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**Report No. P-3002-IN**

REPORT AND RECOMMENDATION  
OF THE  
PRESIDENT OF THE  
INTERNATIONAL DEVELOPMENT ASSOCIATION  
TO THE  
EXECUTIVE DIRECTORS  
ON A  
PROPOSED CREDIT  
TO INDIA  
FOR THE  
MAHARASHTRA AGRICULTURAL EXTENSION PROJECT

March 30, 1981

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CURRENCY EQUIVALENT  
(As of March 20, 1981)

|              |   |              |
|--------------|---|--------------|
| Rs 1.00      | = | Paise 100    |
| Rs 1.00      | = | US\$0.120531 |
| US\$1.00     | = | Rs 8.296558  |
| Rs 1 million | = | US\$120,531  |

The US Dollar/Rupee exchange rate is subject to change. Conversions in the Staff Appraisal Report were made at US\$1 to Rs 8.0, which represents the projected exchange rate over the disbursement period.

FISCAL YEAR

April 1 - March 31

ABBREVIATIONS

|      |   |   |
|------|---|---|
| ADA  | - | Additional Director of Agriculture                  |
| AEO  | - | Agricultural Extension Officer                      |
| BDO  | - | Block Development Officer                           |
| DOA  | - | Department of Agriculture                           |
| GOI  | - | Government of India                                 |
| GOM  | - | Government of Maharashtra                           |
| ha   | - | hectare   |
| PAO  | - | Principal Agricultural Officer                      |
| SDAO | - | Subdivisional Agricultural Officer                  |
| SMS  | - | Subject Matter Specialist                           |
| T&V  | - | Training and Visit System of Agricultural Extension |
| VEW  | - | Village Extension Worker                            |

MAHARASHTRA AGRICULTURAL EXTENSION PROJECTCREDIT AND PROJECT SUMMARY

Borrower: India, acting by its President (GOI).

Beneficiary: The State of Maharashtra (GOM).

Amount: SDR 18.9 million (US\$23 million equivalent).

Terms: Standard.

Relending Terms: From GOI to GOM: As part of Central assistance for State development projects on terms and conditions applicable at the time.

Project Description: The project would reorganize and strengthen agricultural extension services in Maharashtra along the lines of the Training and Visit System of extension, which is based on frequent in-service training of extension workers and regular, scheduled visits by extension workers to farmers' fields. The project faces no special risks, although realization of the expected benefits will depend heavily on the State Government's ability to effectively manage the reorganized extension system, maintaining an effective single line of command from extension headquarters to the field-level workers.

| <u>Estimated Project Cost: a/</u> | <u>(US\$ Millions)</u> |                |              |
|-----------------------------------|------------------------|----------------|--------------|
|                                   | <u>Local</u>           | <u>Foreign</u> | <u>Total</u> |
| Incremental Staff                 | 14.3                   | -              | 14.3         |
| Incremental Operating Costs       | 3.3                    | 1.7            | 5.0          |
| Civil Works                       | 4.7                    | -              | 4.7          |
| Vehicles and Equipment            | 2.0                    | 0.8            | 2.8          |
| Training                          | 1.6                    | 0.1            | 1.7          |
| Subtotal                          | <u>25.9</u>            | <u>2.6</u>     | <u>28.5</u>  |
| Physical Contingencies            | 1.0                    | 0.1            | 1.1          |
| Price Contingencies               | 7.8                    | 0.8            | 8.6          |
| Total Project Cost                | <u>34.7</u>            | <u>3.5</u>     | <u>38.2</u>  |

a/ Including an estimated US\$4.9 million in taxes and duties.

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Financing Plan:

|         | (US\$ Millions) |                |              |
|---------|-----------------|----------------|--------------|
|         | <u>Local</u>    | <u>Foreign</u> | <u>Total</u> |
| IDA     | 19.5            | 3.5            | 23.0         |
| GOI/GOM | 15.2            | -              | 15.2         |
| Total   | <u>34.7</u>     | <u>3.5</u>     | <u>38.2</u>  |

Estimated

Disbursement: a/

|            | (US\$ Millions) |             |             |             |             |             |
|------------|-----------------|-------------|-------------|-------------|-------------|-------------|
|            | <u>FY82</u>     | <u>FY83</u> | <u>FY84</u> | <u>FY85</u> | <u>FY86</u> | <u>FY87</u> |
| Annual     | 0.3             | 2.1         | 4.6         | 7.0         | 6.0         | 3.0         |
| Cumulative | 0.3             | 2.4         | 7.0         | 14.0        | 20.0        | 23.0        |

Rate of Return:

At least 50%.

Appraisal Report:

No. 3299-IN, dated March 23, 1981.

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a/ According to IDA's fiscal year.

INTERNATIONAL DEVELOPMENT ASSOCIATION

REPORT AND RECOMMENDATION OF THE PRESIDENT TO THE  
EXECUTIVE DIRECTORS ON A PROPOSED CREDIT TO INDIA  
FOR THE MAHARASHTRA AGRICULTURAL EXTENSION PROJECT

1. I submit the following report and recommendation on a proposed development credit to India for SDR 18.9 million (US\$23.0 million equivalent) on standard IDA terms to help finance a project to reorganize and strengthen the agricultural extension service of the State of Maharashtra. The Government of India (GOI) would channel the proceeds of the credit to the Government of Maharashtra (GOM) in accordance with GOI's standard terms and arrangements for financing State development projects.

PART I - THE ECONOMY 1/

2. An economic report, "Economic Situation and Prospects of India" (2933-IN, dated May 1, 1980), was distributed to the Executive Directors on May 14, 1980. Country data sheets are attached as Annex I.

Background

3. India is a large and diverse country with a population of 672 million (in mid-1980) and an annual per capita income of US\$190. Agriculture continues to dominate India's economy, employing over two-thirds of the labor force. However, the land base is not sufficient to provide an adequate livelihood to all those engaged in agricultural activities, especially the landless or nearly landless who have only an insecure grasp on the means of existence. The share of agriculture in GDP at factor cost (measured in 1970/71 prices) has declined from 60% in 1950/51 to about 40% in 1978/79. The share of industry has increased over the same period from 15% to 23%. But industrialization has not been rapid enough to absorb the growing labor force, nor to bring about the substantial economic transformation that has led to higher productivity and rapid urbanization in some other developing countries. The urban population was 18% of the total in 1960, and is about 21% now.

4. Economic growth has been slow in the past, averaging about 3.5% per annum over the past 30 years. Slow growth in agriculture -- 2.5% per annum over the same period -- has constrained overall growth, not only because of

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1/ Parts I and II of the report are substantially the same as Parts I and II of the President's Report for the Karnataka Tank Irrigation Project (No. P-2968-IN dated February 26, 1981), with minor changes reflecting recent developments.

the high share of agriculture in GDP but also because scarce foreign exchange has often been required to import food. Industrial value-added has grown more rapidly, at 5.4% per annum between 1950/51 and 1978/79, but this growth has not been as high as in many other countries, nor as high as required. Gross domestic savings more than doubled from 10% of GDP in 1950/51 to 24% in 1978/79. Similarly, gross domestic investment as a fraction of GDP rose from 10% in 1950/51 to just over 24% in 1978/79. Foreign savings have never financed a large portion of domestic investment: a peak of about 20% was reached during the early 1960s; by the end of the 1970s, the proportion had returned to much lower levels. External assistance has been low both as a percentage of GDP and in per capita terms. Net external assistance has never risen above 3% of GDP.

5. Except during periods of balance of payments crisis, exports have received relatively little emphasis in India, which has primarily pursued a strategy of import substitution. The volume growth of exports between 1950/51 and 1978/79 averaged only 3.0% per annum. The volume growth of imports over the same period has slightly exceeded that of exports. During the early 1970s, India's terms of trade, which had remained roughly constant during the 1960s, deteriorated drastically. In response, the Government introduced many policy measures designed to stimulate exports. The volume of India's exports grew on average over 10% per annum between 1972 and 1977, demonstrating that sustained rapid growth was possible. While expanding world markets, particularly in the nearby Middle East, contributed to this process, liberalized access to imported inputs, and improvements in incentives designed to increase the profitability of exports played a major role.

#### Recent Trends

6. Over the period 1975/76 to 1978/79, growth in real GDP (at factor cost), agricultural value-added and industrial value-added averaged 4.7%, 2.8% and 7.3% per annum, respectively. These trends represent a marginally better growth performance than the long-term trends from 1950/51 to 1975/76. However, GDP declined by about 4.5% in 1979/80 as a result of the drought-induced decrease in agricultural production and input constraints in other sectors, bringing recent trends back in line with the long-term picture. Industrial production stagnated in 1979/80, largely due to shortfalls in the production of major inputs such as coal, steel and cement, as well as infrastructural constraints, notably in power and transportation. As a consequence of these developments, the remarkable price stability that characterized the Indian economy after 1975 came to an abrupt end at the close of fiscal year 1978/79. During the spring and summer of 1980 the price index continued to rise sharply, so that by September it stood at 19.1% above that of the previous September. Foodgrain prices rose over the summer and fall of 1980 but more slowly than the drop in 1979/80 production would have suggested so that in most markets grain prices remained close to the Government's ration prices. Low income groups in urban areas were assured adequate supplies of grain at stable prices through the public distribution system. The substantial stocks of foodgrains also provided resources for a large-scale drought relief employment program for low income groups in rural areas. In 1980/81, the economy recovered, aided by a normal monsoon, so that real GDP growth for the year should be about 7 to 8%. During the summer of 1980, GOI raised prices of petroleum products and fertilizers, reflecting the growing cost of imports

of these items and the GOI efforts to encourage efficiency in their use. Recently the growth in prices has slowed so that by January 1981 the wholesale price index was 15% above its level a year earlier.

7. In agriculture the positive results of large investments and appropriate policies in the past years are becoming increasingly apparent. The rate of expansion of irrigation has increased significantly from 1.3 million ha per year in the early 1970s to about 2.3 million ha in 1978/79. Fertilizer use reached 5.2 million tons of nutrients in 1979/80, more than double 1974/75 levels. Over the decade before 1979/80, foodgrain production grew at about 2.75% per annum -- sufficient to meet consumer demand, to eliminate imports (which had averaged nearly 5 million tons per year for the 15 years preceding 1976), and to lower real foodgrain prices for consumers. At the same time, India was able to build up substantial foodgrain buffer stocks which made it possible to weather the effects of the 1979/80 drought with comparative ease, and to export about half a million tons of grain in 1980. While the management of the foodgrain economy after the drought was a significant achievement, the effect of the drought on production re-emphasized the continued importance of the monsoon in India's agriculture. The need to expand irrigation, strengthen extension and encourage the efficient use of other inputs continues.

8. As the new decade begins, the Indian economy is shifting from a situation of resource surplus, which had been a temporary phenomenon of the late 1970s, to one of resource scarcity. Investment has again overtaken domestic savings, and the scope for further increases in the latter appears limited. Marginal savings rates have recently been well above 30% in the household sector. Future increases in savings will depend largely on enhanced profitability of public sector enterprises. Impending resource scarcity is even more apparent in the foreign sector. Between 1975/76 and 1978/79 India's current account deficit had remained comfortably small in relation both to GDP and to a growing pipeline of aid commitments. This was primarily due to favorable terms of trade movements and rapidly growing net invisibles which masked adverse underlying trends in the volume of exports, the growth of which has slowed since 1977. One area of concern is the apparent decline in the growth rate of manufactured exports which had contributed much to the export growth of the first half of the decade. A combination of strong domestic and slack international demand, exacerbated by severe infrastructural and supply constraints and apparent lessened interest in export promotion during the resource surplus period were the major causal factors. Recently, signs of improvement in the availability of power, the main constraint facing exporters, and the adoption of several new export policy measures have improved the prospects for accelerating export growth, though continued attention to both these areas will be required.

9. In contrast, imports have grown rapidly in volume terms and there have been important changes in composition. As a result of the accumulation and maintenance of foodgrain stocks, foodgrain imports -- which had traditionally been a large item in the balance of payments -- have been eliminated since 1978 and, for the past few years, India has been a marginal net exporter of grain. The rise in other imports, however, has more than offset this development. Reflecting the impact of the liberalized import policy adopted by the Government, non-foodgrain imports increased sharply, so that their level in 1978/79 was over 80% higher than in 1975/76. In large part,

the liberalization in import policy and increase in imports were limited to raw materials, basic commodities and intermediate goods; most consumer goods remained banned and capital goods imports were permitted only on a selective basis. Strong new pressures on the balance of payments have developed during 1980/81. The terms of trade again deteriorated markedly as a consequence of unexpectedly large increases in petroleum prices, which caused the oil import bill to increase by over 75% in 1980/81 after doubling the year before. India's foreign resource deficit as a proportion of GDP reached the unprecedentedly high level of 3.0% in 1980/81. India was able to finance this gap through a substantial drawing on IMF resources (the Trust Fund and Compensatory Financing Facility), and through an increase in aid and a drawdown in reserves, both of modest proportions. Petroleum imports as a proportion of merchandise exports now exceed 75%.

### Development Prospects

10. The experience of recent years illustrates that India does have the capacity to grow and develop at a more rapid pace. Although the industrial sector is small compared to the size of the economy, it nevertheless is large in absolute terms and has a highly diversified structure, capable of manufacturing a wide variety of consumer and capital goods. Basic infrastructure -- irrigation, railways, telecommunications, the power grid, roads and ports -- is extensive compared to many countries, although there is considerable scope for expansion as well as improvement in the utilization of existing capacity. India is also well-endowed with human resources and with institutional infrastructure for development. Finally, India has an extensive natural resource base in terms of land, water, and minerals (primarily coal and ferrous ores, but also gas and oil). With good economic policies and sufficient access to foreign savings, India has the capability for managing these considerable resources to accelerate its long-term growth.

11. The new Indian Government elected in January 1980 formulated a new Sixth Five-Year Plan for the period 1980-85. The Plan was approved in February 1981. The new Plan continues to assign priority to agriculture and power. Furthermore, the Plan reflects recent developments in India and in the world economy which have brought to the surface the need for urgent action in several areas. These include: (i) expansion of exports and an investment program directed toward containing the growth of imports in the face of a deteriorating balance of payments situation; (ii) an investment program and policy framework for more efficient use and development of energy sources; (iii) removal of bottlenecks in infrastructure and related constraints on production of basic industrial inputs; and (iv) continuing emphasis on the development of agriculture.

12. The higher capital formation rates of the past few years augur well for future income growth. However, there are signs that, relative to existing demands, the past programs and policies have led to disproportionately low growth in certain crucial sectors, namely power, coal, transport services, steel and cement. Potential output growth in sectors which have benefitted from large investments in the recent past may not materialize unless these input bottlenecks are alleviated. In the case of coal, steel and cement, domestic production appears to be clearly justified on grounds of comparative advantage, indicating an a priori case for policies to promote further investment. All these are tradeable commodities. Although in 1980/81 they



were not imported in sufficient amounts to eliminate the shortages, increased short-term reliance on imports may be necessary to alleviate slowdowns and dislocation in using industries. In the case of sectors in which there is no option to import the final product --power and transportation-- the planning of capacity expansion becomes even more crucial. Although there is scope for improvement in the shortrun performance of these sectors, major investments in balancing and modernization programs as well as in new capacity are essential for adequate growth in the medium term. The presence of infrastructural constraints and shortages of basic industrial inputs demonstrates that the expansion of industrial output leads to competing claims on scarce resources with significant implications for public versus private and short versus long-term investments.

13. Despite the relatively large investment programs for the development of domestic energy resources such as coal and hydroelectricity, and the recent development of offshore petroleum resources, India has not been able to narrow the gap between its total energy demand and domestic production. During the past year, India continued to face power and coal shortages. Growing demand for petroleum products, disrupted production from the Assam oilfields, and recent oil price increases, have boosted India's oil import bill to US\$7 billion, equivalent to about 78% of total exports of goods. India is entering the Sixth Plan period with an ambitious energy production program backed by substantial financial commitment. In the oil sector, GOI is now accelerating its oil exploration capabilities and is opening up prospective areas for exploration by foreign firms. India is now committed to an expanded power program that emphasizes exploitation of its large hydro potential and development of the transmission and distribution system. In the coal sector, a policy decision in favor of mechanization has been made in order to achieve more rapid growth of coal production.

14. Despite the 1979 drought, agricultural policies, development programs and secular trends all seem favorable for sustaining the past growth rate during the 1980s. India ended 1980 with grain stocks of about 12 million tons, without having imported foodgrains during the year. This is partly due to the bumper crop of 1978/79 and good management of the foodgrain stocks following the 1979 drought, but also reflects the trends of the last decade which point to an improvement in foodgrain availability in the economy. In view of the acceleration in the use of agricultural inputs and the projected fall in the population growth rate, the long-run prospects for foodgrain supply and demand balances look favorable. If the efforts to develop agriculture over the past decade are sustained and intensified, as suggested in the new Plan, persistent shortage seems unlikely, and it is probable that a wide range of policy options will become much more practical. These options include a slowly falling real price of foodgrains to increase the affordability of foodgrains to low-income families, further rationalization of domestic markets and prices, foodgrain exports and diversification to the production of other, higher value crops.

