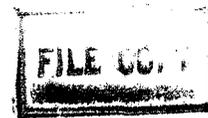


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The World Bank



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Report No. P-3570-IN

REPORT AND RECOMMENDATION
OF THE
PRESIDENT OF THE
INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT
TO THE EXECUTIVE DIRECTORS
ON A
PROPOSED LOAN IN AN AMOUNT EQUIVALENT TO US\$46.2 MILLION
TO INDIA
FOR THE
HIMALAYAN WATERSHED MANAGEMENT PROJECT

May 11, 1983

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CURRENCY EQUIVALENTS
(As of May 4, 1983)

US\$1.00	=	Rs 10.012002
Rs 1	=	US\$0.09988
Rs 1 million	=	US\$99,880

The US Dollar/Rupee exchange rate is subject to change. Conversions in the Staff Appraisal Report were made at US\$1.00 = Rs 9.5, which represents the average exchange rate projected over the disbursement period.

FISCAL YEAR

April 1 - March 31

Abbreviations and Acronyms used in this Report

GOI	-	Government of India
GOUP	-	Government of Uttar Pradesh
m.a.s.l.	-	meter above sea level
MOA	-	Ministry of Agriculture
NWDPC	-	National Watershed Development Policy Committee
PC	-	Project Coordinator
UP	-	Uttar Pradesh
WDC	-	Watershed Development Council

INDIA

HIMALAYAN WATERSHED MANAGEMENT PROJECT

LOAN AND PROJECT SUMMARY

Borrower: India, acting by its President.

Beneficiary: The State of Uttar Pradesh (GOUP).

Amount: US\$46.2 million, including capitalized front-end fee of 0.25%.

Terms: Repayment over 20 years, including five years' grace, at the standard variable interest rate.

Re-Lending Terms: From the Government of India (GOI) to the State as part of Central assistance for State development projects on terms and conditions applicable at the time. GOI to bear the exchange and interest risks.

Project Description: The project would initiate a program to minimize the degradation of Himalayan ecosystem caused by depletion of forest cover, overgrazing and bad land use, all of which have resulted in increasing erosion and in exacerbating flooding of the Gangetic Plains. The project activities would include: establishment of about 87,000 ha of fuelwood, timber and fodder plantation on government and community land and about 81,000 ha of fuelwood and fodder plantation on private land and field boundaries; soil conservation measures; livestock development (including a cattle exchange program to promote stall-feeding of animals); improvement of agricultural extension services; horticultural development; minor irrigation; and research and training. The project would also help strengthen GOI's and GOUP's capacity to plan and implement such schemes and invoke people's participation at various levels. The main project risks include inadequate public participation and the difficulties in coordinating and managing a multi-disciplinary program involving numerous agencies. These risks would be minimized because of increasing public awareness, provision of intensive extension, implementation of programs to increase the income of the local inhabitants, and the organization proposed for coordination of project implementation.

Estimated Cost:

<u>Item</u>	<u>(US\$ Millions)</u>		
	<u>Local</u>	<u>Foreign</u>	<u>Total</u>
Forest Plantation	23.2	0.2	23.4
Project Organization	7.8	0.1	7.9
Horticulture Development	1.8	-	1.8
Livestock Development	6.2	-	6.2
Soil Conservation	3.7	0.1	3.8
Minor Irrigation	1.9	-	1.9
Agriculture	0.8	-	0.8
Research	<u>0.2</u>	-	<u>0.2</u>
Sub-total	45.6	0.4	46.0
Physical Contingencies	1.0	0.1	1.1
Price Contingencies	<u>21.7</u>	<u>0.2</u>	<u>21.9</u>
Total Project Cost	68.3	0.7	69.0
Less Taxes and Duties	<u>3.1</u>	-	<u>3.1</u>
Total Net Project Cost	65.2	0.7	65.9
Front-end Fee on Bank Loan	-	<u>0.1</u>	<u>0.1</u>
Total Financing Requirements	65.2	0.8	66.0

<u>Financing Plan:</u>	<u>(US\$ Millions)</u>		
	<u>Local</u>	<u>Foreign</u>	<u>Total</u>
GOI/GOUP	22.9	-	22.9
Bank	<u>45.4</u>	<u>0.8</u>	<u>46.2</u>
Total	68.3	0.8	69.1
	====	===	====

Estimated Disbursements:

	<u>(US\$ Millions)</u>							
	<u>FY84</u>	<u>FY85</u>	<u>FY86</u>	<u>FY87</u>	<u>FY88</u>	<u>FY89</u>	<u>FY90</u>	<u>FY91</u>
Annual	0.2	1.0	2.2	4.1	7.3	13.0	12.3	6.1
Cumulative	0.2	1.2	3.4	7.5	14.8	27.8	40.1	46.2

Rate of Return: About 23%.

Appraisal Report: No. 4317-IN, dated May 10, 1983.

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

REPORT AND RECOMMENDATION OF THE PRESIDENT TO THE
EXECUTIVE DIRECTORS ON A PROPOSED LOAN TO INDIA
FOR THE HIMALAYAN WATERSHED MANAGEMENT PROJECT

1. I submit the following report and recommendation on a proposed Loan to India in an amount equivalent to US\$46.2 million to help finance a watershed management project in the State of Uttar Pradesh. The project would initiate a major program to minimize the ecological degradation of the Himalayan ecosystem caused by depletion of forests, overgrazing and bad land use. It would increase the availability of fodder, fuelwood and forest products and carry out agricultural development schemes to increase the income of local inhabitants. The Government of India (GOI) would channel the proceeds of the loan to the Government of Uttar Pradesh in accordance with GOI's standard terms and arrangements for financing development projects in the States. The exchange and interest risks would be borne by GOI.

PART I - THE ECONOMY 1/

2. An economic report, "Economic Situation of India and Resource Mobilization Issues" (4395-IN, dated April 11, 1983), was distributed to the Executive Directors on April 19, 1983. Country data sheets are attached as Annex I.

Background

3. India is a large and diverse country with a population of about 700 million (in mid-1982) and an annual per capita income of US\$250. The economy is dominated by agriculture which employs more than two-thirds of the labor force. However, the land base is not sufficient to provide an adequate livelihood to everyone engaged in agricultural activities, especially those with little or no land. Growth of value-added in agriculture -- 2.2% since 1950/51 -- has been slower than growth of industrial value-added (5.0% per annum). As a result, there has been a gradual decline in the share of agriculture in GDP (at factor cost) from 60% to just under 40%, while the share of industry rose from 15% to around 25%. But industrialization has not been rapid enough to absorb the growing labor force, or to bring about a rapid economic transformation, with significantly higher productivity and income levels. As a result economic growth has been slow over the past three decades, averaging about 3.6% per annum since 1950/51.

4. Nevertheless, there has been steady progress with per capita income rising by about 1.4% per year in the period 1950 to 1980. Despite the large population base and its relatively rapid growth, India has been able to eliminate persistent dependence on foodgrain imports through significant improvements in agricultural production. Savings and investment have increased

1/ Parts I and II of the report are substantially the same as Parts I and II of the President's Report for the Central Power Transmission Project (No. P-3549-IN), dated May 2, 1983.

markedly since 1950/51: gross national savings more than doubled from 10.8% of GDP (at factor cost) to 22.8% in 1982/83, while gross domestic investment rose from 12.5% of GDP to 24.9% in 1982/83. Foreign savings (balance of payments deficit on current account) have never financed a major portion of domestic investment: a peak of about 20% was reached during the early 1960s. Surpluses arose for a few years in the late 1970s, and at the present time, foreign savings are about 8% of investment. External assistance has been low both as a percentage of GDP and in per capita terms, never rising above 3% of GDP and averaging below 1% for the past five years. Net foreign savings have never risen above 3% of GDP, and presently stands at 2.1%.

5. Before the 1970s, India placed relatively less emphasis on export promotion and more on import substitution. The volume growth of exports between 1950/51 and 1969/70 averaged only 2.2% per annum, while the volume growth of imports over the same period was 4.3%. In the early to mid-1970s, however, India's terms of trade, which had remained roughly constant during the 1960s, deteriorated sharply. In response, the Government introduced various policy measures designed to stimulate exports. As a result, the volume of India's exports grew on average about 7.3% per annum for the 1970s as a whole, a performance which demonstrates that sustained rapid growth is possible. While expanding world markets, particularly in the nearby Middle East, contributed to this growth, liberalized access to imported inputs and more effective export incentives played a major role.

