing Cooperative
after One Year's Operation

(in thousands of rupiah)

ASSETS		LIABILITIES	
Fixed Property (22)	126	100	Unpaid loan
Reserve Fund (cash)	54	80	Net surplus
	180	180	

III - CONCLUDING OBSERVATIONS

The foregoing descriptions have been presented as instances of specific and successful development projects of interest in themselves. As has already been noted, there are dangers in drawing general analytical conclusions from an admittedly small number of special cases. Nevertheless, and with this

22. Cost of boat (140,000 rs.) less 10% annual depreciation.

qualification in mind, a few observations might be made relating these cases to the more general problem, of investment opportunities in underdeveloped areas.

In the first place, there are at least some specific indications that highly profitable opportunities for investing relatively small amounts of capital do exist in underdeveloped countries. Recognizing the generally inhibiting effect on investment of the limited extent of the domestic market, profitable opportunities may still be found a) through production for a strong export market, e.g. rice in Burma, b) through production of substitutes for imports (e.g. ceramics in Indonesia), and c) where consumer preferences are so strong (e.g. for fish in Indonesia), quite apart from the level of imports, that a large unfilled current demand can be presumed to exist and prospects for market growth may be considered bright. Obviously, as investment and production opportunities of these kinds are located and exploited, the size of the domestic market in the aggregate will rise (23).

Finally, it might be suggested that large, capital intensive investments in "social overhead" are not invariably necessary to enable new industry in underdeveloped countries to compete successfully with imports from developed countries. The frequently made assumption, that a high aggregate capital-output ratio is likely to characterize the early stages of growth in underdeveloped areas, consequently needs to be reexamined empirically in the light of available opportunities for directly and rapidly productive investments.

---

23. This is not intended to resurrect J. B. Say, but simply to suggest that as existing market opportunities are exploited, potential market opportunities may be expected to grow with the rise in domestic incomes.