15. Foreign exchange reserves still provide some cushion that can help the Government of India in short-term supply management, but this situation is likely to be short-lived. Rising import prices and uncertainties in the prospects for exports and invisible receipts have led to a serious and rapid deterioration in India's balance of payments prospects. Reserves were only marginally higher in March 1980 than the level of a year earlier and, in

terms of import coverage, fell below the 8-month level for the first time since 1977. A very sharp decline in the reserve level would have occurred in 1980/81 had IMF Trust Fund and Compensatory Financing Facilities amounting to over US\$1 billion not been available to India. At best, India's reserves may provide a cushion for two more years, and even that depends on improved export performance, on the maintenance of aid flows and workers' remittances and on moderation in oil price rises.

16. India's medium-term development prospects are mixed. Considerable progress continues to be made, particularly in agriculture, but the economy faces a period of difficult adjustments in the coming years. Investments required to relieve short-term supply constraints must compete with longer-term programs to accelerate growth and to develop India's considerable physical and human resources. The balancing of these objectives will place a difficult burden on those implementing India's Sixth Five-Year Plan. The primary focus must be on the implementation of appropriate domestic adjustment policies, although the aid community can and should play an important role in ensuring that India's efforts do not fail due to inadequate foreign resources.

17. The annual population growth rate declined from 2.3% in the late 1960s to about 2% at present and is expected to continue falling to around 1.8% by the first half of the 1990s. Despite the declining trend in the rate of population increase, a net reproduction rate of one (replacement level) will be achieved only around the year 2020. At that time, the population of India is estimated to reach 1.2 billion persons, an increase of about 79% over the mid-1980 level of 672 million. Family planning has played an important role in achieving the fertility decline in the past decade, and the extent of a further decline will be greatly influenced by the continuation of a successful official family planning program. The family planning performance data for 1978/79 and 1979/80 clearly indicate a comeback from the sharp decline observed in virtually all major contraceptive methods during 1977/78. Except for male sterilizations, the number of acceptors for all contraceptive methods surpassed the 1974/75 levels in 1978/79. While the increase in the total acceptors of IUD and conventional contraceptives was modest, female sterilizations increased by about 40% between 1977/78 and 1978/79. Recent data confirm a secular upward trend in overall performance. For the past several years the family planning program has emphasized measures that would yield relatively modest but sustainable results with increased emphasis on reversible methods.

18. Beyond the effects of overall economic growth and constrained population growth, the reduction of poverty in India requires special attention to ways of raising the income and productivity of low-income groups. More than one-third of the world's poor live in India, and more than 80% of the Indian poor belong to the rural households of landless laborers and small farmers. In addition to having inadequate physical assets, the poor are ill-endowed with human resources, being disproportionately represented among the illiterate, the hungry and the sick. Improvements in the living standards of the poor will depend to a large extent on the overall growth of the economy, mainly on increases in agricultural production and employment, in non-farm rural employment, and also in employment opportunities in urban areas. These developments will have to stem largely from market forces which, however, can be reinforced by appropriate government policies and investment priorities.

The declining trend in real foodgrain prices between 1970 and 1979 reflects such developments. There is also a role for direct government action in faster implementation of land reform (though the scope for significant reduction in poverty through redistribution is quite limited in India), in increasing the supply of credit available to small farmers and rural artisans and finally in broadening the provision of those services which enhance the human capital of the poor and improve living standards. Many of the latter are elements of the Minimum Needs Program which has been an integral part of Indian planning for the past decade. Progress has been slow but steady in the expansion of primary education, the extension of rural health facilities and the provision of secure village water supplies. Innovations such as the community health volunteer program and the national adult literacy campaign, provide encouraging evidence that well-targetted, relatively low-cost programs can lead to enhanced prospects for India's poor.

## PART II - BANK GROUP OPERATIONS IN INDIA

19. Since 1949, the Bank Group has made 61 loans and 134 development credits to India totalling US\$2,833 million and US\$8,672 million (both net of cancellation), respectively. Of these amounts, US\$1,133 million had been repaid, and US\$4,107 million was still undisbursed as of January 31, 1981. Bank Group disbursements to India in the current fiscal year through January 31, 1981, totalled US\$373 million, representing an increase of about 20% over the same period last year. Annex II contains a summary statement of disbursements as of January 31, 1981, and notes on the execution of ongoing projects.

20. Since 1959, IFC has made 19 commitments in India totalling US\$110.6 million, of which US\$20.8 million has been repaid, US\$27.6 million sold and US\$7.5 million cancelled. Of the balance of US\$54.7 million, US\$46.2 million represents loans and US\$8.5 million equity. A summary statement of IFC operations as of January 31, 1981, is also included in Annex II (page 5).

21. In recent years, Bank Group lending has emphasized agriculture. The Bank Group has been particularly active in supporting minor irrigation and other on-farm investments through agricultural credit operations and in providing direct support to major and medium irrigation. Marketing, seed development, agricultural extension, and dairying are other agricultural activities supported by the Bank Group. Also, the Bank Group has been active in financing the expansion of output in the fertilizer sector and, through its sizeable assistance to development finance institutions, in a wide range of geographically scattered medium- and small-scale industrial enterprises. IDA financing of industrial raw materials and components for selected priority sectors has been instrumental in facilitating better capacity utilization in industry. The Bank Group has also been active in supporting infrastructure development for power, telecommunications, and railways. Family planning, water supply development, urban investments and the development of oil and natural gas have also received Bank Group support in recent years.

22. The direction of assistance under the Bank/IDA program has been consistent with India's needs and the Government's priorities. The emphasis of the program on agriculture, power, water supply and other infrastructure

sectors remains highly relevant. Projects designed to foster agricultural production through the provision of essential inputs, particularly water and credit for on-farm investments, will continue to receive emphasis. Improved water management and intensification and streamlining of extension systems form an important institution-building aspect of the Bank Group's program for the next several years. Special emphasis will be given to projects benefiting small farmers. The Bank Group's continuing role in the fertilizer sector also assists India in the more efficient provision of another key input in the agricultural growth process. Projects supporting water supply, sewerage, urban development and investments in the petroleum sector also form an integral part of the Bank's lending strategy to India for the next several years. Lending in support of infrastructure and industrial investments will focus on those subsectors which have recently emerged as key constraints on India's overall growth, primarily power and transportation.

23. The need for a substantial net transfer of external resources in support of the development of India's economy has been a recurrent theme of Bank economic reports and of the discussions within the India Consortium. Thanks in part to the response of the aid community, India successfully adjusted to the changed world price situation of the mid-1970s. However, there is now a need for increased foreign assistance to adjust to an even greater deterioration in balance of payments anticipated during the 1980s by augmenting domestic resources and stimulating investment. As in the past, Bank Group assistance for projects in India should aim to include the financing of local expenditures. India imports relatively few capital goods because of the capacity and competitiveness of the domestic capital goods industry. Consequently, the foreign exchange component tends to be small in most projects. This is particularly the case in such high-priority sectors as agriculture, irrigation, and water supply.

24. India's poverty and needs are such that whenever possible, external capital requirements should be provided on concessionary terms. Accordingly, the bulk of the Bank Group assistance to India has been, and should continue to be, provided from IDA. However, the amount of IDA funds that can reasonably be allocated to India remains small in relation to India's needs for external support. Therefore, India should be eligible and regarded as creditworthy for some supplemental Bank lending. The ratio of India's debt service to the level of exports was 12% in 1978/79 and is projected to remain below 20% through 1995/96. As of January 31, 1981, outstanding loans to India held by the Bank totalled US\$1,766 million, of which US\$561 million remain to be disbursed, leaving a net amount outstanding of US\$1,206 million.

25. Of the external assistance received by India, the proportion contributed by the Bank Group has grown significantly. In 1969/70, the Bank Group accounted for 34% of total commitments, 13% of gross disbursements, and 12% of net disbursements as compared with 46%, 37% and 48%, respectively, in 1979/80. On March 31, 1980, India's outstanding and disbursed external public debt was US\$15.6 billion, of which the Bank Group's share was US\$5.2 billion or 34% (IDA's US\$4.5 billion and IBRD's US\$0.7 billion). Because Bank Group assistance to India is predominantly in the form of IDA credits, debt service to the Bank Group will rise slowly. In 1979/80, about 18.0% of India's total debt service payments were to the Bank Group.

PART III - AGRICULTURE AND AGRICULTURAL EXTENSION IN MAHARASHTRA

26. Maharashtra, in western India, is the third largest State in the Union, with a land area of 30.7 million hectares and a population of over 60 million. The State's economy is dominated by agriculture, which accounts for 30-35% of Maharashtra's net domestic product and employs approximately 65% of the labor force. About 18.2 million hectares are cultivated by approximately 5.76 million farm families. In contrast to a number of Indian States, over 90% of the farms in Maharashtra are wholly owned by the cultivator. Approximately 46% of the farms in Maharashtra consist of less than two hectares of land, although there is considerable variation across the State in farm size.

27. Agriculture in Maharashtra is predominantly rainfed, with only 8.4% of the cultivated area irrigated. The State is fed by the southwest monsoon (June to October), the western coastal area receiving the heaviest rains, with rains tapering off in central Maharashtra and picking up again in the extreme eastern part of the State. Six districts, covering about one-quarter of the State's area, are classified as "drought-affected". Paddy is the main crop in the western, coastal zone and in the extreme east, while pearl millet, wheat, sorghum, groundnut, maize, pulses, cotton and sugarcane are grown in the central regions.

28. Crop yields per hectare in Maharashtra are extremely low, for some crops among the lowest in India, and the State is a net importer of foodgrains. The rate of agricultural growth, which had been sluggish since the early 1960s (averaging 0.7% p.a.), did improve in the late 1970s, following a series of favorable monsoons and in response to State Government development programs, focussing principally on irrigation, introduction of new crop varieties, increased use of fertilizer, and expansion of the area under irrigated sugarcane and horticulture crops. Nevertheless, considerable scope for improvement in agricultural techniques still exists.

Agricultural Extension in Maharashtra

29. Maharashtra operates on the basis of the Panchayat Raj system, a system of administration and governance instituted in 1962. This system, in an effort to maximize participatory government, divides areas of jurisdiction or tasks between the local sector and the State sector. Local sector subjects fall within the purview of District and Block Councils, which are locally elected bodies. Agricultural extension is considered a local sector subject.

30. Under the present system of agricultural extension, a multi-purpose village level worker (Gram Sewak) is employed by the District 1/ Council (Zilla Parishad). The Gram Sewak works under the technical supervision of an Agricultural Extension Officer (AEO) who, in turn, is guided on technical matters by the district-level Agricultural Development Officer (ADO). The Gram Sewak and the AEO are under the administrative control of the Block Development Officer (BDO), an administrative officer who is responsible for all development activities within a given block 2/ and acts as Secretary to the Block Council (Panchayat Samiti). The BDO falls under the control of the

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1/ There are 25 administrative districts in Maharashtra.

2/ Each district is divided into approximately 10-12 blocks.

Chief Executive Officer of the Zilla Parishad, who is responsible for carrying out all development activities entrusted to the Zilla Parishad and for liaison with the State Government. <sup>1/</sup> The district's ADO also reports directly to the Chief Executive Officer, although he is guided by the Department of Agriculture and does his work at the block level through the BDO. In addition to the Gram Sewak and the AEO, there are a number of Agricultural Assistants and Agricultural Supervisors in each district working under the ADO. These agents deal principally with input supply, rather than acting as generalized extension agents offering advice on basic cultivation techniques, the latter being the job of the Gram Sewak.

31. Parallel to these local sector agricultural activities are a number of Department of Agriculture State sector programs, mainly specialized crop schemes focussing on cash crops, seed production programs or statistic collection programs. Initiated in the State sector, these schemes were put under the Chief Executive Officer of the Zilla Parishad in 1978, but they maintained their own field staffs and remained outside the supervision of the Block Council and the BDO. Finally, in irrigated areas, separate Command Area Development Authorities have been set up (under the Irrigation Department), which include field staff assigned to provide additional extension services to farmers within their command areas.

32. This network of support programs for the farmer suffers from a number of deficiencies. First, the lack of a single, direct line of either technical support or administrative control from the Department of Agriculture to the extension worker in the field, combined with the multi-purpose role of the field-level extension worker, results in an extension service less concentrated on agricultural support than intended. Gram Sewaks typically spend less than 20% of their time on agricultural extension. Moreover, given the tenuous link between the Gram Sewak and the Department of Agriculture, what agricultural work is done is generally neither planned systematically nor supervised adequately. Second, the Gram Sewak is typically responsible for providing service to too many farm families, often spread over a large area. This large area of jurisdiction combines with a shortage of vehicles and appropriately located housing for Gram Sewaks to make close, regular contact between the extension workers and the farmers very difficult. Third, the training of extension workers is generally confined to pre-service training, much of which is quickly forgotten and soon out of date in any case. In addition, training programs are typically theoretical and provide little opportunity for practical application of what has been learned. Fourth, the link between the extension services and research activities is weak. Therefore, extension messages lack continued updating, while agricultural research tends toward academic questions only remotely related to farmers' problems. Fifth, the effectiveness of the extension service having been hampered by the factors described above, the extension workers suffer from low status and low morale. And finally, the special crop and area development schemes created to fill the many gaps in agricultural extension have proven expensive,

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<sup>1/</sup> While the Zilla Parishads and Panchayat Samitis are quite powerful bodies, their activities do fall within the purview of the State Government's Rural Development Department, under which funds for these councils and their programs are budgeted.

duplicating services Gram Sewaks are supposed to provide and forcing the farmer to seek advice on the crops he grows from several different sources. It is these many weaknesses in the existing extension system that the proposed project is designed to address.

### Bank Group Activities in Agricultural Extension

33. The weaknesses evident in Maharashtra's extension system have been identified in many States of India. Since 1977, the Bank Group has assisted efforts to reorganize and strengthen agricultural extension in ten Indian States. Bank Group-supported projects <sup>1/</sup> have introduced the Training and Visit (T&V) System of agricultural extension, a system based on frequent (bi-weekly) in-service training of field extension workers and regular, scheduled visits by field workers to farmers.

34. Introduction of the T&V System has not been easy. The shift from a system based on multi-purpose functionaries to a system of professional extension carried out by single-purpose extension workers involves a major administrative and conceptual reform which inevitably encounters bureaucratic, political and logistical hurdles. Informed and motivated leadership being of paramount importance during the introduction of the system, senior staff turnover is particularly troublesome. Moreover, even in the best of circumstances, several years are required for the system, once initiated, to fully mature and become institutionalized. Despite these unavoidable challenges, the system has been very successfully initiated in Orissa, Rajasthan, Karnataka, Haryana, Madhya Pradesh and Assam. Field visits have shown that farmers have responded favorably to extension efforts, adopting recommended practices such as line transplanting of paddy, seed treatment, inter-cropping with pulses, and basal dressing of fertilizer. In project districts in Madhya Pradesh, for example, there has been a 300% increase in the use of clean and graded seed, a 35% increase in the planting of seed of improved varieties, and a 28% increase in the use of seed dressings. Fertilizer use has increased by 66% over 1976/77 levels (as opposed to a 48% increase in non-project areas) and the use of soil testing facilities has increased by 69%. Continued care will be required in all States to see that vacated posts are quickly filled, extension workers are adequately supervised, and extension messages continue to be appropriate. But the basis has been laid for a strong, professional extension system and results are visible in the fields.

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<sup>1/</sup> The Orissa Agricultural Development Project (Cr. 682-IN; April 1, 1977); the Madhya Pradesh Agricultural Extension and Research Project (Cr. 712-IN; June 1, 1977); the West Bengal Agricultural Extension and Research Project (Cr. 690-IN; June 1, 1977); the Assam Agricultural Development Project (Cr. 728-IN; June 30, 1977); the Rajasthan Agricultural Extension and Research Project (Cr. 737-IN; November 14, 1977); the Bihar Agricultural Extension and Research Project (Cr. 761-IN; January 6, 1978); the Composite Agricultural Extension Project (Cr. 862-IN; February 16, 1979); and the Kerala Agricultural Extension Project (Cr. 1028-IN; June 25, 1980).

35. In Gujarat, while the system is in place and operating fairly well, the quality of field work is somewhat uneven. The State Government has been alerted to IDA's concerns by recent supervision missions, and efforts are underway to ensure that extension workers understand the messages they are to deliver, that they keep to their schedule of visits, and that farmers are made aware of the visit schedule in their area.

36. In Bihar and West Bengal, the effort to introduce the T&V System has encountered more serious delays. A change in the State Government in West Bengal, following the initially very promising introduction of the T&V System, led to a re-evaluation of the system and its merits by the incoming administration. While this resulted in a lengthy period of backsliding in terms of project implementation, the Government of West Bengal has now reaffirmed its commitment to the T&V System and begun taking the critical steps required to expedite project implementation (e.g., recruitment and training of field staff, identification of farmer groups and selection of contact farmers). A court-imposed injunction in response to a suit brought by field staff transferred from the Community Development Department to the Department of Agriculture for extension work has prevented the project from regaining full momentum. However, that injunction has now been partially lifted, with the result that field work (with new recruits) has resumed. Moreover, this is a problem that has been met and overcome in several States, <sup>1/</sup> and it is expected that the tempo of project implementation will soon pick up. In the case of Bihar, project implementation has been seriously hampered by vacancies in the posts of Director of Agriculture and Additional Director of Agriculture (Extension). IDA and GOI have been very concerned about the lack of progress in Bihar and are discussing with the State Government the current constraints facing the project and the necessary administrative and budgetary steps required to implement the project as expeditiously as possible.