6. Moving into the second half of the 1970s, the Indian economy was buoyed by higher levels of investment and an expanding level of foodgrain output. As a result, growth in real GDP and in agricultural and industrial value-added, substantially exceeded the historical 30-year trends (paragraph 3) averaging 4.9%, 3.9% and 5.6%, respectively. In 1979/80, however, this momentum was broken when the worst drought in recent years, combined with a doubling of international oil prices and domestic supply shortages, led to a sharp fall in foodgrain production, a decline in GDP, and the opening up of a large trade deficit. Severe inflationary pressures also emerged after several years of virtual price stability. These setbacks in 1979/80 coincided with the preparation of the Sixth Five-Year Plan which laid down a program of adjustment that aimed at improving the trade deficit, removing infrastructural bottlenecks and ensuring price stability with an overall growth of the economy of 5.2% at 1.6 percentage points above the trend growth of 3.6%.

Recent Trends

7. In 1980/81 and 1981/82, the economy substantially recovered with real GDP growing by 7.9% and 5.2%, respectively. While industrial output expanded by 4% in 1980/81 and 8.6% in 1981/82, recovery was particularly robust in agriculture where normal weather helped output to rise by more than 15% and 5.5%, respectively. The availability of power, coal, and rail transport, already improved in 1980/81, was even better in 1981/82, recording growth rates of about 10%, 9.6% and 12.9%, respectively. The easing of constraints on the supply of infrastructure and basic commodities was a determining factor in the improved performance of the industrial sector. This overall improvement in the Indian economy, combined with a more restrictive monetary policy contributed to a sharp decline in the rate of inflation. Wholesale prices rose by about 9% on an average annual basis in 1981/82 and by only 2.5% in 1982/83, reflecting a strong deceleration from a peak increase of 18% in 1980/81.

8. After two years of fairly solid performance, the Indian economy faced a difficult year in 1982/83 due to the drought in mid-1982 which brought down the GDP growth rate to around 2% and put further strains on the already difficult balance of payments and domestic resource situation. Besides a significant decline in the range of 4.5%-6.5% in agricultural production, GDP growth was also constrained by a slowdown in industrial growth from 8.6% in 1981/82 to about 4% in 1982/83. This resulted from a combination of several factors, notably the decline in agriculture income, persistent (though lessened) power shortages, a textile strike in Bombay, as well as depressed export markets and increased competition from imports. The Government was able, however, to protect the level of savings to a large extent and keep the momentum of the investment program through largely successful public sector resource mobilization efforts. Foreign savings played a crucial role in support of this effort. Similarly, the timely implementation of various economic policies mitigated the otherwise very distressing effects of a poor monsoon. Continued improvements of the infrastructure sectors, although at a slower pace than in the previous two years, also reduced the negative effects of the drought.

9. Agricultural production in 1982/83 received a serious setback from the drought. Foodgrain production, which had reached a record 133 million tons in 1981/82, declined to 124-127 million tons. Production of most other major crops also declined in 1982/83. Corrected for weather variations, this still represents a creditable performance. In 1979/80, with a broadly comparable monsoon, foodgrain production reached only 109 million tons. The Government was able to mitigate the effects of the 1982 drought through efficient management of foodgrain procurement and distribution, careful timing of foodgrain imports, and appropriate allocation of power to irrigation pumps. These policies helped to avoid disruptions in basic food supplies and contributed to price stability during the year. 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 performance of the recent past and probable future trends suggest that on average foodgrain supplies will meet demand. The balance remains delicate, and the need for foodgrain imports to maintain consumer supplies or adequate buffer stocks could arise from time to time. Thus, programs to expand irrigation, strengthen extension and encourage the efficient use of other agricultural inputs continue to receive high priority.

10. Basic infrastructure services performed generally well in 1982/83, although growth of coal, power and rail transport failed to maintain the momentum of the marked recovery of 1981/82. Despite lower hydro generation due to the failure of the monsoon, overall power generation recorded an increase of about 7%. This was due largely to an increase in capacity utilization in thermal plants resulting from improved overall management, stabilization of most of the new large units and better availability of coal due to the combination of increased coal production and improved railway performance. Nevertheless, power shortages remain the major bottleneck in the economy. Railway traffic grew by only 3.7% in 1982/83 reflecting a slowdown from 1981/82. The lower growth was due not to a decline in the operational efficiency of the railways but rather to slack demand from core sectors like steel, iron ore, coal washeries and fertilizers. Coal production growth (4% in 1982/83), after 10% growth in the two preceding years was creditable. There were no major shortages and there were improvements in the quality of coal. Recent easing of shortages and bottlenecks in infrastructure has come primarily from better utilization of existing capacity, but in the future most improvement must

result from added capacity. It is therefore critically important that India maintain the pace of investment in these key sectors and mobilize sufficient resources to do so.

11. The Indian economy has reverted from a situation of resource surplus, which had been a temporary phenomenon of the late 1970s, to one of resource scarcity. Investment has again grown quicker than national savings, and the scope for further increases in the latter appears limited. India's gross national savings rate, which averaged 22.4% of GDP in the last three years, is high by any standard, particularly considering India's low income and the large proportion of its population living below the poverty line. Future increases in savings will depend heavily upon the enhanced profitability of public sector enterprises which would require better utilization of capacity, more efficient operations and adequate pricing policies. In 1981/82 there was a significant increase in public savings due to improved profitability of various public sector enterprises. This trend which was maintained in 1982/83 needs to be accelerated. The gap between gross investment and national savings which rose from 0.4% of GDP in 1979/80 to 1.8%, 2.3% and 2.1%, respectively in the first three years of the 1980s, has been financed by foreign savings.

12. India's ability to generate resources to meet its development objectives has become increasingly linked to the balance of payments. The current account balance which recorded surpluses between 1976/77 and 1978/79, sharply deteriorated to deficits of nearly US\$2.9 billion in 1980/81 and US\$3.8 billion in 1981/82 (1.8% and 2.3% of GDP, respectively). This was partly due to a sharp rise in the oil import bill as a result of both the disruption of oil production in northeast India in 1980 and significant oil price increases, and to a more liberal import policy aimed at providing producers with access to inputs for higher capacity utilization, greater efficiency, improved technology and capacity expansion. The current account deficit in 1982/83 declined to US\$3.3 billion or 2.1% of GDP. The improvement would have been greater had not the drought resulted in the need to rebuild food stocks through imports and at the same time led to a lower level of GDP growth. This improvement in the balance of payments is to a significant degree the result of India's development and adjustment efforts over the past three years. It also reflects a reduction in the trade deficit as compared to the levels reached in 1980/81 and 1981/82. The trade deficit declined from US\$7.6 billion in 1980/81 to US\$6.0 billion in 1982/83 due to continued export volume growth (following the substantial resumption in 1981/82) despite poor world market conditions, coupled with the containment in import growth due to import substitution of petroleum products, metals and fertilizers while allowing substantial growth in "other" imports through more liberal import policies. Nevertheless, it is expected that the balance of payments will be under strain for the next several years, for India's adjustment program will continue to require high levels of imports.

13. The high investment rate, about 25% of GDP, envisaged in the Sixth Plan coupled with the limited possibilities of raising domestic savings beyond the present high levels, necessarily implies a need for external resources. Faced with a reduction in the availability of bilateral and multilateral concessional assistance, India has begun to borrow significant amounts on commercial terms from the Euro-dollar market in addition to much greater utilization of suppliers' and export credits. India's favorable debt service profile has enabled India to tap commercial capital markets at favorable spreads (over relatively high underlying rates). In the period 1980-82 India contracted commercial

loans totalling over US\$2,000 million and suppliers' credits of about US\$520 million. The bulk of the loans are linked to specific development projects in the public sector while the credits are linked, by and large, to development projects in the private sector. India also reached an agreement with the International Monetary Fund for the use of the Extended Fund Facility for SDR 5 billion, of which SDR 2.5 billion have already been drawn. The transfer of funds under the EFF has stemmed the use of foreign exchange reserves which had fallen to less than four months of import coverage in 1981/82. In 1982/83, in addition to continued use of the EFF, financing requirements were met by increased non-concessional borrowing (about US\$2,000 million in new commitments) and a 10% increase in net aid disbursement.