37. Finally, in Kerala, the most recently approved of our extension projects, project initiation has been slowed by staff changeovers at all levels (ministerial and administrative). However, field work has now begun in three districts, with the remaining eight districts to come on stream in May 1981.

#### PART IV - THE PROJECT

38. The project was prepared by the Government of Maharashtra with the assistance of Bank Group staff. It was appraised in October 1980. A report entitled "Staff Appraisal Report, Maharashtra Agricultural Extension Project" (No. 3299-IN) is being distributed separately to the Executive Directors.

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<sup>1/</sup> Gram Sewak associations in several States have initially filed suit to ensure that their compensation, benefits, and promotional prospects will not be endangered as a result of their transfer to the Department of Agriculture for extension work. In each case, the suit has been satisfactorily settled and Gram Sewaks' conditions of employment safeguarded (see para 46(a)).



Negotiations were held in Washington, D.C. in March 1981. The Governments of India and Maharashtra were represented by a delegation coordinated by Mr. Ranga Rao, Director, Department of Economic Affairs, GOI.

### Project Description

39. The project is designed to achieve early and sustained increases in agricultural production throughout Maharashtra through the introduction of the Training and Visit System of agricultural extension. Existing extension activities would be reorganized and strengthened to achieve:

(a) establishment of a single line of command between full-time field-level extension workers and the extension supervisory chain in the Department of Agriculture;

(b) consolidation of staff from existing special crop and command area development schemes into the single, unified extension service;

(c) initiation of regular, in-service training as an integral part of extension activities;

(d) introduction of a systematic, fixed schedule for regular and frequent visits by extension workers to farmers' fields;

(e) improved linkages between extension operations and agricultural research activities; and

(f) regular monitoring and evaluation of extension activities.

The project, to be implemented over five years, would provide additional staff, vehicles, housing, operating funds, and training to achieve these reforms.

40. The proposed project would be based on the deployment, at field level, of Village Extension Workers (VEWs) <sup>1/</sup> responsible only for agricultural extension. Each VEW would be assigned to work with an identified group of farm families, varying in number depending on local conditions, population density, accessibility and cropping pattern. One VEW would cover, on average, 800-900 farm families, with the actual number varying from 600 to 1,000 depending on the factors cited above. A contingency provision has been made for additional VEWs, if that proves necessary. The Government of Maharashtra would, by March 31, 1984, in consultation with IDA, carry out a review of VEW staffing strength and make any adjustments in the VEW: farm family ratio deemed necessary (Section 2.10, Project Agreement).

41. To reach his farmers systematically, the VEW would divide the families in his jurisdiction into eight smaller groups of about 80-120 each. He would visit each group regularly on a fixed day of the week in a two-week cycle. During his visit the VEW would go to contact farmers selected from

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<sup>1/</sup> In Maharashtra, VEWs are at the rank of Agricultural Assistants and Agricultural Supervisors.

each group, involving as many other farmers as possible in the discussions and demonstrations. During each visit the VEW would concentrate his efforts on a few strategically selected recommendations relevant for that particular phase of the crop cycle. The extension messages to be communicated to farmers at the initial stage would be simple, concentrating on the few important crops in the locality and the most important aspects of crop production at that period of time. Initially, the emphasis would be on low-cost improvements which the majority of farmers can afford.

42. The VEW would be assisted, guided and supervised in his work by an Agricultural Extension Officer (AEO), normally a graduate in Agriculture. One AEO would be responsible for about eight VEWs and would spend at least four days a week visiting them in the field. Once in every two-week period, VEWs would receive a full day of intensive training in the recommendations for that period (relevant for the coming two weeks). The AEO would also participate in this training session. Thus, every two weeks, the VEW would spend eight days in visiting each of his eight groups and one day in training. One day the AEO would meet all his VEWs in the field or at the headquarters to review progress, reinforce practical skills, and identify topics to be raised at the next training session. The remaining two working days would be devoted to farm trials and making up missed visits.

43. The AEO would, in turn, be guided and supervised by a Subdivisional Agricultural Officer (SDAO), 1/ who would have full-time responsibility for supervising the 8-10 AEOs in his area. Where there are more than 10 AEOs in a subdivision, the SDAO would be assisted by an Additional Subdivisional Agricultural Officer. Each subdivision would be served by three Subject Matter Specialists (SMSs) -- one each specializing in Agronomy, Plant Protection and Training/Communication -- who would spend one-third of their time on fortnightly training sessions for VEWs, one-third of their time providing technical support to VEWs and AEOs through field visits, and the remainder of their time in training, execution of field trials, and collaboration with researchers at the State's agricultural universities. 2/

44. The remainder of the supervisory chain would consist of the Principal Agricultural Officer (PAO) at district level, the Divisional Joint Director of Agriculture at the divisional level (three to five districts) and the Additional Director of Agriculture for Extension (ADA (Extension)) at State Department of Agriculture (DOA) headquarters. Each of these officers would be directly and solely responsible for extension activities within his area of jurisdiction. 3/ The PAO in each district would be assisted by one SMS

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1/ Each district would be divided into three or four subdivisions.

2/ As some subdivisions are small, 60 subdivisional SMS teams would be able to serve the 90 subdivisions in the State.

3/ At the district level, the existing Agricultural Development Officer (see paras 30, 47) would be responsible for regulatory activities, input supply, and other non-extension activities in order to ensure that the PAO devotes his full attention to extension.

who would provide technical support to the SMSs at subdivisional level on extension methodology and training and would help coordinate and supervise training activities. Additional SMSs, to cover specializations not covered at the subdivisional level, would be provided as required in some districts. The ADA (Extension) at DOA headquarters would have a technical support staff of four SMSs (one each for plant protection, horticulture, farm management and farm trials, and training), who would be responsible for improving the technical quality of the extension service in the area of their specialization, developing and interpreting farm trials, promoting linkages with research carried out by the four universities in Maharashtra and elsewhere in the country, organizing training programs, and serving as a clearing house for technical information.

45. The specific expenditures to be financed under the project are summarized below.

(a) Incremental Staff. Staff required to implement the reorganized extension system would be made available partially through new recruitment and partially through reassignment of existing staff, i.e., Gram Sewaks and AEOs working under the Zilla Parishads, Agricultural Assistants and Agricultural Supervisors and supervisory personnel working on State-sector (including Command Area Development Authority) schemes, and other staff already with DOA. Project costs have been calculated to include the cost of incremental positions required to establish the T & V System. GOM would fill incremental and transferred staff positions in accordance with a time schedule satisfactory to IDA, utilize all such positions exclusively for agricultural extension throughout the project period, and ensure that staff transferred to work on extension would not be adversely affected in terms of salaries and benefits as a result of their transfer (Section 2.08, Project Agreement).

(b) Staff Training. The project would support a wide variety of pre-service and in-service training programs for extension staff. These would include induction training for all VEWs; special short courses and pre-season training for VEWs, AEOs and SMSs; bi-weekly training of VEWs by subdivisional SMSs; and special workshops and advanced training for research personnel. The State's four agricultural universities would be responsible for many of these courses, which would be conducted at existing facilities. The construction of one hostel would be financed under the project. GOM's proposals for staffing VEW training institutions, along with accompanying curricula and training schedules, were reviewed during negotiations and found to be fully satisfactory.

(c) Housing. As the new extension methodology is based on regular and frequent farm visits by field staff, it is essential that field staff and their supervisors live in or near their areas of work. GOM would ensure that all VEWs and AEOs live in or near the areas assigned them (Section 2.09, Project Agreement). While GOM will continue to encourage the use of rental housing where possible, it will be necessary to construct low-cost housing in areas where rental accommodation is not available. It is anticipated that new housing would be required for about 20% of the VEWs and AEOs. New houses would be constructed by either the Maharashtra Public Works Department or the Public Works wing of the Zilla Parishad, depending on location. GOM would provide IDA with regular information on progress in locating sites for houses financed under the project (Section 2.05(b), Project Agreement) as well as

with final specifications and construction cost estimates 1/ (Section 2.05(a), Project Agreement).

(d) Vehicles. To enable field extension staff to maintain fixed schedules of visits and supervisory staff to reach the field easily and frequently, adequate transport is essential. The project would provide additional motor vehicles at headquarters, district, and subdivisional levels, as well as loans for field staff for the purchase of motorcycles (AEOs, SMSs) and bicycles (VEWs). Loan terms and travel allowances would be set so as to encourage the purchase and use of vehicles by field staff (Section 2.11, Project Agreement).

(e) Equipment and Incremental Operating Costs. The project would provide GOM with funds for travel allowances and incremental vehicle operating costs, for the printing of materials for VEWs (e.g., field notebooks, charts, etc.), as well as for purchase of small samples of seeds and other inputs for farmer training and field trials, simple audio-visual aids to support field operations and training, and required office equipment and furniture.

(f) University Support. In view of the importance of close contact between the agricultural extension and research establishments and the role of the agricultural universities in training of extension personnel, the project would provide a Director of Extension Education at each of the four agricultural universities in the State and eleven University Extension Agronomists, along with supporting staff, vehicles and operating funds. DOA has concluded memoranda of understanding with each university defining the role of the university in project implementation.

(g) Monitoring and Evaluation. The project would provide staff, vehicles, and consultancy funds for the establishment and operation of a monitoring and evaluation system specifically designed to provide project management with current information on the effectiveness of the extension system. The methodology used would be similar to that utilized in on-going extension projects and would supplement direct personal supervision by each level of project management. GOM would ensure that monitoring and evaluation would be undertaken in a form satisfactory to IDA and that results would be forwarded to the Association once a year (Section 2.07, Project Agreement).

#### Project Implementation and Coordination with Related Agencies

46. A key objective in the introduction of the T&V System in Maharashtra is to establish a professional extension service which is compatible with the Panchayat Raj system but cannot be diverted to non-extension work. In order to accomplish this, a direct line of command between the extension worker in the field and Department of Agriculture management would be established, with DOA clearly the agency responsible for the operation of the extension system. However, the Panchayat Samiti and BDO would be kept fully informed of

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1/ Specifications and costs would vary slightly depending on which agency carries out the construction, although basic specifications and associated average cost figures have been agreed.

extension activities. Extension would be a periodic item on the agenda at Panchayat Samiti meetings and two or three AEOs serving in the block, along with the SDAO (who covers two or three blocks), would report at these meetings. They would thereby keep the BDO and the Council informed of their activities and, through the BDO, keep themselves informed about input supply and other related issues. In addition, extension supervisory staff would participate in District and Block Coordinating Committees for input supply, and the BDO would be invited to attend pre-season training sessions for extension workers in order to exchange information on the input supply situation.

47. The BDO would continue to supervise a somewhat reduced cadre of Gram Sewaks. These Gram Sewaks, guided in part by the district's Agricultural Development Officer and his staff (para 30), would deal with input supply and regulatory and statistical work and carry out their traditional non-agricultural functions.

48. Support from the agricultural universities to the Department of Agriculture would come, at the district level, through the University Extension Agronomist, who would assist the PAO in organizing monthly workshops for DOA staff (to train SMSs, plan field trials, and prepare plans for the fortnightly training of VEWs) and would arrange for the participation of university researchers in these workshops. In addition, there would be a seasonal workshop at the zonal level, organized and attended by extension and research staff, to review practices being recommended by the extension system and plan research priorities for the zone. Finally, a State-level Extension and Research Committee, which would include extension and research staff, would be established under the chairmanship of the Secretary of Agriculture. This committee would review and evaluate the findings of the zonal workshops regarding extension recommendations and research priorities and assess project progress, with a particular focus on coordination among relevant agencies. This State-level committee would hold its first meeting by September 30, 1981 and meet at least twice yearly thereafter (Section 2.03, Project Agreement).

#### Project Costs and Financing

49. The estimated cost of the proposed project is about US\$38.2 million, including about US\$4.9 million in taxes and duties and US\$3.5 million in foreign exchange costs. Physical contingencies of 5% have been applied to civil works, equipment, training, and operating costs and to meet the possible need for readjustment of the VEW: farm family ratio (see para 40). Price contingencies of 10% for 1980, 7% for 1981-83, and 5% for 1984-86 have been applied and total 22% of total project cost (US\$8.6 million). The components of project cost, net of contingencies, are: incremental staff (US\$14.3 million); civil works (US\$4.7 million); incremental operating costs (US\$5.0 million); vehicles and equipment (US\$2.8 million); and staff training (US\$1.7 million).

50. The proposed IDA credit of US\$23 million would finance 69% of project cost net of taxes and duties and would cover all foreign exchange costs. The balance of the funds required for the project would be made available from State Government sources and GOI.

### Procurement and Disbursement

51. Civil works contracts (US\$4.7 million) <sup>1/</sup> would be small and dispersed, both geographically and over time, and would therefore not be suitable for international competitive bidding. Contracts would be awarded on the basis of competitive bidding following local advertisement. About 173 motor vehicles (US\$1.5 million) of various types would be required under the project. They would be purchased in small quantities over three years and would be widely dispersed in rural areas. In the interest of ensuring adequate maintenance and spare parts supply, they would be procured locally under existing government procedures, which are based on local competition and are satisfactory to IDA. Motorcycles and bicycles (US\$0.7 million) would be purchased by individual staff according to their preference from loan funds provided by GOM. Orders for purchase of minor equipment and furniture (US\$0.6 million) would be bulked wherever possible and purchased according to established local bidding procedures, except where valued at less than US\$50,000, when they would be purchased by prudent shopping through normal trade channels. The balance of project costs (US\$21.0 million) would consist of training (US\$1.7 million), incremental salaries and allowances (US\$14.3 million), and incremental operating expenditures for offices and vehicles (US\$5.0 million), which would not involve procurement.

52. The proceeds of the credit would be disbursed over six years against 100% of the cost of training; 80% of the cost of civil works, vehicles, and equipment; and 30% of eligible staff costs. Disbursements against staff costs, training, payments less than Rs. 300,000 each on civil works contracts, and payments less than Rs. 150,000 each for locally procured vehicles and equipment would be made against certificates of expenditure. These certificates of expenditure would be audited annually and the audit reports submitted to IDA. Supporting documentation for these expenditures would be retained by the State Government for inspection in the course of project review missions. Disbursements against expenditures for all other items would be fully documented.

### Benefits and Risks

53. The principal benefit of the proposed project would be to increase crop production and thus farm incomes as a result of providing improved extension services to farm families. Approximately 5.8 million farm families living in the project area, 46% of whom farm less than two hectares, would be served by the reformed extension system. Total project costs over the five-year development period, excluding price contingencies, amount to US\$29.6 million, approximately US\$5.1 per farm family served and US\$1.6 per hectare of cropped land. Recurring incremental costs after the project development period, which would be met from GOI/State budget sources, would be approximately US\$8.0 million per annum, or approximately US\$1.4 per farm family per annum. These recurring costs would be partially recovered through market levies on agricultural goods entering commercial markets and through sales taxes levied on agricultural inputs, the consumption of which is expected to rise as a result of improved farm practices.

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<sup>1/</sup> All figures in this paragraph are net of contingencies.

54. Attributing a precise level of economic benefits to this type of project is difficult, since it is impossible to determine precisely what proportion of the benefits expected from improved agricultural practices is due to extension alone and what is due to past research efforts, additional purchased inputs, or more work by the farmer. In practice, it is often the combination of all these, with extension acting as the catalyst, that brings the desired benefits. However, since the incremental cost of the project is very low per hectare and per farm family, even small and slow production increases generate a high rate of return. The proposed project, for example, would generate a rate of return of more than 50% if, by 1988, yields of paddy, wheat, sorghum and millets (which together cover 60% of the cultivated area) increase by only 1% over current yield levels. In areas where the new extension system has already been applied, yield increases have far exceeded these levels. Moreover, the practices initially stressed by the extension service usually focus on improved agricultural practices (timely operations, good land preparation, proper seed rates, weeding, line sowing) which involve additional labor but require little incremental cash outlay. They are thus particularly well suited to the needs of the small cultivator.

55. The establishment of a single, unified, professional agricultural extension service, through the transfer and training of staff from a number of formerly separate programs, marks a major departure from past practice in India. The fact that such a significant reform is underway in large parts of the country reflects a strong commitment to developing an extension system capable of serving all farmers well. Nevertheless, it is difficult for governments to make and carry out such decisions. The main risk, therefore, is that the State Government will find it difficult to integrate staff from various sources under an effective single line of command from extension headquarters to full-time VEWs who work exclusively on agriculture. In an effort to reduce this risk, substantial efforts were made during project preparation and appraisal to ensure full understanding on the part of the State Government of the importance of an integrated and unified service. In addition, during negotiations assurances were obtained from GOM that the extension posts transferred to and created in the DOA under the project would be utilized solely for agricultural extension throughout the project execution period (para 45). While this obligation extends only through the project implementation period, it is clearly the Government's intention that the extension reform will be a lasting one. Moreover, the merits of the system should be sufficiently apparent to the Government and to client farmers to ensure its continuation. Staff changes in the upper ranks of government are frequent, and thus there is the additional risk of a lack of sustained, informed and motivated leadership, so crucial during the initial stages of the extension reform. Once again, the importance of continuity at the management level has been impressed upon State officials. In response, GOM has created the post of Additional Director of Agriculture (Extension), and will maintain a suitably qualified officer in that post, to be specifically and solely assigned to supervise the proposed project.

56. Experience with the T&V extension system in other States has shown other potential risks to be minimal. Farmer responsiveness to recommendations has been excellent wherever visits are made systematically. The ability of the service to develop and disseminate recommendations leading to yield increases well above that needed to generate a 50% rate of return has also been demonstrated. Initially, at least in most situations, technology

has not been a major constraint as there is a backlog of research findings as yet not widely adopted at the farm level. Just bringing the production of the average farmer up to that of the best farmer brings major yield increases. In order to further reduce the possibility of declining benefits due to stagnation in crop research or inadequate dissemination of research findings, the project supports programs of field trials (executed by VEWs in cooperation with researchers) and promotes a close relationship between extension services and the four State agricultural universities.

PART V - LEGAL INSTRUMENTS AND AUTHORITY

57. The draft Development Credit Agreement between India and the Association, the draft Project Agreement between the Association and the State of Maharashtra, and the Recommendations of the Committee provided for in Article V, Section 1(d) of the Articles of Agreement are being distributed to the Executive Directors separately.

58. Special conditions of the Project are listed in Section III of Annex III.

59. I am satisfied that the proposed credit would comply with the Articles of Agreement of the Association.

PART VI - RECOMMENDATION

60. I recommend that the Executive Directors approve the proposed credit.

Robert S. McNamara  
President

By  
Ernest Stern

March 30, 1981



INDIA - SOCIAL INDICATORS DATA SHEET

| INDIA  | REFERENCE GROUPS (WEIGHTED AVERAGES) |         |                      |                           |                              |
|--|--------------------------------------|---------|----------------------|---------------------------|------------------------------|
|  | MOST RECENT ESTIMATE                 |         |                      |                           |                              |
|  | 1960                                 | 1970    | MOST RECENT ESTIMATE | LOW INCOME ASIA & PACIFIC | MIDDLE INCOME ASIA & PACIFIC |
| <b>LAND AREA (THOUSAND SQ. KM.)</b>                            |                                      |         |                      |                           |                              |
| TOTAL  | 3287.6                               |         |                      |                           |                              |
| AGRICULTURAL   | 1824.0                               |         |                      |                           |                              |
| <b>GNP PER CAPITA (US\$)</b>                                   | 60.0                                 | 100.0   | 190.0                | 212.4                     | 1114.7                       |
| <b>ENERGY CONSUMPTION PER CAPITA</b>                           |                                      |         |                      |                           |                              |
| (KILOGRAMS OF COAL EQUIVALENT)                                 | 108.0/c                              | 141.0/c | 176.0/c              | 166.0                     | 842.4                        |
| <b>POPULATION AND VITAL STATISTICS</b>                         |                                      |         |                      |                           |                              |
| POPULATION, MID-YEAR (MILLIONS)                                | 434.9                                | 547.6   | 643.9                | .                         | .                            |
| URBAN POPULATION (PERCENT OF TOTAL)                            | 17.9                                 | 19.7    | 21.7                 | 20.8                      | 39.1                         |
| <b>POPULATION PROJECTIONS</b>                                  |                                      |         |                      |                           |                              |
| POPULATION IN YEAR 2000 (MILLIONS)                             |                                      |         | 974.0                | .                         | .                            |
| STATIONARY POPULATION (MILLIONS)                               |                                      |         | 1645.0               | .                         | .                            |
| YEAR STATIONARY POPULATION IS REACHED                          |                                      |         | 2150                 | .                         | .                            |
| <b>POPULATION DENSITY</b>                                      |                                      |         |                      |                           |                              |
| PER SQ. KM.  | 132.0                                | 167.0   | 196.0                | 193.2                     | 376.1                        |
| PER SQ. KM. AGRICULTURAL LAND                                  | 247.0                                | 308.0   | 353.0                | 409.6                     | 2350.4                       |
| <b>POPULATION AGE STRUCTURE (PERCENT)</b>                      |                                      |         |                      |                           |                              |
| 0-14 YRS.  | 40.0                                 | 42.5    | 41.4                 | 42.0                      | 40.4                         |
| 15-64 YRS.   | 56.5                                 | 54.6    | 55.6                 | 55.0                      | 56.2                         |
| 65 YRS. AND ABOVE  | 3.5                                  | 2.9     | 3.0                  | 3.0                       | 3.4                          |
| <b>POPULATION GROWTH RATE (PERCENT)</b>                        |                                      |         |                      |                           |                              |
| TOTAL  | 1.9                                  | 2.5     | 2.0                  | 2.2                       | 2.4                          |
| URBAN  | 2.5/d                                | 3.3     | 3.3                  | 3.9                       | 4.1                          |
| <b>CRUDE BIRTH RATE (PER THOUSAND)</b>                         |                                      |         |                      |                           |                              |
|  | 43.0                                 | 40.0    | 35.0                 | 37.4                      | 28.7                         |
| <b>CRUDE DEATH RATE (PER THOUSAND)</b>                         |                                      |         |                      |                           |                              |
|  | 21.0                                 | 17.0    | 14.0                 | 14.6                      | 7.9                          |
| <b>GROSS REPRODUCTION RATE</b>                                 |                                      |         |                      |                           |                              |
|  | 3.2                                  | 2.9     | 2.4                  | 2.6                       | 1.9                          |
| <b>FAMILY PLANNING</b>   |                                      |         |                      |                           |                              |
| ACCEPTORS, ANNUAL (THOUSANDS)                                  | 64.0                                 | 3782.0  | 4714.0               | .                         | .                            |
| USERS (PERCENT OF MARRIED WOMEN)                               | ..                                   | 12.0    | 16.9                 | 15.6                      | 39.0                         |
| <b>FOOD AND NUTRITION</b>                                      |                                      |         |                      |                           |                              |
| <b>INDEX OF FOOD PRODUCTION</b>                                |                                      |         |                      |                           |                              |
| PER CAPITA (1969-71=100)                                       | 98.0                                 | 102.0   | 103.0                | 101.4                     | 116.9                        |
| <b>PER CAPITA SUPPLY OF CALORIES (PERCENT OF REQUIREMENTS)</b> |                                      |         |                      |                           |                              |
|  | 93.0                                 | 92.0    | 91.0                 | 92.4                      | 108.9                        |
| <b>PROTEINS (GRAMS PER DAY)</b>                                |                                      |         |                      |                           |                              |
|  | 52.0                                 | 51.0    | 50.0                 | 49.8                      | 60.3                         |
| <b>OF WHICH ANIMAL AND PULSE</b>                               |                                      |         |                      |                           |                              |
|  | 17.0                                 | 15.0    | 13.0                 | 12.0                      | 18.8                         |
| <b>CHILD (AGES 1-4) MORTALITY RATE</b>                         |                                      |         |                      |                           |                              |
|  | 28.0                                 | 22.0    | 18.0                 | 17.9                      | 5.3                          |
| <b>HEALTH</b>  |                                      |         |                      |                           |                              |
| <b>LIFE EXPECTANCY AT BIRTH (YEARS)</b>                        |                                      |         |                      |                           |                              |
|  | 43.0                                 | 48.0    | 51.0                 | 50.8                      | 63.0                         |
| <b>INFANT MORTALITY RATE (PER THOUSAND)</b>                    |                                      |         |                      |                           |                              |
|  | ..                                   | 134.0   | ..                   | ..                        | 52.8                         |
| <b>ACCESS TO SAFE WATER (PERCENT OF POPULATION)</b>            |                                      |         |                      |                           |                              |
| TOTAL  | ..                                   | 17.0    | 33.0                 | 30.2                      | 42.4                         |
| URBAN  | ..                                   | 60.0    | 83.0                 | 66.0                      | 62.1                         |
| RURAL  | ..                                   | 6.0     | 20.0                 | 20.0                      | 29.7                         |
| <b>ACCESS TO EXCRETA DISPOSAL (PERCENT OF POPULATION)</b>      |                                      |         |                      |                           |                              |
| TOTAL  | ..                                   | 18.0    | 20.0                 | 17.7                      | 52.8                         |
| URBAN  | ..                                   | 85.0    | 87.0                 | 71.3                      | 71.1                         |
| RURAL  | ..                                   | 1.0     | 2.0                  | ..                        | 42.4                         |
| <b>POPULATION PER PHYSICIAN</b>                                |                                      |         |                      |                           |                              |
|  | 5800.0/e                             | 4890.0  | 3617.0               | 6322.7                    | 4120.1                       |
| <b>POPULATION PER NURSING PERSON</b>                           |                                      |         |                      |                           |                              |
|  | 9630.0/e                             | 5220.0  | 5675.0               | 9459.0                    | 2213.6                       |
| <b>POPULATION PER HOSPITAL BED</b>                             |                                      |         |                      |                           |                              |
| TOTAL  | 2149.0/f                             | 1629.0  | 1289.0               | 1758.4                    | 819.4                        |
| URBAN  | ..                                   | ..      | ..                   | ..                        | ..                           |
| RURAL  | ..                                   | ..      | ..                   | ..                        | ..                           |
| <b>ADMISSIONS PER HOSPITAL BED</b>                             |                                      |         |                      |                           |                              |
|  | ..                                   | ..      | ..                   | ..                        | 28.8                         |
| <b>HOUSING</b>   |                                      |         |                      |                           |                              |
| <b>AVERAGE SIZE OF HOUSEHOLD</b>                               |                                      |         |                      |                           |                              |
| TOTAL  | 5.2                                  | ..      | 5.2                  | ..                        | ..                           |
| URBAN  | 5.2                                  | ..      | 4.8                  | ..                        | ..                           |
| RURAL  | 5.2                                  | ..      | 5.3                  | ..                        | ..                           |
| <b>AVERAGE NUMBER OF PERSONS PER ROOM</b>                      |                                      |         |                      |                           |                              |
| TOTAL  | 2.6                                  | 2.8     | ..                   | ..                        | ..                           |
| URBAN  | ..                                   | ..      | ..                   | ..                        | ..                           |
| RURAL  | ..                                   | ..      | ..                   | ..                        | ..                           |
| <b>ACCESS TO ELECTRICITY (PERCENT OF DWELLINGS)</b>            |                                      |         |                      |                           |                              |
| TOTAL  | ..                                   | ..      | ..                   | ..                        | ..                           |
| URBAN  | ..                                   | ..      | ..                   | ..                        | ..                           |
| RURAL  | ..                                   | ..      | ..                   | ..                        | ..                           |

INDIA - SOCIAL INDICATORS DATA SHEET

|  | INDIA              |                    |                                       | REFERENCE GROUPS (WEIGHTED AVERAGES<br>- MOST RECENT ESTIMATE) <sup>/a</sup> |                                 |
|--|--------------------|--------------------|---------------------------------------|--|---------------------------------|
|  | 1960 <sup>/b</sup> | 1970 <sup>/b</sup> | MOST RECENT<br>ESTIMATE <sup>/b</sup> | LOW INCOME<br>ASIA & PACIFIC   | MIDDLE INCOME<br>ASIA & PACIFIC |
| <b>EDUCATION</b>   |                    |                    |                                       |  |                                 |
| ADJUSTED ENROLLMENT RATIOS   |                    |                    |                                       |  |                                 |
| PRIMARY: TOTAL   | 61.0               | 72.0               | 80.0                                  | 80.9   | 98.6                            |
| MALE   | 80.0               | 87.0               | 95.0                                  | 94.3   | 99.2                            |
| FEMALE   | 40.0               | 55.0               | 64.0                                  | 66.7   | 97.7                            |
| SECONDARY: TOTAL   | 20.0               | 29.0               | 28.0                                  | 26.6   | 55.5                            |
| MALE   | 30.0               | 39.0               | 38.0                                  | 34.8   | 60.7                            |
| FEMALE   | 10.0               | 17.0               | 18.0                                  | 18.2   | 49.9                            |
| VOCATIONAL ENROL. (% OF SECONDARY)                                       | 8.0                | 6.0 <sup>/g</sup>  | ..                                    | 9.9  | 13.7                            |
| PUPIL-TEACHER RATIO  |                    |                    |                                       |  |                                 |
| PRIMARY  | 29.0               | 40.0               | 42.0                                  | 41.1   | 34.6                            |
| SECONDARY  | 16.0               | 17.0               | ..                                    | 20.5   | 28.5                            |
| ADULT LITERACY RATE (PERCENT)  | 28.0               | 33.0               | 36.0                                  | 40.9   | 85.8                            |
| <b>CONSUMPTION</b>   |                    |                    |                                       |  |                                 |
| PASSENGER CARS PER THOUSAND POPULATION                                   |                    |                    |                                       |  |                                 |
|  | 0.7                | 1.0                | 1.3                                   | 1.8  | 9.0                             |
| RADIO RECEIVERS PER THOUSAND POPULATION                                  |                    |                    |                                       |  |                                 |
|  | 5.0                | 21.0               | 24.0                                  | 25.8   | 118.9                           |
| TV RECEIVERS PER THOUSAND POPULATION                                     |                    |                    |                                       |  |                                 |
|  | ..                 | 0.1                | 0.5                                   | 2.4  | 39.4                            |
| NEWSPAPER ("DAILY GENERAL INTEREST") CIRCULATION PER THOUSAND POPULATION |                    |                    |                                       |  |                                 |
|  | 11.0               | 16.0               | 16.0                                  | 13.4   | ..                              |
| CINEMA ANNUAL ATTENDANCE PER CAPITA                                      |                    |                    |                                       |  |                                 |
|  | 4.0                | 6.3                | 3.8                                   | ..   | 4.9                             |
| <b>LABOR FORCE</b>   |                    |                    |                                       |  |                                 |
| TOTAL LABOR FORCE (THOUSANDS)  | 189761.4           | 220670.5           | 252235.8                              | .  | .                               |
| FEMALE (PERCENT)   | 31.3               | 32.6               | 32.0                                  | 29.4   | 36.8                            |
| AGRICULTURE (PERCENT)  | 74.0               | 74.0               | 74.0                                  | 70.5   | 51.9                            |
| INDUSTRY (PERCENT)   | 11.0               | 11.0               | 11.0                                  | 11.6   | 21.9                            |
| <b>PARTICIPATION RATE (PERCENT)</b>                                      |                    |                    |                                       |  |                                 |
| TOTAL  | 43.0               | 40.2               | 39.2                                  | 37.9   | 39.1                            |
| MALE   | 57.1               | 52.3               | 51.3                                  | 51.3   | 48.5                            |
| FEMALE   | 27.9               | 27.1               | 26.2                                  | 23.7   | 29.6                            |
| ECONOMIC DEPENDENCY RATIO  | 1.0                | 1.1                | 1.1                                   | 1.2  | 1.1                             |
| <b>INCOME DISTRIBUTION</b>   |                    |                    |                                       |  |                                 |
| PERCENT OF PRIVATE INCOME RECEIVED BY                                    |                    |                    |                                       |  |                                 |
| HIGHEST 5 PERCENT OF HOUSEHOLDS  | 26.7               | 26.3 <sup>/h</sup> | ..                                    | ..   | ..                              |
| HIGHEST 20 PERCENT OF HOUSEHOLDS   | 51.7               | 48.9 <sup>/h</sup> | ..                                    | ..   | ..                              |
| LOWEST 20 PERCENT OF HOUSEHOLDS  | 4.1                | 6.7 <sup>/h</sup>  | ..                                    | ..   | ..                              |
| LOWEST 40 PERCENT OF HOUSEHOLDS  | 13.6               | 17.2 <sup>/h</sup> | ..                                    | ..   | ..                              |
| <b>POVERTY TARGET GROUPS</b>   |                    |                    |                                       |  |                                 |
| ESTIMATED ABSOLUTE POVERTY INCOME LEVEL (US\$ PER CAPITA)                |                    |                    |                                       |  |                                 |
| URBAN  | ..                 | ..                 | 88.0                                  | 107.8  | ..                              |
| RURAL  | ..                 | ..                 | 76.0                                  | 86.5   | 192.1                           |
| ESTIMATED RELATIVE POVERTY INCOME LEVEL (US\$ PER CAPITA)                |                    |                    |                                       |  |                                 |
| URBAN  | ..                 | ..                 | ..                                    | ..   | ..                              |
| RURAL  | ..                 | ..                 | ..                                    | ..   | 182.5                           |
| ESTIMATED POPULATION BELOW ABSOLUTE POVERTY INCOME LEVEL (PERCENT)       |                    |                    |                                       |  |                                 |
| URBAN  | ..                 | ..                 | 40.7                                  | 46.2   | ..                              |
| RURAL  | ..                 | ..                 | 47.9                                  | 51.7   | 33.2                            |

.. Not available  
. Not applicable.

NOTES

<sup>/a</sup> The group averages for each indicator are population-weighted arithmetic means. Coverage of countries among the indicators depends on availability of data and is not uniform.

<sup>/b</sup> Unless otherwise noted, data for 1960 refer to any year between 1959 and 1961; for 1970, between 1969 and 1971; and for Most Recent Estimate, between 1974 and 1978.