Development Prospects

14. The experience of recent years illustrates that India has 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, power, roads and ports -- is extensive compared to many countries, although there is considerable need for additional capacity 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 reasonable access to foreign savings, India has the capability for managing these considerable resources to accelerate its long-term growth.

15. The medium-term framework for advancing India's development objectives is the Sixth Five-Year Plan (1980/81-1984/85), which is now in its fourth year. The Plan assigns priority to agriculture, energy development, the growth of exports and domestic import substitutes where appropriate, and the removal of infrastructural bottlenecks. Overall performance has so far been encouraging, although bottlenecks in key sectors such as power and transport are likely to persist. Moreover, fulfillment of the Plan targets will require additional resource mobilization. The efforts of the Central Government to raise resources have so far been impressive and are likely to be broadly sufficient to meet the financing requirements of the Central Government's share in plan investment, even if some increase in inflation is experienced above current low levels. However, a shortfall in public savings is likely to occur in some States unless further measures are introduced. There will be a need also for continuous efforts to maintain the current level of private savings. Recent increases in interest rates and tax concessions on time deposits and the continued dampening of inflationary expectations should stimulate such savings.

16. The higher capital formation rates of the past few years augur well for future income growth. However, returns to investment have so far been relatively low. Much of this phenomenon relates to India's stage of development, in which a large and growing proportion of investment has been needed to build up basic infrastructure. These services, such as power, transport and irrigation, have inherently high capital-output ratios. However, there is scope to improve the sectoral capital-output ratios through greater efficiency and better management. Bottlenecks in basic infrastructural sectors clearly

can prejudice growth in other sectors where large investments have been made. As demonstrated in the last three years, performance in the basic service sectors can be improved through better planning and management, thus leading to higher productivity and capacity utilization throughout the economy. At the same time, programs to expand domestic capacity are vital. In the case of tradeable commodities like coal, steel and cement, this is justified on the grounds of comparative advantage. For sectors such as irrigation, power and transportation, expansion of planned capacity in accordance with the requirements of the rest of the economy will be vital to overall medium- and long-term development prospects. In the short term, however, achieving an adequate balance between supply and demand in these sectors will remain a difficult objective.

17. Under the Sixth Plan, India has an ambitious oil production program backed by substantial financial commitment. While the gap between domestic consumption of petroleum and production remains large, the prospects for progressive substitution of domestic petroleum for imports are quite bright. In 1981, and again in early 1983, resources for exploration and development were raised by successive price increases for domestic crude and products. India's dependence on oil imports dropped from 63% in 1979/80 to about 45% now and a scheduled expansion in production is expected to decrease oil imports (in crude equivalent terms) to about 33% of consumption by 1984/85. The rapidly expanding level of exploration activity, combined with the possibilities for accelerated offtake from known fields, offers much encouragement for India's longer-term energy prospects.

18. Despite an expected continued decline in its current account deficits from the current 2.1% to about 1.7% of GDP by the late 1980s, India will require growing access to world financial markets to complement concessional assistance. These commercial sources of funds will be important in the future since India's current account deficits, though not large relative to the size of the economy, will nevertheless be large in absolute terms and will necessitate external borrowing beyond levels expected to be available from normal concessional sources. Given the favorable structure of India's external debt, which reflects the past reliance on concessional sources, India should remain creditworthy for a substantial growth in external borrowing.

19. India's development prospects over the next few years will hinge on the extent to which the economy can be brought into both internal and external balance, while at the same time achieving more rapid growth than in the past. In the longer term, income growth represents the best strategy for achieving these needed adjustments, both by generating higher savings for further investment, and by fostering the development of export and import-substituting industry to improve the balance of payments. In the short term, a relatively large external borrowing, including an increased emphasis on commercial borrowing, will be necessary to cope with the balance of payments consequences of such a growth strategy. However, an important element in providing India with the capacity to adjust flexibly will be adequate flows of concessional assistance. Although India is currently in a position to increase borrowing on commercial terms from the very low levels of the past, there are, of course, limits beyond which India will choose to sacrifice growth objectives rather than accept debt on unfavorable or unmanageable terms. The Government's effort to maintain an adequate rate of growth while adjusting the structure of the Indian economy to a more open and efficient environment requires foreign

resources in addition to the level of commercial borrowing available to India. India is still a very poor country with a large rural sector and enormous investment requirements for human development and basic infrastructure. The fact that India has been able over the past seven years to maintain a rate of growth above the long term trend, despite the poor monsoons of 1979/80 and 1982/83, lends substance to the hope that a more open trade policy and concerted efforts to remove constraints on the growth of productive capacity, supported by adequate mobilization of savings both foreign and domestic, can sustain a rate of growth closer to 5.0% per annum than the long-run trend of 3.6% per annum. Combined with a reduction in the rate of population increase to below 2.0% per annum, a 5.0% growth rate would mean a doubling of the trend rate of growth of per capita income of less than 1.4% per annum. Success in these efforts would make a significant difference to the prospects of easing poverty in India.

20. A large and growing population and severe poverty underline the need to accelerate India's development efforts. The 1981 Census placed India's population at 683.8 million, or about 12 million higher than official projections. The fact that there was no decline in inter-census rates of population growth, equivalent to about 2.2% per annum, is a cause for concern. While further analysis of the Census may suggest this rate of growth to be slightly overestimated, the expectation of a measurable decline in the population growth rate has not materialized. Until the results of the Census are fully analyzed, firm judgements about the reasons for this outcome are not possible. However, the results re-emphasize the need for continuing efforts to strengthen the health and family planning program in a broad range of activities and services. These efforts are given high priority in the Sixth Plan, which aims at a rise in the proportion of protected couples in the reproductive age group from its estimated 1979/80 level of about 23% to over 35% by 1984/85.

21. Reduction of poverty remains the central goal of Indian economic growth. 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. About 51% of the rural population and 40% of the urban population subsist below the poverty line. Improvements in the living standards of the poor will depend to a large extent on the overall growth of the economy, particularly on increases in agricultural production and employment, and in non-farm rural employment. These developments will have to stem in large part from market forces which can be encouraged and reinforced by appropriate Government policies and the strengthening of basic services and infrastructure. The declining trend in real foodgrain prices between 1970 and 1981, resulting from India's sustained effort to raise agricultural production, 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 land 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. Operations 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

22. Since 1949, the Bank Group has made 71 loans and 156 development credits to India totalling US\$4,783 million and US\$11,447 million (both net of cancellation), respectively. Of these amounts, US\$1,332 million has been repaid, and US\$5,907 million was still undisbursed as of March 31, 1983. Bank Group disbursements to India in the current fiscal year through March 31, 1983 totalled US\$1,008 million, representing an increase of about 17 percent over the same period last year. Annex II contains a summary statement of disbursements as of March 31, 1983, and notes on the execution of ongoing projects.

23. Since 1959, IFC has made 28 commitments in India totalling US\$220.4 million, of which US\$28.3 million has been repaid, US\$56.2 million sold and US\$17.3 million cancelled. Of the balance of US\$118.6 million, US\$111.1 million represents loans and US\$7.5 million equity. A summary statement of IFC operations as of March 31, 1983, is also included in Annex II (page 5).

24. The thrust of Bank Group assistance to India has been consistent with the country's development objectives in its support of agriculture, energy and infrastructure. Of particular importance have been investments in irrigation, extension and on-farm development designed to increase agricultural productivity, and efforts to improve the availability of basic agricultural inputs to farmers through credit, fertilizer, marketing, storage, and seed projects. Major elements of the lending program have also been directed at helping to meet the energy needs of the economy while curbing the growth of oil imports, and to ease the infrastructure bottlenecks which have hampered economic growth in India, particularly through power generation and distribution, and railways and telecommunications projects. The Bank Group has also provided financing for a broad range of medium- and small-scale industrial enterprises, primarily in the private sector, through its support of development finance institutions. Recognizing the importance of improving the ability to satisfy the essential needs of urban and rural populations, the Bank Group has supported nutrition and family planning programs, a rural roads project, as well as water supply and sewerage and other urban infrastructure projects.