<sup>/c</sup> Solid fuel conversion factors revised, <sup>/d</sup> 1951-60; <sup>/e</sup> 1962; <sup>/f</sup> 1958; <sup>/g</sup> 1967; <sup>/h</sup> 1964-65.

Most recent estimate of GNP per capita is for 1979, all other data are as of April, 1980.

## DEFINITIONS OF SOCIAL INDICATORS

**Notes:** Although the data are drawn from sources generally judged the most authoritative and reliable, it should also be noted that they may not be internationally comparable because of the lack of standardized definitions and concepts used by different countries in collecting the data. The data are, nonetheless, useful to describe orders of magnitude, indicate trends, and characterize certain major differences between countries.

The reference groups are (1) the same country group of the subject country and (2) a country group with somewhat higher average income than the country group of the subject country (except for "Capital Surplus Oil Exporters" group where "Middle Income North Africa and Middle East" is chosen because of stronger socio-cultural affinities). In the reference group data the averages are population weighted arithmetic means for each indicator and shown only when at least half of the countries in a group has data for that indicator. Since the coverage of countries among the indicators depends on the availability of data and is not uniform, caution must be exercised in relating averages of one indicator to another. These averages are only useful in comparing the value of one indicator at a time among the country and reference groups.

**LAND AREA** (thousand sq. km.)

**Total** - Total surface area comprising land area and inland waters.  
**Agricultural** - Estimate of agricultural area used temporarily or permanently for crops, pastures, market and kitchen gardens or to lie fallow; 1977 data.

**GDP PER CAPITA (US\$)** - GDP per capita estimates at current market prices, calculated by same conversion method as World Bank Atlas (1977-79 basis); 1960, 1970, and 1979 data.

**ENERGY CONSUMPTION PER CAPITA** - Annual consumption of commercial energy (coal and lignite, petroleum, natural gas and hydro-, nuclear and geothermal electricity) in kilograms of coal equivalent per capita; 1960, 1970, and 1978 data.

**POPULATION AND VITAL STATISTICS**

**Total Population, Mid-Year (millions)** - As of July 1; 1960, 1970, and 1978 data.

**Urban Population (percent of total)** - Ratio of urban to total population; different definitions of urban areas may affect comparability of data among countries; 1960, 1970, and 1978 data.

**Population Projections**

**Population in year 2000** - Current population projections are based on 1980 total population by age and sex and their mortality and fertility rates. Projection parameters for mortality rates comprise of three levels assuming life expectancy at birth increasing with country's per capita income level, and female life expectancy stabilizing at 77.5 years. The parameters for fertility rate also have three levels assuming decline in fertility according to income level and past family planning performance. Each country is then assigned one of these nine combinations of mortality and fertility trends for projection purposes.

**Stationary population** - In a stationary population there is no growth since the birth rate is equal to the death rate, and also the age structure remains constant. This is achieved only after fertility rates decline to the replacement level of unit net reproduction rate, when each generation of women replaces itself exactly. The stationary population size was estimated on the basis of the projected characteristics of the population in the year 2000, and the rate of decline of fertility rate to replacement level.

**Year stationary population is reached** - The year when stationary population size has been reached.

**Population Density**

**Per sq. km.** - Mid-year population per square kilometer (100 hectares) of total area.

**Per sq. km. agricultural land** - Computed as above for agricultural land only.

**Population Age Structure (percent)** - Children (0-14 years), working-age (15-64 years), and retired (65 years and over) as percentages of mid-year population; 1960, 1970, and 1978 data.

**Population Growth Rate (percent)** - total - Annual growth rates of total mid-year populations for 1950-60, 1960-70, and 1970-78.

**Population Growth Rate (percent) - urban** - Annual growth rates of urban populations for 1950-60, 1960-70, and 1970-78.

**Crude Birth Rate (per thousand)** - Annual live births per thousand of mid-year population; 1960, 1970, and 1978 data.

**Crude Death Rate (per thousand)** - Annual deaths per thousand of mid-year population; 1960, 1970, and 1978 data.

**Gross Reproduction Rate** - Average number of daughters a woman will bear in her normal reproductive period if she experiences present age-specific fertility rates; usually five-year averages ending in 1960, 1970, and 1977.

**Family Planning - Acceptors, Annual (thousands)** - Annual number of acceptors of birth-control devices under auspices of national family planning program.

**Family Planning - Users (percent of married women)** - Percentage of married women of child-bearing age (15-44 years) who use birth-control devices to all married women in same age group.

**FOOD AND NUTRITION**

**Index of Food Production per Capita (1969-71=100)** - Index of per capita annual production of all food commodities. Production excludes seed and feed and is on calendar year basis. Commodities cover primary goods (e.g. sugarcane instead of sugar) which are edible and contain nutrients (e.g. coffee and tea are excluded). Aggregate production of each country is based on national average producer price weights; 1961-65, 1970, and 1978 data.

**Per capita supply of calories (percent of requirements)** - Computed from energy equivalent of net food supplies available in country per capita per day. Available supplies comprise domestic production, imports less exports, and changes in stock. Net supplies exclude animal feed, seeds, quantities used in food processing, and losses in distribution. Requirements were estimated by FAO based on physiological needs for normal activity and health considering environmental temperature, body weight, age and sex distribution of population, and allowing 10 percent for waste at household level; 1961-65, 1970, and 1977 data.

**Per capita supply of protein (grams per day)** - Protein content of per capita net supply of food per day. Net supply of food is defined as above. Requirements for all countries established by USDA provide for minimum allowance of 60 grams of total protein per day and 20 grams of animal and pulse protein, of which 10 grams should be animal protein. These standards are lower than those of 75 grams of total protein and 23 grams of animal protein as an average for the world, proposed by FAO in the Third World Food Survey; 1961-65, 1970 and 1977 data.

**Per capita protein supply from animal and pulse** - Protein supply of food derived from animals and pulses in grams per day; 1961-65, 1970 and 1977 data.

**Child (ages 1-4) Mortality Rate (per thousand)** - Annual deaths per thousand in age group 1-4 years, to children in this age group; for most developing countries data derived from life tables; 1960, 1970 and 1977 data.

**HEALTH**

**Life Expectancy at Birth (years)** - Average number of years of life remaining at birth; 1960, 1970 and 1978 data.

**Infant Mortality Rate (per thousand)** - Annual deaths of infants under one year of age per thousand live births.

**Access to Safe Water (percent of population) - total, urban, and rural** - N. Number of people (total, urban, and rural) with reasonable access to safe water supply (includes treated surface waters or untreated but uncontaminated water such as that from protected boreholes, springs, and sanitary wells) as percentages of their respective populations. In an urban area a public fountain or standpost located not more than 200 meters from a house may be considered as being within reasonable access of that house. In rural areas reasonable access would imply that the housewife or members of the household do not have to spend a disproportionate part of the day in fetching the family's water needs.

**Access to Excreta Disposal (percent of population) - total, urban, and rural** - Number of people (total, urban, and rural) served by excreta disposal as percentages of their respective populations. Excreta disposal may include the collection and disposal, with or without treatment, of human excreta and waste-water by water-borne systems or the use of pit privies and similar installations.

**Population per Physician** - Population divided by number of practicing physicians qualified from a medical school at university level.

**Population per Nursing Person** - Population divided by number of practicing male and female graduate nurses, practical nurses, and assistant nurses.

**Population per Hospital Bed - total, urban, and rural** - Population (total, urban, and rural) divided by their respective number of hospital beds available in public and private general and specialized hospital and rehabilitation centers. Hospitals are establishments permanently staffed by at least one physician. Establishments providing principally custodial care are not included. Rural hospitals, however, include health and medical centers not permanently staffed by a physician (but by a medical assistant, nurse, midwife, etc.) which offer in-patient accommodation and provide a limited range of medical facilities. For statistical purposes urban hospitals include WHO principal general and specialized hospitals, and rural hospitals local or rural hospitals and medical and maternity centers.

**Admissions per Hospital Bed** - Total number of admissions to or discharges from hospitals divided by the number of beds.

**HOUSING**

**Average Size of Household (persons per household) - total, urban, and rural** - A household consists of a group of individuals who share living quarters and their main meals. A boarder or lodger may or may not be included in the household for statistical purposes.

**Average number of persons per room - total, urban, and rural** - Average number of persons per room in all urban, and rural occupied conventional dwellings, respectively. Dwellings exclude non-permanent structures and unoccupied parts.

**Access to Electricity (percent of dwellings) - total, urban, and rural** - Conventional dwellings with electricity in living quarters as percentage of total, urban, and rural dwellings respectively.

**EDUCATION****Adjusted Enrollment Ratios**

**Primary school - total, male and female** - Gross total, male and female enrollment of all ages at the primary level as percentages of respective primary school-age populations; normally includes children aged 6-11 years but adjusted for different lengths of primary education; for countries with universal education enrollment may exceed 100 percent since some pupils are below or above the official school age.

**Secondary school - total, male and female** - Computed as above; secondary education requires at least four years of approved primary instruction; provides general, vocational, or teacher training instructions for pupils usually of 12 to 17 years of age; correspondence courses are generally excluded.

**Vocational enrollment (percent of secondary)** - Vocational institutions include technical, industrial, or other programs which operate independently or as departments of secondary institutions.

**Pupil-teacher ratio - primary, and secondary** - Total students enrolled in primary and secondary levels divided by numbers of teachers in the corresponding levels.

**Adult literacy rate (percent)** - Literate adults (able to read and write) as a percentage of total adult population aged 15 years and over.

**CONSUMPTION**

**Passenger Cars (per thousand population)** - Passenger cars comprise motor cars seating less than eight persons; excludes ambulances, hearses and military vehicles.

**Radio Receivers (per thousand population)** - All types of receivers for radio broadcasts to general public per thousand of population; excludes unlicensed receivers in countries and in years when registration of radio sets was in effect; data for recent years may not be comparable since most countries abolished licensing.

**TV Receivers (per thousand population)** - TV receivers for broadcast to general public per thousand population; excludes unlicensed TV receivers in countries and in years when registration of TV sets was in effect.

**Newspaper Circulation (per thousand population)** - Shows the average circulation of "daily general interest newspaper," defined as a periodical publication devoted primarily to recording general news. It is considered to be "daily" if it appears at least four times a week.

**Cinema Annual Attendance per Capita per Year** - Based on the number of tickets sold during the year, including admissions to drive-in cinemas and mobile units.

**LABOR FORCE**

**Total Labor Force (thousands)** - Economically active persons, including armed forces and unemployed but excluding housewives, students, etc. Definitions in various countries are not comparable; 1960, 1970 and 1978 data.

**Female (percent)** - Female labor force as percentage of total labor force.

**Agriculture (percent)** - Labor force in farming, forestry, hunting and fishing as percentage of total labor force; 1960, 1970 and 1978 data.

**Industry (percent)** - Labor force in mining, construction, manufacturing and electricity, water and gas as percentage of total labor force; 1960, 1970 and 1978 data.

**Participation Rate (percent) - total, male, and female** - Participation or activity rates are computed as total, male, and female labor force as percentages of total, male and female population of all ages respectively; 1960, 1970, and 1975 data. These are ILO's participation rates reflecting age-sex structure of the population, and long time trend. A few estimates are from national sources.

**Economic Dependency Ratio** - Ratio of population under 15 and 65 and over to the total labor force.

**INCOME DISTRIBUTION**

**Percentage of Private Income (both in cash and kind)** - Received by richest 5 percent, richest 20 percent, poorest 20 percent, and poorest 40 percent of households.

**POVERTY TARGET GROUPS**

**Estimated Absolute Poverty Income Level (US\$ per capita) - urban and rural** - Absolute poverty income level is that income level below which a minimal nutritionally adequate diet plus essential non-food requirements is not affordable.

**Estimated Relative Poverty Income Level (US\$ per capita) - urban and rural** - Rural relative poverty income level is one-third of average per capita personal income of the country. Urban level is derived from the rural level with adjustment for higher cost of living in urban areas.

**Estimated Population Below Absolute Poverty Income Level (percent) - urban and rural** - Percent of population (urban and rural) who are "absolute poor".

## ECONOMIC DEVELOPMENT DATA

a/  
GDP PER CAPITA IN 1978: US\$ 180

|                            | b/                                |       | c/  |                 |                 |                 |                 |
|----------------------------|-----------------------------------|-------|---|-----------------|-----------------|-----------------|-----------------|
|                            | GROSS NATIONAL PRODUCT IN 1978/79 |       | ANNUAL RATE OF GROWTH (% constant prices) |                 |                 |                 |                 |
|                            | US\$ Bln.                         | %     | 1955/56-1959/60                           | 1960/61-1964/65 | 1965/66-1969/70 | 1970/71-1974/75 | 1975/76-1977/78 |
| GNP at Market Prices       | 117.08                            | 100.0 | 3.7                                       | 3.6             | 3.7             | 2.8             | 5.6             |
| Gross Domestic Investment  | 28.28                             | 24.2  |   |                 |                 |                 |                 |
| Gross National Saving      | 28.11                             | 24.0  |   |                 |                 |                 |                 |
| Current Account Balance d/ | 0.50                              | 0.4   |   |                 |                 |                 |                 |

## OUTPUT, LABOR FORCE AND PRODUCTIVITY IN 1971

|               | Value Added (at factor cost) |       | Labor Force |       | V.A. Per Worker |                       |
|---------------|------------------------------|-------|-------------|-------|-----------------|-----------------------|
|               | US\$ Bln.                    | %     | Mils.       | %     | US\$            | % of National Average |
| Agriculture   | 24.5                         | 46.6  | 130.0       | 72.1  | 188             | 64                    |
| Industry      | 11.8                         | 22.3  | 20.2        | 11.2  | 582             | 199                   |
| Services      | 16.3                         | 31.1  | 30.2        | 16.7  | 542             | 186                   |
| Total/average | 52.6                         | 100.0 | 180.4       | 100.0 | 292             | 100                   |

## GOVERNMENT FINANCE

|                              | a/                 |          |                 | Central Government |          |                 |  |  |
|------------------------------|--------------------|----------|-----------------|--------------------|----------|-----------------|--|--|
|                              | General Government |          |                 | Central Government |          |                 |  |  |
|                              | Rs. Blns.          | % of GDP | % of GDP        | Rs. Blns.          | % of GDP | % of GDP        |  |  |
|                              | 1978/79            | 1978/79  | 1974/75-1978/79 | 1978/79            | 1978/79  | 1974/75-1978/79 |  |  |
| Current Receipts             | 183.65             | 19.1     | 18.3            | 107.71             | 11.2     | 10.6            |  |  |
| Current Expenditures         | 177.26             | 18.4     | 16.7            | 108.92             | 11.3     | 10.1            |  |  |
| Current Surplus/Deficit      | 6.41               | 0.7      | 1.6             | -1.28              | -0.1     | 0.5             |  |  |
| Capital Expenditures f/      | 78.41              | 8.1      | 7.2             | 57.34              | 6.0      | 5.1             |  |  |
| External Assistance (net) d/ | 8.15               | 0.8      | 1.4             | 8.15               | 0.8      | 1.4             |  |  |

  

|                                  | 1970/71                                   | 1973/74 | 1974/75 | 1975/76 | 1976/77 | 1977/78 | 1978/79 | September 1978 | September 1979 |
|----------------------------------|---|---------|---------|---------|---------|---------|---------|----------------|----------------|
|                                  | (Rs Billion outstanding at end of period) |         |         |         |         |         |         |                |                |
| Money and Quasi Money            | 121.4                                     | 198.4   | 220.3   | 254.7   | 308.9   | 370.4   | 445.6   | 398.5          | 473.7          |
| Bank Credit to Government (net)  | 52.6                                      | 87.3    | 95.3    | 101.1   | 110.2   | 134.7   | 153.9   | 139.5          | 161.7          |
| Bank Credit to Commercial Sector | 64.6                                      | 107.0   | 126.7   | 153.9   | 185.1   | 212.2   | 253.3   | 225.8          | 273.8          |

  

|                                       | (Percentage or Index Numbers) |         |         |         |         |         | January 1979 | January 1980   |       |
|---------------------------------------|-------------------------------|---------|---------|---------|---------|---------|--------------|----------------|-------|
|                                       | 1970/71                       | 1973/74 | 1974/75 | 1975/76 | 1976/77 | 1977/78 | 1978/79      | September 1978 |       |
| Money and Quasi Money as % of GDP     | 30.1                          | 33.5    | 31.5    | 34.5    | 38.8    | 41.5    | 46.3         |                |       |
| Wholesale Price Index (1970/71 = 100) | 100.0                         | 139.7   | 174.9   | 173.0   | 176.6   | 185.8   | 185.8        | 185.3          | 224.0 |

  

| Annual percentage changes in:    |      |      |      |      |      |      |      |      |      |
|----------------------------------|------|------|------|------|------|------|------|------|------|
| Wholesale Price Index            | 7.7  | 20.2 | 25.2 | -1.1 | 2.1  | 5.2  | -    | 0.4  | 20.9 |
| Bank Credit to Government (net)  | 10.8 | 12.3 | 9.2  | 6.1  | 9.0  | 22.2 | 14.3 | 16.9 | 15.9 |
| Bank Credit to Commercial Sector | 19.4 | 22.6 | 18.4 | 21.5 | 20.3 | 14.6 | 19.4 | 15.6 | 21.3 |

a/ The per capita GNP estimate is at market prices, calculated by the conversion technique used in the World Bank Atlas, 1979. All other conversions to dollars in this table are at the average exchange rate prevailing during the period covered.

b/ Quick Estimates.

c/ Computed from trend line of GNP at factor cost series, including one observation before first year and one observation after last year of listed period.

d/ World Bank estimates; not necessarily consistent with official figures.

e/ Transfers between Centre and States have been netted out.

f/ All loans and advances to third parties have been netted out.

| BALANCE OF PAYMENTS                   | 1976/77                  | 1977/78     | 1978/79     | 1979/80       | MERCHANDISE EXPORTS (AVERAGE 1975/76 - 1978/79)       |                     |                     |
|---------------------------------------|--------------------------|-------------|-------------|---------------|---|---------------------|---------------------|
|                                       |                          |             |             |               | US\$ Mn.  | %                   |                     |
| Exports of Goods                      | 5,753                    | 6,315       | 6,976       | 7,800         | Engineering Goods                                     | 671                 | 11                  |
| Imports of Goods                      | -5,928                   | -7,188      | -8,488      | -11,000       | Tea   | 420                 | 7                   |
| Trade Balance                         | -175                     | -873        | -1,512      | -3,200        | Gems  | 499                 | 8                   |
| NFS (net)                             | 379                      | 692         | 882         | 1,050         | Clothing  | 378                 | 6                   |
| <b>Resource Balance</b>               | <b>204</b>               | <b>-181</b> | <b>-630</b> | <b>-2,150</b> | Leather and Leather Products                          | 319                 | 5                   |
| Interest Payments (net) <sup>1/</sup> | -182                     | -89         | 130         | 400           | Jute Manufactures                                     | 251                 | 4                   |
| Other Factor Payments (net)           | -                        | -           | -           | -             | Iron Ore  | 270                 | 5                   |
| Net Transfers <sup>1/</sup>           | 695                      | 1,077       | 1,000       | 1,000         | Cotton Textiles                                       | 248                 | 4                   |
| <b>Balance on Current Account</b>     | <b>717</b>               | <b>807</b>  | <b>500</b>  | <b>-750</b>   | Sugar   | 224                 | 4                   |
| Official Aid                          |                          |             |             |               | Others  | 2,649               | 45                  |
| Disbursements                         | 1,955                    | 1,628       | 1,695       | 1,870         | <b>Total</b>  | <b>5,929</b>        | <b>100</b>          |
| Amortization                          | -560                     | -645        | -702        | -687          | <b>EXTERNAL DEBT, MARCH 31, 1979</b>                  |                     | <b>US\$ billion</b> |
| Transactions with IMF                 | -337                     | -330        | -158        | -             | Outstanding and Disbursed                             |                     | 15.5                |
| All Other Items                       | -200                     | 616         | 199         | -183          | Undisbursed   |                     | 5.2                 |
| Increase in Reserves (-)              | -1,575                   | -2,076      | -1,534      | -250          | Outstanding, including Undisbursed                    |                     | 20.7                |
| Gross Reserves (end year)             | 3,747                    | 5,823       | 7,357       | 7,607         | <b>DEBT SERVICE RATIO FOR 1978/79</b> <sup>h/1/</sup> |                     | 15.0 percent        |
| Net Reserves (end year) <sup>h/</sup> | 3,276                    | 5,668       | 7,357       | 7,607         | <b>IBRD/IDA LENDING, DECEMBER 31, 1979</b>            |                     |                     |
| <b>Fuel and Related Materials</b>     |                          |             |             |               |   | <b>US\$ million</b> |                     |
| Imports                               | 1,581                    | 1,811       | 2,043       | 4,050         |   | <b>IBRD</b>         | <b>IDA</b>          |
| of which: Petroleum                   | 1,581                    | 1,811       | 2,043       | 4,050         | Outstanding and Disbursed                             | 689                 | 4,286               |
| Exports                               | 37                       | 32          | 24          | -             | Undisbursed   | 614                 | 2,621               |
| of which: Petroleum                   | 21                       | 18          | n.s.a.      | -             | Outstanding, including Undisbursed                    | 1,303               | 6,907               |
| <b>RATE OF EXCHANGE</b>               |                          |             |             |               |   |                     |                     |
| June 1966 to mid-December 1971        | : US\$1.00 = Rs 7.5      |             |             |               |   |                     |                     |
|                                       | : Rs 1.00 = US\$0.133333 |             |             |               |   |                     |                     |
| Mid-December 1971 to end-June 1972    | : US\$1.00 = Rs 7.27927  |             |             |               |   |                     |                     |
|                                       | : Rs 1.00 = US\$0.137376 |             |             |               |   |                     |                     |
| After end-June 1972                   | : Floating Rate          |             |             |               |   |                     |                     |
| Spot Rate end-December 1978           | : US\$1.00 = Rs 8.188    |             |             |               |   |                     |                     |
|                                       | : Rs 1.00 = US\$0.122    |             |             |               |   |                     |                     |
| End-December 1979                     | : US\$1.00 = Rs 7.907    |             |             |               |   |                     |                     |
|                                       | : Rs 1.00 = US\$0.126    |             |             |               |   |                     |                     |

<sup>h/</sup> Estimated.

<sup>1/</sup> Figures given cover all investment income (net). Major payments are interest on foreign loans and charges paid to IMF, and major receipt is interest earned on foreign assets.

<sup>1/</sup> Figures given include workers' remittances but exclude official grant assistance, which is included within official aid disbursements.

<sup>h/</sup> Excludes net use of IMF credit.

<sup>1/</sup> Amortization and interest payments on foreign loans as a percentage of merchandise exports.

THE STATUS OF BANK GROUP OPERATIONS IN INDIA

A. STATEMENT OF BANK LOANS AND IDA CREDITS  
(As of January 31, 1981)

| <u>Loan or<br/>Credit No.</u>           | <u>Year</u> | <u>Borrower</u> | <u>Purpose</u>                     | US\$ million<br>(Net of Cancellations) |            |                    |
|---|-------------|-----------------|------------------------------------|--|------------|--------------------|
|   |             |                 |                                    | <u>Bank</u>                            | <u>IDA</u> | <u>Undisbursed</u> |
| 43 Loans/<br>65 Credits fully disbursed |             |                 |                                    | 1,313.2                                | 3,807.4    |                    |
| 342-IN                                  | 1972        | India           | Education                          | --                                     | 12.0       | 4.47               |
| 378-IN                                  | 1973        | India           | Karnataka Agricultural<br>Markets  | --                                     | 8.0        | 1.12               |
| 390-IN                                  | 1973        | India           | Bombay Water Supply I              | --                                     | 55.0       | 1.87               |
| 456-IN                                  | 1974        | India           | HP Apple Processing<br>& Marketing | --                                     | 13.0       | 6.43               |
| 1011-IN                                 | 1974        | India           | Chambal (Rajasthan) CAD            | 52.0                                   | --         | 14.83              |
| 482-IN                                  | 1974        | India           | Karnataka Dairy                    | --                                     | 30.0       | 19.56              |
| 502-IN                                  | 1974        | India           | Rajasthan Canal CAD                | --                                     | 83.0       | 31.32              |
| 521-IN                                  | 1974        | India           | Rajasthan Dairy                    | --                                     | 27.7       | 14.36              |
| 522-IN                                  | 1974        | India           | Madhya Pradesh Dairy               | --                                     | 16.4       | 6.17               |
| 526-IN                                  | 1975        | India           | Drought Prone Areas                | --                                     | 35.0       | 2.29               |
| 1079-IN                                 | 1975        | IFFCO           | IFFCO Fertilizer                   | 109.0                                  | --         | 1.24               |
| 1097-IN                                 | 1975        | ICICI           | Industry DFC XI                    | 94.8                                   | --         | 1.32               |
| 532-IN                                  | 1975        | India           | Godavari Barrage<br>Irrigation     | --                                     | 45.0       | 4.81               |
| 541-IN                                  | 1975        | India           | West Bengal Agric.<br>Development  | --                                     | 34.0       | 9.22               |
| 562-IN                                  | 1975        | India           | Chambal (Madhya<br>Pradesh) CAD    | --                                     | 24.0       | 2.05               |
| 572-IN                                  | 1975        | India           | Rural<br>Electrification I         | --                                     | 57.0       | .04                |
| 585-IN                                  | 1975        | India           | Uttar Pradesh Water<br>Supply      | --                                     | 40.0       | 17.37              |
| 598-IN                                  | 1975        | India           | Fertilizer Industry                | --                                     | 105.0      | 35.16              |
| 604-IN                                  | 1976        | India           | Power Transmission IV              | --                                     | 150.0      | 60.16              |

| <u>Loan or<br/>Credit No.</u> | <u>Year</u> | <u>Borrower</u> | <u>Purpose</u>                          | US\$ million |            |                    |
|-------------------------------|-------------|-----------------|---|--------------|------------|--------------------|
|                               |             |                 |   | <u>Bank</u>  | <u>IDA</u> | <u>Undisbursed</u> |
| 609-IN                        | 1976        | India           | Madhya Pradesh<br>Forestry T.A.         | --           | 4.0        | 1.71               |
| 610-IN                        | 1976        | India           | Integrated Cotton<br>Development        | --           | 18.0       | 11.61              |
| 1251-IN                       | 1976        | India           | Andhra Pradesh<br>Irrigation            | 145.0        | --         | 90.34              |
| 1260-IN                       | 1976        | India           | IDBI II                                 | 40.0         | --         | 16.13              |
| 1273-IN                       | 1976        | India           | National Seeds I                        | 25.0         | --         | 23.14              |
| 1313-IN                       | 1976        | India           | Telecommunications VI                   | 80.0         | --         | 21.98              |
| 1335-IN                       | 1976        | India           | Bombay Urban Transport                  | 25.0         | --         | 8.25               |
| 680-IN                        | 1977        | India           | Kerala Agric.<br>Development            | --           | 30.0       | 25.15              |
| 682-IN                        | 1977        | India           | Orissa Agric.<br>Development            | --           | 20.0       | 12.00              |
| 685-IN                        | 1977        | India           | Singrauli Thermal<br>Power              | --           | 150.0      | 67.31              |
| 687-IN                        | 1977        | India           | Madras Urban<br>Development             | --           | 24.0       | 9.47               |
| 690-IN                        | 1977        | India           | WB Agric. Exten-<br>sion & Research     | --           | 12.0       | 12.00              |
| 1394-IN                       | 1977        | India           | Gujarat Fisheries                       | 14.0         | --         | 11.18              |
| 712-IN                        | 1977        | India           | Madhya Pradesh<br>Agric. Dev.           | --           | 10.0       | 6.94               |
| 720-IN                        | 1977        | India           | Periyar Vaigai<br>Irrigation            | --           | 23.0       | 14.68              |
| 728-IN                        | 1977        | India           | Assam Agricultural<br>Development       | --           | 8.0        | 6.87               |
| 736-IN                        | 1977        | India           | Maharashtra<br>Irrigation               | --           | 70.0       | 39.26              |
| 737-IN                        | 1977        | India           | Rajasthan Agricul-<br>tural Extension   | --           | 13.0       | 9.49               |
| 740-IN                        | 1977        | India           | Orissa Irrigation                       | --           | 58.0       | 39.11              |
| 1475-IN                       | 1977        | ICICI           | Industry DFC XII                        | 80.0         | --         | 15.27              |
| 747-IN                        | 1978        | India           | Second Foodgrain<br>Storage             | --           | 107.0      | 85.53              |
| 756-IN                        | 1978        | India           | Calcutta Urban<br>Development II        | --           | 87.0       | 37.29              |
| 761-IN                        | 1978        | India           | Bihar Agric.<br>Extension &<br>Research | --           | 8.0        | 7.33               |

| <u>Loan or<br/>Credit No.</u> | <u>Year</u> | <u>Borrower</u> | <u>Purpose</u>                         | US\$ million<br>(Net of Cancellations) |            |                    |
|-------------------------------|-------------|-----------------|--|--|------------|--------------------|
|                               |             |                 |  | <u>Bank</u>                            | <u>IDA</u> | <u>Undisbursed</u> |
| 1511-IN                       | 1978        | India           | IDBI Joint/Public<br>Sector            | 25.0                                   | --         | 21.17              |
| 1549-IN                       | 1978        | TEC             | Third Trombay<br>Thermal Power         | 105.0                                  | --         | 79.66              |
| 788-IN                        | 1978        | India           | Karnataka Irrigation                   | --                                     | 117.6      | 88.01              |
| 793-IN                        | 1978        | India           | Korba Thermal Power                    | --                                     | 200.0      | 161.27             |
| 806-IN                        | 1978        | India           | Jammu-Kashmir<br>Horticulture          | --                                     | 14.0       | 13.79              |
| 808-IN                        | 1978        | India           | Gujarat Irrigation                     | --                                     | 85.0       | 73.23              |
| 815-IN                        | 1978        | India           | Andhra Pradesh<br>Fisheries            | --                                     | 17.5       | 16.08              |
| 816-IN                        | 1978        | India           | National Seeds II                      | --                                     | 16.0       | 15.58              |
| 1592-IN                       | 1978        | India           | Telecommunications VII                 | 120.0                                  | --         | 56.35              |
| 824-IN                        | 1978        | India           | National Dairy                         | --                                     | 150.0      | 135.44             |
| 842-IN                        | 1979        | India           | Bombay Water<br>Supply II              | --                                     | 196.0      | 189.33             |
| 843-IN                        | 1979        | India           | Haryana Irrigation                     | --                                     | 111.0      | 59.81              |
| 844-IN                        | 1979        | India           | Railway Modernization<br>& Maintenance | --                                     | 190.0      | 154.33             |
| 848-IN                        | 1979        | India           | Punjab Water Supply<br>& Sewerage      | --                                     | 38.0       | 27.12              |
| 855-IN                        | 1979        | India           | National Agricultural<br>Research      | --                                     | 27.0       | 26.21              |
| 862-IN                        | 1979        | India           | Composite Agricultural<br>Extension    | --                                     | 25.0       | 20.47              |
| 871-IN                        | 1979        | India           | NCDC                                   | --                                     | 30.0       | 19.90              |
| 1648-IN                       | 1979        | India           | Ramagundam Thermal<br>Power            | 50.0                                   | --         | 50.00              |
| 874-IN                        | 1979        | India           | Ramagundam Thermal<br>Power            | --                                     | 200.0      | 176.70             |
| 889-IN                        | 1979        | India           | Punjab Irrigation                      | --                                     | 129.0      | 112.29             |
| 899-IN                        | 1979        | India           | Maharashtra Water<br>Supply            | --                                     | 48.0       | 47.21              |
| 911-IN                        | 1979        | India           | Rural Electrification<br>Corp. II      | --                                     | 175.0      | 151.91             |
| 925-IN                        | 1979        | India           | Uttar Pradesh Social<br>Forestry       | --                                     | 23.0       | 21.32              |



| Loan or<br>Credit No.                        | Year | Borrower | Purpose                                 | US\$ million<br>(Net of Cancellations) |         |             |
|--|------|----------|---|--|---------|-------------|
|  |      |          |   | Bank                                   | IDA     | Undisbursed |
| 947-IN                                       | 1979 | India    | ARDC III                                | --                                     | 250.0   | 145.98      |
| 963-IN                                       | 1979 | India    | Inland Fisheries                        | --                                     | 20.0    | 20.00       |
| 954-IN                                       | 1979 | India    | Maharashtra<br>Irrigation II            | --                                     | 210.0   | 192.52      |
| 961-IN                                       | 1979 | India    | Gujarat Community<br>Forestry           | --                                     | 37.0    | 34.03       |
| 981-IN                                       | 1980 | India    | Population II                           | --                                     | 46.0    | 45.97       |
| 1003-IN                                      | 1980 | India    | Tamil Nadu Nutrition                    | --                                     | 32.0    | 32.00       |
| 1004-IN                                      | 1980 | India    | U.P. Tubewells                          | --                                     | 18.0    | 17.52       |
| 1011-IN                                      | 1980 | India    | Gujarat Irrigation II                   | --                                     | 175.0   | 175.00      |
| 1027-IN                                      | 1980 | India    | Singrauli Thermal II                    | --                                     | 300.0   | 289.17      |
| 1012-IN                                      | 1980 | India    | Cashewnut                               | --                                     | 22.0    | 21.95       |
| 1028-IN                                      | 1980 | India    | Kerala Agricultural<br>Extension        | --                                     | 10.0    | 10.00       |
| 1033-IN                                      | 1980 | India    | Calcutta Urban<br>Transport             | --                                     | 56.0    | 56.00       |
| 1034-IN                                      | 1980 | India    | Karnataka Sericulture                   | --                                     | 54.0    | 54.00       |
| 1046-IN                                      | 1980 | India    | Rajasthan Water Supply<br>and Sewerage  | --                                     | 80.0    | 79.88       |
| 1843-IN                                      | 1980 | ICICI    | Industry DFC XIII                       | 100.0                                  | --      | 94.87       |
| 1887-IN                                      | 1980 | India    | Farakka Thermal<br>Power                | 25.0                                   | --      | 25.00       |
| 1053-IN                                      | 1980 | India    | Farakka Thermal<br>Power                | --                                     | 225.0   | 225.00      |
| 1897-IN                                      | 1980 | India    | Kandi Watershed and<br>Area Development | 30.0                                   | --      | 30.00       |
| 1072-IN                                      | 1980 | India    | Bihar Rural Roads                       | --                                     | 35.0    | 35.0        |
| 1078-IN                                      | 1980 | India    | Mahanadi Barrages                       | --                                     | 83.0    | 83.00       |
| 1925-IN*                                     | 1980 | India    | Bombay High Offshore<br>Development     | 400.0                                  | --      | 400.0       |
| 1082-IN                                      | 1981 | India    | Madras Urban Dev. II                    | --                                     | 42.0    | 42.0        |
| Total  |      |          |   | 2,833.0                                | 8,671.6 |             |
| of which has been repaid                     |      |          |   | 1,060.9                                | 71.7    |             |
| Total now outstanding                        |      |          |   | 1,772.0                                | 8,599.9 |             |
| Amount Sold                                  |      |          |   | 133.8                                  |         |             |
| of which has been repaid                     |      |          |   | 128.1                                  | 5.7     |             |
| Total now held by Bank and IDA <sup>1/</sup> |      |          |   | 1,766.3                                | 8,599.9 |             |
| Total undisbursed (excluding*)               |      |          |   | 560.7                                  | 3,546.2 |             |

\* Not yet effective

<sup>1/</sup> Prior to exchange adjustment.