25. This pattern of assistance remains highly relevant, and consonant with Government priorities, as reflected in the Sixth Plan. The continued active involvement of the Bank Group in agriculture, energy and infrastructure development will appropriately contribute to India's adjustment and growth prospects. Irrigation will need continuing support, with emphasis on improved efficiency in water conveyance systems to ensure reliable delivery to farmers' fields. In addition, major investments to develop the large Narmada River basin will be vital to India's efforts to increase agricultural production. Important complements to these efforts, such as fertilizer production and distribution, agricultural credit and extension, will continue to receive support. A continued program of investments aimed at rapidly increasing the domestic supply of energy will clearly be necessary if India is to curb the cost of oil imports and alleviate the critical power shortages which constrain output in both the agricultural and industrial sectors. Exploitation of oil

and gas resources is a central element of this program, which should be supplemented by investments in hydro and thermal power generation, and in the expansion of the transmission and distribution networks. Industrial projects to increase the domestic production of basic commodities, which have been in short supply and which India has a comparative advantage in producing, should also receive high priority. Finally, raising the efficiency and levels of transportation infrastructure would mitigate a key constraint to achieving higher levels of economic growth so that further support of the railways and for ports development will be particularly appropriate.

26. 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 India, not only to help the economy adjust to the more recent oil price increases and the overall deterioration in the world trade environment but also to maintain the relatively higher growth rates achieved during the first two years of the Sixth Plan. 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.

27. 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. This requirement for additional assistance can be met, in part, through Bank lending. Given its development prospects and policies, India is judged credit-worthy for Bank lending to supplement IDA assistance. A continuation of efforts already underway to achieve growth in productive capacity, trade expansion, higher levels of savings, foodgrains self-sufficiency and a reduction in the rate of population growth should result in continued economic growth and improvement in the balance of payments. Despite recent setbacks, India's external payments position is still manageable. The ratio of India's debt service to the level of exports was about 11% in 1982/83 and is projected to remain below 20% through 1995/96. As of March 31, 1983, outstanding loans to India held by the Bank totalled US\$3,571 million, of which US\$1,854 million remain to be disbursed, leaving a net amount outstanding of US\$1,717 million.

28. 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 50%, 43% and 53%, respectively, in 1981/82. On March 31, 1982, India's outstanding and disbursed external public debt was about US\$17.9 billion, of which the Bank Group's share was US\$7.1 billion or 38% (IDA's US\$5.9 billion and IBRD's US\$1.2 billion). In 1981/82, about 16.0% of India's total debt service payments were to the Bank Group.

PART III - EROSION AND WATERSHED MANAGEMENT

Erosion and Flood Problems in India

29. On average, floods affect an area of about 8 million ha of the Gangetic plains annually, including some 3.5 million ha of cropped land. The value of the lost crops alone is over US\$250 million a year. It is estimated that an area of about 34 million ha is prone to flood damage, of which 24 million ha (70%) fall within the Indo-Gangetic basin States of Punjab, Haryana, Rajasthan, Uttar Pradesh, Bihar, West Bengal and the Union Territory of Delhi.

30. National flood damage data have been collected since 1953. The statistics show the increasing severity of floods, with the greatest damage recorded during the past five years, although the total annual rainfall has remained substantially the same. This trend is attributed to increasing ecological degradation, mainly in the Himalayan range ^{1/}, which is largely attributed to larger human and cattle populations, and which makes each new flood more devastating than its predecessor.

31. Deforestation, overgrazing, poor agricultural practices and badly designed roads, all contribute to the severe erosion and general ecological decline observed in many parts of the Himalayan range. Erosion decreases the productive capacity of cultivable land in the hills and, at the same time, increases river sedimentation levels downstream, contributing to floods and to early reservoir siltation. This reduces the life of dams and diminishes the quantity of water available for irrigation and hydro-power generation. Recent surveys of various major reservoirs have shown that the actual sedimentation rates were two to five times the rate assumed when the dams were designed.

Government Strategy

32. Since 1954, many measures to control floods have been recommended by various committees, but until recently neither the Central nor State Governments has given the matter the attention it deserved. Past works were confined mostly to embankments and engineering structures in the plains with limited preventive measures in the upper catchments of selected rivers. Annual outlays for flood control works averaged less

^{1/} The Himalayan range includes: the Shiwalik range, low foothills adjacent to the Gangetic Plain, with altitudes up to 1,000 meters above sea level (m.a.s.l.); the Hills, with altitudes to 2,500 m.a.s.l. in which agriculture is generally practiced; and the Himalayan alpine region.

than US\$90 million between 1974 and 1978, whereas annual damage to crops and property averaged US\$1,020 million during the same period.

33. In August 1978, northern India was hit by the worst floods in living memory. As a result, the Government of India (GOI) immediately appointed a Working Group to formulate an action plan for flood control in the Indo-Gangetic basin. It was envisaged that the plan should integrate engineering works downstream with soil conservation, reforestation and other watershed treatment measures upstream of the flood-prone rivers and their tributaries. The Working Group identified, in 1978, an action plan for 18 major catchments covering some 50 million ha in the Ganga basin. The plan proposed two separate but coordinated programs for five years: construction of downstream flood control engineering works costing some US\$1,230 million to protect about 5.5 million ha; and upstream watershed treatment works costing some US\$870 million to cover about 2.8 million ha. The total cost for five years, including a flood forecasting/warning system, was estimated at US\$2,160 million. GOI has earmarked about US\$112 million for upper watershed treatment and about US\$1,000 million for downstream engineering works in the Sixth Plan (1980-85).

34. The technical solutions to land use problems in the hills are fairly well known, but experience in large-scale implementation of the technical recommendations, particularly in involving local populations in such efforts, is very limited. Reforestation, reduction in livestock numbers and other rehabilitation measures undertaken in Sukhna catchment (in Punjab) have already reduced the sediment loads in streams by half and, when 100% vegetation cover is achieved, siltation is expected to be reduced further. Similar encouraging results have been achieved in the Bank-assisted Kandi Watershed and Area Development Project (Ln. 1897-IN) in Punjab and the Federal Republic of Germany-assisted Dhauladhar project in Himachal Pradesh. On the other hand, conservation schemes started during the Third Plan period (1961-66) in some 300 watersheds involving some 30 river valleys have not achieved satisfactory results because they lacked a well coordinated and integrated approach to planning and implementation of such schemes.

35. Resulting from the action plan prepared by the Working Group (para. 33), and in view of the experience gained in various smaller projects (para. 34), in June 1979 GOI selected areas for treatment in the Upper Ganga catchment, from where a number of important rivers in the State of Uttar Pradesh (UP) originate. GOI also decided that a first-phase project would focus on measures to rehabilitate a number of

subwatersheds/microwatersheds ^{1/} In two major watersheds of UP. The proposed project is based on this.

The Project Area

36. The proposed project would be located in the State of Uttar Pradesh (UP) in northern India. UP is bounded by the Himalayan range to the North and the Vindhyan hills to the South, with the Gangetic Plain covering the major portion of the State. The State gives rise to many rivers which finally drain into the Ganges. The climate ranges from moist tropical and sub-tropical in low valleys to temperate and alpine in the mountains. Except for the valleys, the soil depth is generally shallow and rocky outcrops are common, but the soils respond well to manure and chemical fertilizers.

37. The population of UP is 111 million (1981), including 4.1 million in hill districts. About 93% of the State's population is rural and depends for its livelihood on small and fragmented land holdings; about 70% of holdings are less than one hectare. Paddy is the main crop, grown in kharif (monsoon months), followed by wheat in rabi (winter months). In rainfed areas, millet is predominant. Crop yields are generally low. Most farmers rely on organic manures only and the quality of seed used is poor.