**B. STATEMENT OF IFC INVESTMENTS**  
(As of January 31, 1981)

| Fiscal<br>Year | Company   | Amount (US\$ million) |            |             |
|----------------|---|-----------------------|------------|-------------|
|                |   | Loan                  | Equity     | Total       |
| 1959           | Republic Forge Company Ltd.                           | 1.5                   | -          | 1.5         |
| 1959           | Kirloskar Oil Engines Ltd.                            | 0.9                   | -          | 0.9         |
| 1960           | Assam Sillimanite Ltd.                                | 1.4                   | -          | 1.4         |
| 1961           | K.S.B. Pumps Ltd.                                     | 0.2                   | -          | 0.2         |
| 1963-66        | Precision Bearings India Ltd.                         | 0.6                   | 0.4        | 1.0         |
| 1964           | Fort Gloster Industries Ltd.                          | 0.8                   | 0.4        | 1.2         |
| 1964-75-79     | Mahindra UGINE Steel Co. Ltd.                         | 11.8                  | 1.3        | 13.1        |
| 1964           | Lakshmi Machine Works Ltd.                            | 1.0                   | 0.3        | 1.3         |
| 1967           | Jayshree Chemicals Ltd.                               | 1.1                   | 0.1        | 1.2         |
| 1967           | Indian Explosives Ltd.                                | 8.6                   | 2.9        | 11.5        |
| 1969-70        | Zuari Agro-Chemicals Ltd.                             | 15.1                  | 3.8        | 18.9        |
| 1976           | Escorts Limited                                       | 6.6                   | -          | 6.6         |
| 1978           | Housing Development Finance Corporation               | 4.0                   | 1.2        | 5.2         |
| 1980           | Deepak Fertilizer and Petrochemicals Corporation Ltd. | 7.5                   | 1.1        | 8.6         |
| 1981           | Tata Iron and Steel Company Ltd.                      | <u>38.0</u>           | <u>-</u>   | <u>38.0</u> |
|                | TOTAL GROSS COMMITMENTS                               | 99.1                  | 11.5       | 110.6       |
|                | Less: Sold  | 25.9                  | 1.7        | 27.6        |
|                | Repaid  | 20.8                  | -          | 20.8        |
|                | Cancelled   | <u>6.2</u>            | <u>1.3</u> | <u>7.5</u>  |
|                | Now Held  | 46.2                  | 8.5        | 54.7        |
|                | Undisbursed   | 44.5                  | 1.1        | 45.6        |

C. PROJECTS IN EXECUTION 1/

Generally, the implementation of projects has been proceeding reasonably well. Details on the execution of individual projects are below. The level of disbursements was US\$729 million in FY80, compared to US\$538 million in the previous year. Disbursements in the current fiscal year through January 31, 1981 totalled US\$373 million, representing an increase of about 20% over the same period last year. The undisbursed pipeline of US\$4,107 million as of January 31, 1981, reflects the lead time which would be expected given the mix of fast- and slow-disbursing projects in the India program.

- Ln. No. 1097 Eleventh Industrial Credit and Investment Corporation of India Project; US\$100.0 million loan of April 2, 1975; Effective Date: July 1, 1975; Closing Date: June 30, 1981
- Ln. No. 1475 Twelfth Industrial Credit and Investment Corporation of India Project; US\$80.0 million loan of July 22, 1977; Effective Date: October 4, 1977; Closing Date: March 31, 1983
- Ln. No. 1843 Thirteenth Industrial Credit and Investment Corporation of India Project; US\$100.0 million loan of May 16, 1980; Effective Date: June 27, 1980; Closing Date: December 31, 1985

These loans are supporting industrial development in India through a well-established development finance company and are designed to finance the foreign exchange cost of industrial projects. ICICI continues to be a well-managed and efficient development bank financing medium- and large-scale industries, which often employ high technology and are export-oriented. Loan 1097 is fully committed and disbursements are slightly ahead of schedule. Disbursements under Loans 1475 and 1843 are also ahead of schedule.

- Loan No. 1260 Second Industrial Development Bank of India Project; US\$40.0 million loan of June 10, 1976; Effective Date: August 10, 1976; Closing Date: June 30, 1981

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1/ These notes are designed to inform the Executive Directors regarding the progress of projects in execution, and in particular to report any problems which are being encountered and the action being taken to remedy them. They should be read in this sense and with the understanding that they do not purport to present a balanced evaluation of strengths and weaknesses in project execution.

Loan No. 1511 IDBI Joint/Public Sector Project; US\$25.0 million loan of March 1, 1978; Effective Date: May 31, 1978; Closing Date: March 31, 1983

Loan 1260 is designed to assist the Industrial Development Bank of India in promoting small- and medium-scale industries and in strengthening the State Financial Corporations involved. Loan 1511 is designed to encourage the pooling of private and public capital in medium-scale joint ventures. The project also assists IDBI in carrying out industrial sector investment studies and in strengthening the financial institutions dealing with the state joint/public sector.

Cr. No. 947 Third Agricultural Refinance and Development Corporation (ARDC) Project; US\$250.0 million credit of August 20, 1979; Effective Date: January 2, 1980; Closing Date: June 30, 1982

Refinancing of lending to farmers has been progressing very well.

Cr. No. 747 Second Foodgrain Storage Project; US\$107.0 million credit of January 6, 1978; Effective Date: May 17, 1978; Closing Date: June 30, 1982

Satisfactory progress is being made in the construction of bag storage warehouses, despite problems of land acquisition at some sites. However, construction of flat bulk warehouses and port silos is not expected to be completed until 1985, as a result of delays in the employment of consultants and the longer time required for the preparation of technical specifications and tenders and the construction itself. The project is currently under review by the Government of India and some changes to its scope may be made in April 1981.

Cr. No. 456 Himachal Pradesh Apple Processing and Marketing Project; US\$13.0 million credit of January 22, 1974; Effective Date: September 26, 1974; Closing Date: December 31, 1981

The project encountered prolonged initial delays due to managerial and technical problems. These problems have been largely resolved, but construction progress remains slow due to material shortages and severe winter conditions. Initial packing house operations were undertaken in the last two seasons with favorable response from farmers. The project is scheduled for completion by December 1981.

Cr. No. 806 Jammu-Kashmir Horticulture Project; US\$14.0 million credit of July 17, 1978; Effective Date: January 16, 1979; Closing Date: June 30, 1984

The principal executing agency, J&K Horticulture Produce Marketing and Processing Corporation, is under strong management and rapid progress has been made in start-up operations with only minor slippage. The project's research activities, however, are behind the original schedule due to poor organization.

Ln. No. 1313 Telecommunications VI Project; US\$80.0 million loan of July 22, 1976; Effective Date: September 14, 1976  
Closing Date: March 31, 1982

Ln. No. 1592 Telecommunications VII Project; US\$120.0 million loan of June 19, 1978; Effective Date: October 30, 1978; Closing Date: March 31, 1982

Both projects are progressing satisfactorily, although as of July 1980, when they were last reviewed, imports of electronic switching equipment for the sixth project were behind schedule, resulting in a reduced growth rate for the installation of direct exchange lines. Institutional improvements envisaged under the projects have been achieved, and the financial situation of the Posts and Telegraphs Department remains sound.

Cr. No. 598 Fertilizer Industry Project; US\$105.0 million credit of December 31, 1975; Effective Date: March 1, 1976; Closing Date: June 30, 1981

Credit 598 is designed to increase the utilization of existing fertilizer production capacity. The project has encountered delays in sub-project preparation and investment approvals by the Government. Further, some of the sub-projects identified earlier may not materialize because of reconsideration by the Central and State governments. IDA has agreed to a list of sub-projects to replace the ones that are likely to be dropped. Because of the above, the project is likely to be delayed by about 18 months.

Cr. No. 378 Karnataka Wholesale Agricultural Markets Project; US\$8.0 million credit of May 9, 1973; Effective Date: September 7, 1973; Closing Date: June 30, 1981

Progress is satisfactory. As of December 1980, construction of the 39 markets originally envisaged under the project was almost completed, and trade had shifted to more than half of these. An additional eight markets have been included in the project at the request of the State government, and these are expected to be completed by June 1981. The credit is expected to be fully disbursed by the closing date of June 30, 1981.

Cr. No. 342 Agricultural Universities Project; US\$12.0 million credit of November 10, 1972; Effective Date: June 8, 1973; Closing Date: December 31, 1981

The project involves the development of the agricultural universities in Assam and Bihar. The primary aim of the AUs project is to improve the quality and practical training of undergraduates and so the spectrum of their employment opportunities; and to strengthen university structure to enable it to give an impetus to agricultural and rural development. Considerable progress has been made in achieving the latter objective; but achieving educational objectives is more slowly attainable, constrained by traditional attitudes and structures where consistent effective leadership falters. Changes to a more functional orientation are now planned. The Project Director and others responsible are aware of the constraints and are supporting efforts to remove them.

Cr. No. 390 Bombay Water Supply and Sewerage Project; US\$55.0 million credit of January 22, 1974; Effective Date: March 13, 1974; Closing Date: June 30, 1981

Cr. No. 842 Second Bombay Water Supply and Sewerage Project; US\$196.0 million credit of November 13, 1978; Effective Date: June 12, 1979; Closing Date: March 31, 1985

Cr. No. 848 Punjab Water Supply and Sewerage Project; US\$38.0 million credit of October 27, 1978; Effective Date: January 25, 1979; Closing Date: March 31, 1983

Cr. No. 899 Maharashtra Water Supply and Sewerage Project; US\$48.0 million credit of June 21, 1979; Effective Date: November 9, 1979; Closing Date: June 30, 1984

Cr. No. 1046 Rajasthan Water Supply and Sewerage Project; US\$80 million credit of June 25, 1980; Effective Date: August 5, 1980; Closing Date: September 31, 1985

Having overcome earlier difficulties, including cost overruns caused by inflation (requiring project redefinition in February 1975), redesign of major project components and the addition of a supplementary study on sewage disposal, Credit 390 is now progressing satisfactorily. All works have been successfully completed except for the projects sewage pumping stations. Financial performance of the project entity is satisfactory. Implementation of Credit 842, a second stage of the ongoing Credit 390, is proceeding to schedule. Preliminary work in connection with implementation of Credit 848 is progressing satisfactorily. Implementation of Credit 1046 is proceeding satisfactorily. Detailed

construction programs have been prepared for rural schemes, and preparation of tender documents for urban schemes have been completed.

Cr. No. 585     Uttar Pradesh Water Supply and Sewerage Project; US\$40.0 million credit of September 25, 1975; Effective Date: February 6, 1976; Closing Date: June 30, 1981

The Project has had a slow start due to delays in the preparation of technical reports for regional and local water authorities and in the engagement of consultants. While improvements have been made in the physical execution, other aspects of project implementation continue to lag so that disbursements under the Credit have fallen short of estimates at the time of appraisal. In order to improve the situation, arrangements have been made to closely supervise and coordinate implementation.

Cr. No. 756     Second Calcutta Urban Development Project; US\$87.0 million credit of January 6, 1978; Effective Date: April 7, 1978; Closing Date: March 31, 1983

The project is proceeding quite well in most sectors, in spite of country-wide materials shortages and serious Statewide electric power shortages. Procurement is generally on schedule for equipment and consultants' services, though somewhat behind for larger civil works contracts. Staff shortages in some of the implementing agencies continue, although more extensive use of consultants has to a great degree alleviated this problem.

Cr. No. 687     Madras Urban Development Project; US\$24.0 million credit of April 1, 1977; Effective Date: June 30, 1977; Closing Date: September 30, 1981

With respect to the first Madras project, physical progress is generally satisfactory and costs are within appraisal estimates on most components. However, land acquisition problems and consequent delays in construction on one of the three sites and service areas will result in about 15 months delay in the completion of the final sections of these areas. Increased attention should be turned to the financial analysis and marketing strategies required to ensure that anticipated cost recovery in the sites and services and slum upgrading components and thus replicability is actually achieved. Technical assistance is being sought to strengthen financial management and analysis.

Cr. No. 1082     Second Madras Urban Development Project; US\$42.0 credit of January 14, 1981; Effectiveness Date: March 2, 1981; Closing Date: March 31, 1986.

With respect to the second project, only recently signed and declared effective, early project implementation is proceeding satisfactorily, with evidence that the lessons learned under the first project are being heeded.

- Cr. No. 482    Karnataka Dairy Development Project; US\$30.0 million credit of June 19, 1974; Effective Date: December 23, 1974; Closing Date: September 30, 1982
- Cr. No. 521    Rajasthan Dairy Development Project; US\$27.7 million credit of December 18, 1974; Effective Date: August 8, 1975; Closing Date: December 31, 1982
- Cr. No. 522    Madhya Pradesh Dairy Development Project; US\$16.4 million credit of December 18, 1974; Effective Date: July 23, 1975; Closing Date: June 30, 1982
- Cr. No. 824    National Dairy Project; US\$150.0 million credit of June 19, 1978; Effective Date: December 20, 1978; Closing Date: December 31, 1985

These four credits, totalling US\$224.1 million, support dairy development projects organized along the lines of the successful AMUL dairy cooperative scheme in Gujarat State. More than 2,100 dairy cooperative societies (DCS) have been established under the three state projects (Karnataka-923, Rajasthan-926, Madhya Pradesh-272). Farmer response has been excellent and project authorities are under considerable producer pressure to speed up the establishment of DCS. Profitability in almost all of the DCS is good and construction of dairy and feed plants is now proceeding at a satisfactory pace. Limited milk processing capacity has been the major constraint to DCS formation in all three projects. Under the National Dairy Project, three subprojects with an estimated total cost of approximately Rs 1,000 million have been appraised by the Indian Dairy Corporation and a further eight subprojects are in various stages of preparation and appraisal. Advance procurement of dairy equipment is well underway though disbursements have been slow, mainly as a result in the start of project operations.

- Cr. No. 532    Godavari Barrage Project; US\$45.0 million credit of March 7, 1975; Effective Date: June 9, 1975; Closing Date: June 30, 1981

Both the civil works and equipment tenders have been awarded after international competitive bidding. Work is proceeding satisfactorily.