38. A wide range of subtropical and temperate fruits and vegetables is grown in the project area. Pears, figs and peaches grow wild in compact areas and in woodlands, and there is considerable scope for improving their yields by grafting. Almost every household maintains livestock, mainly for draught purposes and for production of manure. Cattle, buffaloes, goats and sheep are common throughout the project area. Milk yield of cows is poor, but a few improved varieties of cows, which yield substantially higher milk yields, have been introduced into the project area. Farmers are, however, reluctant to do away with unproductive and aged cattle due to religious beliefs. Only cattle in milk are fully stall-fed; others are allowed to wander freely by day. Buffaloes, on the other hand, are stall-fed as they cannot graze on the hilly terrain.

^{1/} Watershed implies a drainage area containing a few thousand or a few hundred thousand hectares from which water drains towards a single channel. It is a social and economic unit for development and conservation of water, soil, forests and related resources. A subwatershed is one of the components of a watershed, usually within the catchment of an independent tributary of the main drainage which forms a watershed. A microwatershed is the smallest planning and development unit within a subwatershed, usually within the catchment of a minor stream. In the project area, each watershed consists of one or more subwatersheds and each subwatershed consists of 3 to 20 microwatersheds (each commanding 1,000 to 5,000 ha).

39. Grazing occurs on privately-owned, village-owned and Government-owned lands. These pastures are under heavy stress given prevailing conditions of heavy grazing, and there is a deficit of 15-25% in the nutritional requirements for production and maintenance. Part of the deficiency in grassland production is made up by indiscriminate lopping of fodder trees usually located around the edges of croplands and along watercourses and in State forests.

Hill Development Organization

40. In UP, the Hill Area Development Department is responsible for coordination of all development works carried out by different line departments operating in hill areas. As a consequence, all budgetary allocations and staff appointments are coordinated and approved by the Secretary, Hill Area Development.

41. Agricultural research is the responsibility of the State's Govind Ballab Pant University of Agriculture and Technology. Research is carried out at various research stations, but the present work has little relevance to the problems of the area and there is little contact between research workers, farmers and the staff of the Agriculture Department. The University is now eligible for assistance under the IDA-supported National Agricultural Research Project (Cr. 855-IN). Agricultural extension is handled at the level of the Development Block through multipurpose Village Level Workers who have only limited time for providing agricultural advice to the farmers. Agricultural credit is provided by cooperatives and commercial banks. Short-term credit is available for purchase of agricultural inputs and medium-term loans for bunding, minor irrigation and purchase of bullocks. Long-term loans are available for horticultural development.

Bank Group Experience

42. The Kandi Watershed and Area Development Project (Ln. 1897-IN of September 1980) is the only previous project in which the Bank Group has been involved in soil conservation and watershed management in the Indian Himalayan region. Although much smaller in scope, this project has contributed significantly to our knowledge of controlling grazing by reducing the numbers of free-grazing cattle through a cattle exchange program 1/ and introduction of stall-feeding. The afforestation and soil conservation programs included in the Kandi Project are also progressing in line with the appraisal estimates. The flood control, irrigation and other engineering works included in the project are considerably behind schedule mainly due to delays in finalizing appropriate designs.

1/ Exchange of local cattle for buffaloes.

PART IV - THE PROJECT

Background

43. The project was prepared by the Government of India (GOI) and the Government of Uttar Pradesh (GOUP) with assistance from Bank staff. It was appraised in September/October 1982. Negotiations were held in Washington D.C. in April 1983 with an Indian delegation coordinated by Mr. I.R. Madan of the Department of Economic Affairs, GOI. The Staff Appraisal Report (No. 4317-IN), dated May 10, 1983, is being circulated to the Executive Directors separately. A Supplementary Project Data Sheet is attached as Annex III.

Project Objectives and Strategy

44. The principal objective of the project is to minimize the further deterioration of the Himalayan ecosystem caused by depletion of the forest cover, overgrazing, bad land use and badly designed roads, all of which have resulted in increasing soil erosion. Correction of these problems requires the support and participation of the local population. Therefore, the components selected for development under the proposed project are so designed that the great majority of the population living within the area selected for rehabilitation would perceive themselves as direct beneficiaries of project activities. This is particularly important in order to gain the acceptance and support of the inhabitants who could face initial hardship as a result of land closure (see para. 47) necessary for revegetation in the upper catchment areas. Some of the project benefits would be immediate (like cattle exchange program, para. 49) while others (like forest plantation, para. 47) would require long gestation periods. Besides addressing the problems of erosion, and in view of the low standard of living generally prevailing throughout the Himalayan region, the project includes efforts to improve agricultural productivity and enhance incomes and employment opportunities. To increase the possibility for replication of project proposals, greater emphasis is given to low-cost agricultural and silvicultural solutions rather than to expensive engineering works for conserving soil and reducing excess run-off from rainfall.

Project Features

45. The proposed seven-year project would develop two watersheds ^{1/} (consisting of 9 subwatersheds and 83 microwatersheds) covering 312,000 ha in the western Himalayas in the State of Uttar Pradesh. Plans for the development of one subwatershed have been prepared by the State Government and reviewed by the Bank appraisal mission; they would be implemented from the first project year. Development plans for the remaining eight

^{1/} For definitions of a 'watershed' and its divisions, see footnote on page 12.

subwatersheds would be prepared and implemented throughout the course of project life (see para. 55). As the start-up of development activities in subwatersheds would be phased over the first five years, those subwatershed projects, which would be started during the fourth and fifth project years would be completed by the State after this project period.

46. The project would focus on development of watersheds in the Himalayan foothills and the Shiwalik range, where the most serious denudation and soil erosion is taking place. The project activities would include forest and pasture development, soil conservation measures, livestock development, agricultural and horticultural development, minor irrigation, and research and training. Besides, the project would create and strengthen development institutions at the National, State and local levels in order to plan and implement watershed development schemes.

47. Forest and pasture development constitutes a key project component designed to minimize the process of denudation on erosion-prone areas and to meet the local requirement of fodder, fuelwood and timber. Prior to preparation of detailed plans for development, a baseline survey would be carried out to determine the areas to be closed for grazing and the type of afforestation to be carried out. As a general rule, up to 50% of the panchayat-1/ and government-owned land now open to unrestricted grazing would be closed over a five-year period. In deciding the treatment of the closed areas, first priority would be given to satisfying local needs for fodder and fuelwood. The main activities would include plantation of some 59,000 ha (for fuel and timber) and 27,800 ha for fodder on government- and panchayat-owned land, and 81,000 ha of fuelwood and fodder tree plantations on privately owned land and field boundaries.

48. In the upper catchment areas of the project, soil conservation measures would largely be confined to afforestation and restrictions on grazing through land closure. Where gully formation is threatening productive agricultural land, forest land, villages, small towns, buildings or roads, generally small anti-erosion structures would be constructed out of readily available local materials. Construction of improved soil conservation devices on agricultural land is constrained by the absence of data on water run-off and soil loss. To generate necessary data, the project would include a research component to assess: (a) run-off and soil loss from cultivated terraces; (b) cost of alternative measures to control erosion; (c) farmers' readiness to adapt new tillage practices; and (d) benefits from land shaping. Assuming that the research would be concluded by the end of the third year, a sum of Rs 30 million (US\$3.16 million) for land shaping of about 6,000 ha of terraced land with a low-cost approach has been included in the project. The land reshaping of terraces would be undertaken only after the outcome

1/ A 'panchayat' is a locally elected body representing the villagers from a number of adjacent villages.

of the proposed research has been agreed with the Bank (Section 2.08 of the Project Agreement).

49. Progressive closure of grazing areas would have the two-fold effect on livestock owners of making it necessary for them to pay greater attention to stall-feeding of animals and to dispose of old and unproductive animals. To encourage stall-feeding, to help in overall reduction in stock numbers, and to demonstrate the economic benefits of keeping only productive animals, the project would provide for a limited cattle exchange program -- two cattle for one improved buffalo--involving some 10,000 buffaloes. Because of religious belief cattle are not slaughtered. The cattle exchanged would, therefore, be sent to an existing cattle sanctuary. The Government of UP would prepare detailed rules for the cattle exchange programs, and only buffaloes would be used in cattle exchange (Section 2.09 of the Project Agreement). Other livestock development activities would include improvement to some 40 existing dispensaries, provision for natural breeding of buffaloes, and extension support to assist farmers in feeding and management of productive animals.

50. The agricultural development component of the project would include improvements to the extension services and introduction of a crop seed improvement program. The project area is not presently covered by an effective agricultural extension service capable of assisting farmers to adopt better farming practices. The project would provide such services through provision of motivators, equipment, operating expenses and training facilities. It would create a system of regular in-service training and fixed schedules of visits by the extension workers to farmers' fields. A seed improvement program would provide for seed exchange to overcome the problems presently constraining the wider use of improved varieties.

51. Horticultural development programs would include: (a) improvement of wild fruit groves; (b) development of private and community orchards; and (c) an increase in the number of nurseries to supply fruit tree seedlings to the project area. There are substantial numbers of fruit trees (mainly pears) growing wild in areas often located near villages, which would be improved by "top working" through grafting by improved varieties. About 3,900 ha of compact wild groves would be treated, and the panchayats would collect and market the produce from such orchards in accordance with prevailing practice. About 1,500 ha of privately-owned land, marginal or not suitable for cereal crops, would be converted into fruit orchards. The project would also provide for development of some ten additional nurseries throughout the project area to supply material for top working of trees and to provide farmers with fruit tree seedlings.

52. The area presently under irrigation would be increased by more effective utilization of perennial flows of water from small streams. This would be accomplished by lining of existing irrigation channels (about 125 small channels, some 250 km) and by construction of small water storage tanks (about 650) where possible. Water management for equitable

and timely distribution of water and maintenance of irrigation works would be the responsibility of water user groups. The project staff would assist in forming these groups and in training farmers in simple maintenance techniques and effective water utilization.

53. Research. A key issue in a pilot scale project of this type is that of clearly identifying which particular components of a watershed improvement program (e.g., soil conservation, restoration of vegetative cover in the hills, construction of check dams, careful road alignment and appropriate culvert design or reduction in livestock numbers and closure of certain areas to cultivation or grazing) have the most effective impact at the lowest possible cost. Another issue is to determine the extent to which improved upland catchment area land use could make a significant impact on downstream flooding and sedimentation when compared with the alternative of dam construction and improved irrigation and drainage in the foothills and plains. These issues are central to all watershed rehabilitation works in the Himalayas. The project would include provision for research and on-going evaluation through technical and economic studies which would examine the evidence already collected on this issue, not only from the project area, but also from other experimental catchment improvement programs in the Himalayas and overseas. Funds would be provided for incremental research staff, a small laboratory, staff quarters, equipment, transport and operational costs to carry out the program. Research work would be carried out in cooperation with research institutions satisfactory to the Bank. The State would prepare and furnish to the Bank, by September 30, 1983, an outline and work plan for project research activities (Section 2.10 of the Project Agreement).

54. The project would provide funds for training of farmers and project staff. Farmer training would cover the benefits of reforestation, soil conservation, fodder production and improved animal husbandry practices. Staff training would include in-service training of Forest Rangers, Foresters, and Forest Guards, and provision of special courses for Forest Officers, Rangers, and soil conservation staff on soil and water conservation practices to be adopted in project areas. These special courses would be held at the Central Soil Conservation Institute, Dehra Dun, and in-service training would be arranged in the project area. In addition, regular training of the agricultural extension workers would be provided by Subject Matter Specialists and research staff.

Preparation and Approval of Subwatershed Plans

55. Prior to project appraisal, one detailed subwatershed plan was prepared. This was found satisfactory. Subwatersheds to be taken up progressively over the project period would be identified and prepared by GOUP and would be submitted to the National Watershed Development Policy Committee (NWDPC, para. 56) for appraisal and approval. Based on this, NWDPC would release funds to the State Government for implementation. Comprehensive technical, economic and financial criteria have been established for preparation, appraisal and implementation of the remaining

subwatershed plans which would form the basis of future program under the project. Preparation, appraisal and implementation of subwatershed projects would be carried out in accordance with criteria agreed upon between GOI and the Bank (Section 3.06 of the Loan Agreement and Section 2.02 of the Project Agreement). All subwatershed projects appraised prior to the mid-term review of the project (para. 64) would be sent to the Bank for review and approval prior to sanction and release of any funds (Section 4.04 of the Loan Agreement). Thereafter copies of appraisal reports would be retained by NWDPC for review by the Bank in the course of project supervision.

Project Organization and Coordination 1/

56. Overall responsibility for coordination and execution of the project would be with the Ministry of Agriculture, GOI. For the purpose of the project, a National Watershed Development Policy Committee (NWDPC) has been created. The committee is chaired by the Secretary, Ministry of Agriculture and comprises the Agricultural Commissioner (GOI), Animal Husbandry Commissioner (GOI), Inspector General of Forests (GOI), a representative of the Ministry of Finance (GOI), Chief of the Agriculture Division of the Planning Commission (GOI), concerned Secretaries from the participating State and the Director of the Soil and Water Conservation Institution. A Watershed Development Commissioner of Joint Secretary rank would act as the member-secretary of the Committee. The Watershed Development Commissioner would be assisted by a Watershed Development Council (WDC) in the Ministry of Agriculture. By September 30, 1983, GOI would appoint a Watershed Development Commissioner and create adequate staff positions in the Council (Section 4.05 of the Loan Agreement). NWDPC would have the powers to approve or reject subwatershed projects and would have overall supervisory responsibility for implementation of the Project. This supervisory function would be carried out by WDC on a day to day basis.

57. The Watershed Development Council (WDC) would comprise specialists in Forestry, Soil Conservation, Agriculture, Economics and Sociology, and include research staff to coordinate the increased needs for applied and

1/ GOI has recently created a National Land Board and a National Land Resources Conservation and Development Commission to oversee national policy for management, conservation and development of land resources. The Board is headed by the Union Minister of Agriculture and is responsible for policy decisions, while the Commission is headed by a Member (Agriculture) of the Planning Commission and is responsible to formulate proposals for such policy decisions. The member-secretary of both of these agencies is the same Watershed Development Commissioner who would also act as the member-secretary of NWDPC. This should ensure coordination between all GOI agencies involved.

adaptive research. The regular staff would be supplemented by hiring of local consultants for appraisal and supervision of subprojects and for training of staff. WDC would be provided with administrative support staff and a monitoring unit. WDC would have the following functions:

- (a) Appraisal of the technical and economic feasibility of subwatershed plans to be prepared by GOUP and submission of these plans for approval of NWDPC;
- (b) Release of funds to GOUP for project implementation;
- (c) Assisting with implementation and monitoring of subwatershed projects by periodic progress reviews and by organizing training programs for State staff; and
- (d) Arranging for the interim evaluations of project actions so as to enable appropriate feedback to project management at all levels.

The WDC would make on-site supervision visits at least twice a year to each subwatershed project and would communicate the results to the Bank.

58. In UP, a State-level Steering Committee would be established and chaired by the Chief Secretary or delegated by him to the Secretary, Hill Area Development Department. The Committee would consist of the Secretary of Finance and heads of other relevant Departments, Deputy Commissioners from concerned districts and the Vice Chancellor of the agricultural university. It would be responsible for formal approval of subwatershed projects before presentation to GOI, for ensuring a coordinated approach to project implementation and adequate staff deployment, for reviewing progress of implementation, and for resolving problems of execution. A Project Coordinator, who has recently been appointed, working under the Hill Area Development Department, would be responsible for coordinating and implementing all project actions. He would also act as Member/Secretary of the Committee.

59. The Project Coordinator would be assisted by a State Watershed Management Cell, which would include specialists in forestry, soil conservation, agriculture, livestock development, forest economics, and sociology as well as relevant support staff. The Cell would have the following responsibilities:

- (a) Preparation of subwatershed/microwatershed development proposals with assistance from field staff;
- (b) Release of funds for project implementation;
- (c) Assisting and monitoring project implementation;
- (d) Assessing training requirements for staff locally and at national institutions; and
- (e) Coordinating research activities.