- Ln. No. 1011 Chambal (Rajasthan) Command Area Development Project; US\$52.0 million loan of June 19, 1974; Effective Date: December 12, 1974; Closing Date: June 30, 1981
- Cr. No. 1078 Mahanadi Barrages Project; US\$83 million credit of December 5, 1980; Effective Date: February 11, 1981; Closing Date: March 31, 1987
- Cr. No. 502 Rajasthan Canal Command Area Development Project; US\$83.0 million credit of July 31, 1974; Effective Date: December 12, 1974; Closing Date: June 30, 1981
- Cr. No. 562 Chambal (Madhya Pradesh) Command Area Development Project; US\$24.0 million credit of June 20, 1975; Effective Date: September 18, 1975; Closing Date: June 30, 1981
- Ln. No. 1251 Andhra Pradesh Irrigation and Command Area Development  
(TW) Composite Project; US\$145.0 million loan (Third Window) of June 10, 1976; Effective Date: September 7, 1976; Closing Date: December 31, 1982
- Cr. No. 720 Periyar Vaigai Irrigation Project; US\$23.0 million credit of June 30, 1977; Effective Date: September 30, 1977; Closing Date: March 31, 1983
- Cr. No. 736 Maharashtra Irrigation Project; US\$70.0 million credit of October 11, 1977; Effective Date: January 13, 1978; Closing Date: March 31, 1983
- Cr. No. 740 Orissa Irrigation Project; US\$58.0 million of October 11, 1977; Effective Date: January 16, 1978; Closing date: October 31, 1983
- Cr. No. 788 Karnataka Irrigation Project; US\$126.0 million credit of May 12, 1978; Effective Date: August 10, 1978; Closing Date: March 31, 1984
- Cr. No. 808 Gujarat Irrigation Project; US\$85.0 million credit of July 17, 1978; Effective Date: October 31, 1978; Closing Date: June 30, 1984
- Cr. No. 843 Haryana Irrigation Project; US\$111.0 million credit of August 16, 1978; Effective Date: December 14, 1978; Closing Date: August 31, 1983

Cr. No. 889 Punjab Irrigation Project; US\$120.0 million credit of March 30, 1979; Effective Date: June 20, 1979; Closing Date: June 30, 1985

Cr. No. 954 Second Maharashtra Irrigation Project; US\$210 million credit of April 14, 1980; Effective Date: June 6, 1980; Closing Date: December 31, 1985

Cr. No. 1011 Second Gujarat Irrigation Project; US\$175 million credit of May 12, 1980; Effective Date: June 27, 1980; Closing Date: April 30, 1986

These projects, based on existing large irrigation systems, are designed to improve the efficiency of water utilization and, where possible, to use water savings for bringing additional areas under irrigation. Canal lining and other irrigation infrastructure, drainage, and land shaping are prominent components of these projects. In addition, provisions have been made to increase agricultural production and marketing by reforming and upgrading agricultural extension services and by providing processing and storage facilities and village access roads. Progress of these projects is generally satisfactory with the exception of the Periyar Vaigai Project (Cr. 720-IN) where cost overruns have occurred due to substantial increases of both quantities and unit cost over the original engineers' estimates. Specific efforts are now underway to redesign this project so that it can still achieve its original objectives. Difficulties had also arisen earlier in connection with the Nagarjunasagar component of Loan 1251, where water losses proved to be higher than anticipated. Additional assurances have been obtained from the State Government concerned, regarding the enforcement of cropping patterns and the sequence and timing of main canal construction and lining, which should ensure that this project will also achieve its objectives.

Cr. No. 541 West Bengal Agricultural Development Project; US\$34.0 million credit of April 28, 1975; Effective Date: August 28, 1975; Closing Date: March 31, 1981

The progress of shallow tubewells is well ahead of the appraisal schedule, but progress in all other areas is slow. The project is not expected to be fully disbursed by the closing date, and GOI's request for an extension is expected.

Cr. No. 682 Orissa Agricultural Development Project; US\$20.0 million credit of April 1, 1977; Effective Date: June 28, 1977; Closing Date: December 31, 1983

Cr. No. 690 West Bengal Agricultural Extension and Research Project; US\$12.0 million credit of June 1, 1977; Effective Date: August 30, 1977; Closing Date: September 30, 1982

- Cr. No. 712 Madhya Pradesh Agricultural Extension and Research Project; US\$10.0 million credit of June 1, 1977; Effective Date: September 2, 1977; Closing Date: September 30, 1983
- Cr. No. 728 Assam Agricultural Development Project; US\$8.0 million credit of June 30, 1977; Effective Date: September 30, 1977; Closing Date: March 31, 1983
- Cr. No. 737 Rajasthan Agricultural Extension and Research Project; US\$13.0 million credit of November 14, 1977; Effective Date: February 6, 1978; Closing Date: June 30, 1983
- Cr. No. 761 Bihar Agricultural Extension and Research Project; US\$8.0 million credit of January 6, 1978; Effective Date: May 2, 1978; Closing Date: October 31, 1983
- Cr. No. 862 Composite Agricultural Extension Project, US\$25.0 million credit of February 16, 1979; Effective Date: December 14, 1979; Closing Date: December 31, 1984
- Cr. No. 1028 Kerala Agricultural Extension Project; US\$10 million credit of June 25, 1980; Effective Date: August 18, 1980; Closing Date: June 30, 1986

These eight credits finance the reorganization and strengthening of agricultural extension services and the development of adaptive research capabilities in nine States in India. In areas where the reformed extension system is in full operation, field results have been very good, both in terms of adoption of new agricultural techniques and of increased crop yields. In Rajasthan, Assam, Madhya Pradesh and Orissa, in particular, significant gains have been made under the projects. In West Bengal, where a change in government brought a review of the organizational principles underlying the new extension system and an accompanying hiatus in project implementation, a Cabinet decision has reaffirmed the State Government's commitment to the project, revised implementation plans have been prepared, and project activities are resuming. In Bihar, staff shortages, particularly in supervisory and managerial posts, have hampered project implementation, although progress in areas where regular extension visits are being made attests to the efficacy of the system itself. In Gujarat, Haryana and Karnataka, all covered under the Composite Agricultural Extension Project, important early administrative and financial steps have been taken to pave the way for effective operation of the reorganized extension system and field work is off to a good start. In Kerala, project implementation has just begun.

Cr. No. 855     National Agriculture Research Project; US\$27.0 million credit of December 7, 1978; Effective Date: January 22, 1979; Closing Date: September 30, 1983

While the initial sanctioning of research subprojects under this project was somewhat slower than expected, due to staff shortages in the Project Unit, the pace has picked up considerably in recent months. Commitment of funds to research subprojects is proceeding satisfactorily, although corresponding disbursements may lag somewhat behind the original estimates. Additions to the staff of the Project Unit have been made to expedite further progress under the project.

Cr. No. 526     Drought Prone Areas Project; US\$35.0 million credit of January 24, 1975; Effective Date: June 9, 1975; Closing Date: June 30, 1981

Overall progress of this project continues to be satisfactory. Implementation of most components is proceeding well. Dairying and dry-land farming components show particular promise for the drought-prone areas.

Cr. No. 680     Kerala Agricultural Development Project; US\$30.0 million credit of April 1, 1977; Effective Date: June 29, 1977; Closing Date: March 31, 1985

Project implementation started slowly due to initial staffing and funding delays. The project has now gained momentum and the planting operations, which were one season behind original schedule, have been rephased to make up for lost time.

Cr. No. 871     National Cooperative Development Corporation (NCDC) Project; US\$30.0 million credit of February 2, 1979; Effective Date: May 3, 1979; Closing date: December 31, 1984

As of October 1980, when the project was last reviewed, construction of godowns was progressing well in the States of Haryana and Uttar Pradesh, although some delays had occurred in the State of Orissa. Consultants had been recruited to assist NCDC and State Cooperative Banks in strengthening their institutions, although some consultants were yet to be recruited in Haryana. Disbursements have been progressing well and are now ahead of the appraisal targets.

Cr. No. 844     Railway Modernization and Maintenance Project; US\$190.0 million credit of November 13, 1978; Effective Date: January 10, 1979; Closing Date: December 31, 1984

Credit 844 was designed to help the Indian Railways reduce manufacturing and maintenance costs of locomotives and rolling stock and to improve their performance and availability. The project is still at an early stage of implementation but is progressing satisfactorily.

Cr. No. 609    Madhya Pradesh Forestry Technical Assistance Project;  
US\$4.0 million credit of February 26, 1976; Effective Date:  
May 17, 1976; Closing Date: December 31, 1981

A feasibility study financed under this Credit and completed in November 1979 has recommended the establishment of two mills, one for sawnwood and one for pulp, as the basis of the development of a forest-based industry in Bastar district.

Cr. No. 925    Uttar Pradesh Social Forestry Project; US\$23.0 million credit  
of June 21, 1979; Effective Date: January 3, 1980; Closing  
Date: December 31, 1984

Cr. No. 961    Gujarat Community Forestry Project; US\$37 million credit of  
April 14, 1980; Effective Date: June 24, 1980; Closing Date:  
December 31, 1985

These projects, designed to expand the social forestry program in Uttar Pradesh and Gujarat, to provide a source of energy to the villages, and to supply raw materials to cottage industries, are proceeding well. The projects provide for large-scale tree plantations on public lands, primarily along roads, rails and canals, on village common lands and on degraded forest reserves.

Cr. No. 610    Integrated Cotton Development Project; US\$18.0 million credit of  
February 26, 1976; Effective Date: November 30, 1976; Closing  
Date: December 31, 1981

The project's progress remained very disappointing in all areas until the 1978 season, resulting in negligible disbursements. Due to renewed interests from GOI and the States, the project has now started to progress well. Short-term credits are increasing significantly, new processing units are being established in Haryana and Maharashtra, and plant protection activities have started progressing well.

Ln. No. 1273    National Seed Project; US\$25.0 million loan of June 10, 1976;  
Effective Date: October 8, 1976; Closing Date: June 30, 1981

Cr. No. 816    Second National Seed Project; US\$16.0 million credit of July 17,  
1978; Effective Date: December 20, 1978; Closing Date:  
Closing Date: December 31, 1984

These projects were designed to increase the availability of high quality agricultural seed, and cover nine States (four by Ln. 1273-IN and five by Cr. 816-IN). The first project started slowly due to organizational difficulties and is almost two years behind schedule. Progress in the second project States is more satisfactory. The role of various organizations (National and State) in the production and processing of seed is being reviewed.

Ln. No. 1335 Bombay Urban Transport Project; US\$25.0 million loan of December 20, 1976; Effective Date: March 10, 1977; Closing Date: June 30, 1983

Cr. No. 1033 Calcutta Urban Transport Project; US\$56 million credit of October 27, 1980; Effective Date: January 31, 1981 (expected); Closing Date: December 31, 1984

The bus procurement program supported by the Bombay project (Ln. 1335) has proceeded on schedule, with all 700 bus chassis and bodies having been ordered and 672 already in service. Total fleet strength has increased from 1,530 buses at the inception of the project to 1,935 buses in September 1980, in accordance with appraisal estimates. Depot capacity expansion has lagged somewhat behind fleet expansion, but caught up in November 1980. However, delays in construction of new workshop facilities have been more substantial and will not be fully recoverable. As a result, the loan closing date has been extended by three years. Traffic management civil works are also somewhat behind schedule, although now proceeding satisfactorily. Project implementation under Cr. 1033 is proceeding satisfactorily, a good start having been made on the important early procurement steps.

Cr. No. 1072 Bihar Rural Roads Project; US\$35.0 million credit of December 5, 1980; Effective Date: January 15, 1981; Closing Date: June 30, 1986.

Construction is scheduled to begin in May 1981 on the first phase of this project designed to construct or rehabilitate 700 km of rural roads and to improve maintenance of the rural road network in Bihar as part of the State's overall rural development efforts.

Ln. No. 1394 Gujarat Fisheries Project; US\$14.0 million loan and US\$4.0  
(TW) and million credit of April 22, 1977; Effective date: July 19, 1977;  
Cr. No. 695 Closing Date: June 30, 1983

Cr. No. 815 Andhra Pradesh Fisheries Project; US\$17.5 million credit of June 19, 1978; Effective Date: October 31, 1978; Closing Date: September 30, 1984

As of October 1980 when these projects were last reviewed, the harbor construction works at Mangrol and Veraval in Gujarat had encountered delays, although the problem with shortages of cement supplies had been overcome. In Andhra Pradesh, the harbor works at Visakhapatnam, Kak-inada and Nizampatnam were under way and the pace of implementation had increased at all three sites.

Cr. No. 963 Inland Fisheries Project; US\$20 million credit of January 18, 1980; Effective Date: May 5, 1980; Closing Date: September 30, 1985

This project, which is the first of its kind in India, is designed to increase carp production in five states--West Bengal, Bihar, Orissa, Madhya Pradesh, and Uttar Pradesh--through the construction of hatcheries, improvements to fish ponds, strengthening of extension services, and the establishment of training centers. The project became effective in May 1980. The initial implementation tasks, primarily involving the establishment of State Fish Seed Development Corporations and Central and State project monitoring units, are progressing satisfactorily. Site selection and hatchery design work is under way.

Cr. No. 685 Singrauli Thermal Power Project; US\$150.0 million credit of April 1, 1977; Effective Date: June 28, 1977; Closing Date: December 31, 1983

Cr. No. 793 Korba Thermal Power Project; US\$200.0 million credit of May 12, 1978; Effective Date: August 14, 1978; Closing Date: March 31, 1985

Ln. No. 1549 Third Trombay Thermal Power Project; US\$105.0 million loan of June 19, 1978; Effective Date: February 8, 1979; Closing Date: March 31, 1984

Ln. No. 1648 Ramagundam Thermal Power Project; US\$50.0 million loan and  
and Cr. 874 US\$200 million credit of February 2, 1979; Effective Date: May 22, 1979; Closing Date: December 31, 1985

Cr. No. 604 Power Transmission IV Project; US\$150 million credit of January 22, 1976; Effective Date: October 22, 1976; Closing Date: June 30, 1981

Cr. No. 1027 Second Singrauli Thermal Power Project; US\$300 million credit of June 5, 1980; Effective Date: July 30, 1980; Closing Date: March 31, 1988

Ln. No. 1887 Farakka Thermal Power Project; US\$25 million loan and  
and US\$225 million credit of July 11, 1980; Effective Date:  
Cr. No. 1053 December 10, 1980; Closing Date: March 31, 1987

Credits 685 and 1027 assist in financing the 2,000 MW Singrauli development, which is the first of four power stations in the Government's program for the development of large central thermal power stations feeding power into an interconnected grid. Credit 793 supports the construction of the first three 200 MW generating units at the second such station, at Korba, together with related facilities and associated transmission. Loan 1648/Credit 874 support similar investments at Ramagundam, and Loan 1887/Credit 1053, at Farakka. The National Thermal Power Corporation (NTPC) has been carrying out construction and operation of these power stations. Loan 1549 is supporting the construction of a 500 MW extension of the Tata Electric Companies' station at Trombay, in order to help meet the forecast load growth in the Bombay area. All these large-scale thermal power projects are progressing satisfactorily. For Singrauli and Korba, construction works are on or ahead of schedule, although some slippage has occurred in the implementation schedule for the Ramagundam project.

Cr. No. 911 Rural Electrification Corporation II Project; US\$175.0 million  
credit of June 21, 1979; Effective Date: October 17, 1979;  
Closing Date: March 31, 1984

This project provides continued support to the Rural Electrification Corporation's lending program, and is helping to finance about 1,700 rural electrification schemes in fourteen State Electricity Boards (SEB), including the newly participating Uttar Pradesh SEB. The project is progressing satisfactorily.

Ln. No. 1925 Second Bombay High Offshore Development Project; US\$400.0 million  
loan of December 11, 1980; Expected Effectiveness Date:  
March 13, 1981; Closing Date: March 31, 1984

The project is progressing satisfactorily.

Cr. No. 981 Second Population Project; US\$46 million credit of April 14,  
1980; Effective Date: June 26, 1980; Closing Date: December 31,  
1985

The project has as its major objectives the lowering of infant and child mortality and morbidity, the improvement in the health status of mothers and children and the lowering of fertility. Implementation works have started in both project States--Andhra Pradesh and Uttar Pradesh.



Cr. No. 1012 Cashewnut Project; US\$22 million credit of June 10, 1980;  
Effective Date: September 3, 1980; Closing Date: September 30,  
1985

Implementation has started on this project which is designed to expand cashewnut production in the States of Kerala, Karnataka, Andhra Pradesh and Orissa.

Cr. No. 1003 Tamil Nadu Nutrition Project; US\$32 million credit of May 12,  
1980; Effective Date: August 5, 1980; Closing Date: March 31,  
1987

First year's implementation in one test block is proceeding according to schedule.

Cr. No. 1004 Uttar Pradesh Public Tubewells Project; US\$18 million credit  
of May 12, 1980; Effective Date: June 27, 1980; Closing Date:  
March 31, 1983

Implementation is proceeding satisfactorily on this project.

Ln. No. 1897 Kandi Watershed and Area Development Project; US\$30.0 million  
loan of September 12, 1980; Effective Date: November 18, 1980;  
Closing Date: March 31, 1986.

Contract for the construction of Dholbaha dam has been awarded. Progress in other components are satisfactory.

Cr. No. 1034 Karnataka Sericulture Project; US\$54 million credit of  
October 27, 1980; Effective Date: December 18, 1980  
Closing Date: December 31, 1985

Project implementation is proceeding well with encouraging progress in all components.

INDIA

MAHARASHTRA AGRICULTURAL EXTENSION PROJECT

SUPPLEMENTARY PROJECT DATA SHEET

Section I: Timetable of Key Events

- (a) Time taken by the country to prepare the project

Six months.

- (b) The agency which has prepared the project

The Government of Maharashtra assisted by Bank Group staff.

- (c) Date of first presentation to the Association and date of first mission to consider the project

January 1980; June 1980.

- (d) Date of departure of appraisal mission

October 1980.

- (e) Date of completion of negotiations

March 9, 1981.

- (f) Planned date of effectiveness

August 15, 1981.

Section II: Special IDA Implementation Actions

None.

Section III: Special Conditions

- (a) GOM to review adequacy of field staff deployed by March 31, 1984 and make any adjustments found necessary (para 40).

- (b) GOM to deploy staff for the project in accordance with a schedule acceptable to IDA, to ensure that agreed extension staff positions would be utilized only for extension throughout the project period, and to ensure that the emoluments and benefits of extension staff would not be adversely affected by reason of the reorganization (para 45(a)).
- (c) GOM to ensure that VEWs and AEOs live in their respective areas of operation (para 45(c)).
- (d) GOM to set up State Extension and Research Committee by September 30, 1981, this committee to meet at least twice annually thereafter (para 48).