Project Implementation

60. A new Watershed Development Department has been formed under the Secretary, Hill Area Development Department. The Secretary, Hill Area Development is responsible for coordination of development activities of all Departments working in the Hill districts. Since each district could include a number of subwatershed areas, inter-departmental coordination at the district level would be ensured through a District Coordination Committee chaired by the District Commissioner and consisting of district heads of concerned departments and elected representatives of the District Panchayat. The Committee would coordinate project implementation with other ongoing development activities in the district.

61. Each subwatershed (10,000 to 60,000 ha) consists of 3 to 20 microwatersheds. A Subwatershed Management Unit would be set up in each subwatershed and would comprise a Project Manager with technical staff from concerned departments, assisted by clerical and accounting staff. This Unit would be responsible for project implementation, including preparation of annual plans of action and detailed work plans, execution of these plans and assisting in preparation of new projects for further subwatershed development. To ensure the involvement of local people in planning and implementation of project activities, a Management Committee would be set up in each microwatershed, chaired by the subwatershed Project Manager and consisting of local people, government officials and project staff. The Committee would agree on the annual plan of action and detailed work plan for each microwatershed, and would help project staff obtain the participation of the local population in project activities, especially closure of common grazing areas, establishment of plantations through communal effort, support for farm forestry programs, and execution of minor irrigation schemes.

Monitoring and Evaluation

62. An essential feature of the project would be the monitoring and evaluation of project progress and its impact. The project's monitoring system would generate data with which to measure output, effects and impact of project actions, thus providing guidance to those responsible for project implementation and permitting in-depth studies to permit a realistic assessment of longer-term effects brought about by the project.

63. The project would be monitored at three levels -- at the subwatershed, at the State, and at the GOI levels. At the subwatershed level, the Subwatershed Management Unit would prepare a baseline study and collect data on a continuous basis on various project inputs, project activities, and physical and financial achievements. At the State level, the State Watershed Management Cell would carry out a comparative examination of watershed performance within the State, identify any weaknesses and recommend necessary changes. At the GOI-level, the Watershed Development Council would perform functions similar to those performed at the State-level and, in addition, would be responsible for

coordinating the monitoring reports from the State and forwarding them to the Bank at regular intervals.

64. Two categories of project evaluation would be undertaken during the project period -- ongoing evaluation and a mid-term review. Ongoing evaluation would include: technical evaluation to examine success or failure of the technical package applied in project implementation; behavioral evaluation to examine people's response to and perceptions of project input delivery systems and institutions; and special studies to answer questions raised by the technical and behavioral evaluations and on subjects directly related to project design and performance. By September 30, 1983, GOI would identify competent institutions satisfactory to the Bank to carry out the the evaluations and special studies (Section 4.03 of the Loan Agreement). Given the innovative nature of the project, GOI would carry out jointly with the Bank a mid-term review of the project within the first quarter after the completion of the project's third year (Section 4.04 of the Loan Agreement). The exercise would re-assess the project concepts, design, allocation of funds, staffing patterns and the individual project components, and it could result in modifications to the project.

Marketing of Produce

65. Most of the incremental agricultural production resulting from the project would be consumed by the local population for subsistence. A fuelwood balance study in one subwatershed where detailed planning is completed shows that the fuelwood produced will satisfy local demand. Marginal amounts available for sale to neighboring areas would be sold through local traders. Increased milk production would be consumed in the project area. The increased horticultural production would be marketed through existing fruit marketing organizations.

Project Cost and Financing

66. Total project costs are estimated at US\$69.1 million equivalent, including taxes and duties of US\$3.1 million and foreign exchange costs of US\$0.8 million. The major cost components are: forest and fodder development (US\$23.4 million), livestock development (US\$6.2 million), soil conservation (US\$3.8 million), minor irrigation (US\$1.9 million), agriculture development (US\$0.8 million), horticulture (US\$1.8 million), project organization (US\$7.9 million), and research (US\$0.2 million). Physical contingencies (US\$1.1 million) have been applied at 10% of costs of soil conservation, minor irrigation and project administration. Price contingencies (US\$21.9 million) have been calculated based on assumptions of future local and foreign price movements (1983: 8.5%; 1984: 8%; 1985: 7.5%; 1986: 7% and 1987-89: 6%).

67. The proposed loan of US\$46.2 million would finance about 70% of total project costs, net of taxes and duties. The balance would be borne by the Government of India and the State Government. In order to ensure

an early start of the project activities, retroactive financing of up to US\$300,000 is proposed to cover expenditures incurred after April 1, 1983.

Procurement and Disbursement

68. Direct plantation works (US\$25.2 million), including nursery expenditure, pre-planting preparation, tree establishment, top working of fruit trees and orchard development, would be scattered over a wide area and would be carried out over different periods of time. Most of these activities, including land preparation, planting and maintenance of village woodlots and nurseries, would be done by the implementing departments with participation from village panchayats. Similarly, soil conservation (US\$3.8 million) and minor irrigation (US\$1.9 million) works, which would also be scattered and phased over the seven-year project period, would be carried out by force account of implementing agencies and with local participation. Purchase of buffaloes (US\$5.5 million) for the cattle exchange program would be carried out by the Animal Husbandry Department following State Government procedures which are satisfactory. Contracts for civil works (US\$1.9 million) would be small and widely dispersed in time and place and, therefore, would not be suitable for international bidding and would be let following local bidding procedures, advertised locally, or by force account and in accordance with established GOUP procedures that are satisfactory to the Bank. Vehicles and equipment (US\$0.6 million) would be purchased over the first few project years; as adequate maintenance and availability of spare parts would be of paramount importance, this would necessitate purchase of locally made vehicles and equipment already in use by government departments. Thus, procurement would be by local competitive bidding under existing government procedures which are acceptable to the Bank. The balance of the project costs (US\$30.2 million) would be staff salaries, training and operating costs (US\$7.1 million) and contingencies (US\$23.0 million) and front-end fee (US\$0.1 million).

69. Disbursement of the proceeds of the credit would be as follows: 100% of ex-factory and 75% of other local expenditures for vehicles and equipment; 100% of expenditures for research, and evaluation; 80% of expenditures for forest and horticulture planting; 70% of expenditures for civil works, soil conservation, cattle exchange, minor irrigation, and incremental operating costs for the State; and 30% of expenditures for the Central incremental staff and operating costs. Disbursements for all force account work, salaries, local training, civil works expenditures costing Rs 300,000 or less and other procurement involving expenditures costing Rs 150,000 or less each for vehicles and equipment would be made against statements of expenditure. These certificates of expenditure would be audited annually and the audit report would be submitted to the Bank. Supporting documentation for these expenditures would be retained by the State governments for inspection by Bank staff in the course of review missions. All other disbursement claims would be fully documented.

70. Cost Recovery. In UP, marginal farmers, small farmers, farmers belonging to Scheduled Castes and Tribes and others identified under the

Integrated Rural Development Program receive subsidies, ranging from 33-50%, for different development activities. The project would not introduce any new subsidy except for the provision of buffaloes in exchange for unproductive cows. This component is seen as playing an essential part in the process of changing the pattern of livestock husbandry and would not be possible without the subsidy. Given that hill areas are generally food-deficient, it has been State policy to fully subsidize minor irrigation development. As such, no cost recovery is proposed. Maintenance of irrigation works would, however, be done by beneficiaries. Horticulture loans are provided by credit institutions and as government Taccavi loan (provided by the State Government from budgetary sources) and would be recovered according to existing procedures. Loans for soil conservation (land levelling) are also provided by government budgetary sources and would also be recovered under existing procedures of the State.

Project Benefits and Risks

71. The major benefit of the project would be to spearhead a program designed to minimize deterioration of the Himalayan ecosystem caused by depletion of forest cover, overgrazing and bad land use, all of which result in continued erosion and reduction of productive capacity of the sub-Himalayan and Shiwalik areas and in exacerbated flooding in the Gangetic plains. The project would strengthen the planning and implementation capacity of the Central, State and local agencies and, at the same time, it would directly increase the production of fuelwood, timber, fodder, fruit, milk and other agricultural products valued at about US\$1.4 billion over the 20-year life of the project. During the same period the project would generate some 46 million man-days of employment. The overall economic rate of return of the project is estimated at 23%.

72. Because of its pilot nature, the project involves two major risks. First, there is a risk of inadequate participation by the local population which is vital for a successful program including land closure, stall-feeding of livestock, cattle exchange and forest plantation. This risk is minimized because of increasing awareness on the part of the local population of the deteriorating situation in which they live, the project extension work, the mechanism built in to involve people in planning and execution of project activities, and the implementation of a number of other activities directed towards increasing the income of the local inhabitants. Secondly, there is a risk of inadequate coordination among line agencies responsible for project planning and implementation. However, the safeguards incorporated in the project (para. 56) are expected to minimize this risk as well.

PART V - LEGAL INSTRUMENTS AND AUTHORITY

73. The draft Loan Agreement between India and the Bank, the draft Project Agreement between the Bank and the State of Uttar Pradesh, and the Report of the Committee provided for in Article III, Section 4(iii), of the Articles of Agreement of the Bank are being distributed to the Executive Directors separately.

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

75. Preparation by the State of Uttar Pradesh of detailed rules satisfactory to the Bank governing the cattle exchange program would be a condition of disbursement for expenditures under Part A(3) of the Project (Paragraph 4(b) of Schedule 1 to the draft Loan Agreement).

76. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Bank.

PART VI - RECOMMENDATION

77. I recommend that the Executive Directors approve the proposed loan.

A.W. Clausen
President

May 11, 1983

INDIA - SOCIAL INDICATORS DATA SHEET

AREA (THOUSAND SQ. KM.)	INDIA			REFERENCE GROUPS (WEIGHTED AVERAGES)		
	MOST RECENT			MOST RECENT ESTIMATE ^a		
	1960	/b	1970	LOW INCOME	MIDDLE INCOME	
TOTAL			ESTIMATE	/b	ASIA & PACIFIC	ASIA & PACIFIC
TOTAL	3287.6					
AGRICULTURAL	1818.2					
GNP PER CAPITA (US\$)	70.0		110.0	240.0	261.4	890.1
ENERGY CONSUMPTION PER CAPITA (KILOGRAMS OF COAL EQUIVALENT)	111.2		152.5	194.4	448.7	701.7
POPULATION AND VITAL STATISTICS						
POPULATION, MID-YEAR (THOUS.)	434850.0		547569.0	673207.0	.	.
URBAN POPULATION (PERCENT OF TOTAL)	17.9		19.7	22.3	17.3	32.4
POPULATION PROJECTIONS						
POPULATION IN YEAR 2000 (MILLIONS)				994.1	.	.
STATIONARY POPULATION (MILLIONS)				1694.4	.	.
YEAR STATIONARY POPULATION IS REACHED				2115	.	.
POPULATION DENSITY						
PER SQ. KM.	132.3		166.6	200.6	158.1	255.9
PER SQ. KM. AGRICULTURAL LAND	247.0		307.8	362.8	355.9	1748.0
POPULATION AGE STRUCTURE (PERCENT)						
0-14 YRS.	40.9		42.7	40.2	36.8	39.9
15-64 YRS.	54.5		54.2	56.8	59.7	56.8
65 YRS. AND ABOVE	4.6		3.1	3.0	3.5	3.3
POPULATION GROWTH RATE (PERCENT)						
TOTAL	1.8		2.3	2.1	2.0	2.3
URBAN	2.5		3.3	3.3	3.3	3.9
CRUDE BIRTH RATE (PER THOUSAND)	43.7		40.0	35.6	29.3	31.8
CRUDE DEATH RATE (PER THOUSAND)	21.8		16.7	13.6	11.0	9.8
GROSS REPRODUCTION RATE	2.9		2.7	2.4	2.0	2.0
FAMILY PLANNING						
ACCEPTORS, ANNUAL (THOUSANDS)	64.0		3782.0	5619.0	.	.
USERS (PERCENT OF MARRIED WOMEN)	..		12.0	22.6	19.3	36.3
FOOD AND NUTRITION						
INDEX OF FOOD PRODUCTION						
PER CAPITA (1969-71=100)	98.0		102.0	99.0	108.1	115.6
PER CAPITA SUPPLY OF						
CALORIES (PERCENT OF REQUIREMENTS)	95.6		90.4	88.8/c	97.3	106.4
PROTEINS (GRAMS PER DAY)	53.6		49.7	48.4/c	56.9	54.4
OF WHICH ANIMAL AND PULSE	17.2		14.8	13.1/c	20.0	13.9
CHILD (AGES 1-4) MORTALITY RATE	26.2		20.7	17.4	10.9	6.7
HEALTH						
LIFE EXPECTANCY AT BIRTH (YEARS)	43.2		48.1	51.8	57.8	59.8
INFANT MORTALITY RATE (PER THOUSAND)	165.0		139.0	123.4	89.1	63.7
ACCESS TO SAFE WATER (PERCENT OF POPULATION)						
TOTAL	..		17.0	33.0	32.9	32.0
URBAN	..		60.0	83.0	70.7	51.9
RURAL	..		6.0	20.0	22.2	20.5
ACCESS TO EXCRETA DISPOSAL (PERCENT OF POPULATION)						
TOTAL	..		18.0	20.0	18.1	37.7
URBAN	..		85.0	87.0	72.7	65.7
RURAL	..		1.0	2.0	4.7	24.0
POPULATION PER PHYSICIAN	4850.4		4889.0	3630.6	3297.8	8540.4
POPULATION PER NURSING PERSON	10975.3/d		8296.5	5696.1	4929.3	4829.4
POPULATION PER HOSPITAL BED						
TOTAL	2178.7		1612.9	1311.0/e	1100.4	1047.5
URBAN	..		..	362.3/e	301.3	651.6
RURAL	..		..	10432.8/e	5815.7	2597.6
ADMISSIONS PER HOSPITAL BED	..		..	..	..	27.0
HOUSING						
AVERAGE SIZE OF HOUSEHOLD						
TOTAL	5.2		5.6	5.2	..	..
URBAN	5.2		5.6	4.8	..	..
RURAL	5.2		5.6	5.3	..	..
AVERAGE NUMBER OF PERSONS PER ROOM						
TOTAL	2.6		2.8	..	..	..
URBAN	2.6		2.8	..	..	..
RURAL	2.6		2.8	..	..	..
ACCESS TO ELECTRICITY (PERCENT OF DWELLINGS)						
TOTAL	..		..	..	..	..
URBAN	..		..	..	..	..
RURAL	..		..	..	..	..

INDIA - SOCIAL INDICATORS DATA SHEET

	INDIA			REFERENCE GROUPS (WEIGHTED AVERAGES - MOST RECENT ESTIMATE) ^{/a}	
	1960 /b	1970 /b	MOST RECENT ESTIMATE /b	LOW INCOME ASIA & PACIFIC	MIDDLE INCOME ASIA & PACIFIC
EDUCATION					
ADJUSTED ENROLLMENT RATIOS					
PRIMARY: TOTAL	61.0	73.0	78.0/c	97.4	96.2
MALE	80.0	90.0	92.0/c	101.0	99.8
FEMALE	40.0	56.0	63.0/c	87.8	92.1
SECONDARY: TOTAL	20.0	26.0	27.0/c	53.0	37.6
MALE	30.0	36.0	36.0/c	63.8	41.1
FEMALE	10.0	15.0	17.0/c	41.3	34.1
VOCATIONAL ENROL. (% OF SECONDARY)	8.0	1.0	0.7/f	1.7	20.8
PUPIL-TEACHER RATIO					
PRIMARY	46.1	41.5	51.8/c	37.7	35.5
SECONDARY	16.0	20.9	..	20.2	25.0
ADULT LITERACY RATE (PERCENT)	28.0	33.4	36.0	52.1	73.1
CONSUMPTION					
PASSENGER CARS PER THOUSAND POPULATION					
	0.6	1.1	1.3/c	1.5	9.8
RADIO RECEIVERS PER THOUSAND POPULATION					
	4.9	21.5	33.6	35.4	116.5
TV RECEIVERS PER THOUSAND POPULATION					
	0.0	0.0	1.0	3.2	37.6
NEWSPAPER ("DAILY GENERAL INTEREST") CIRCULATION PER THOUSAND POPULATION					
	10.6	16.0	19.8	16.4	53.7
CINEMA ANNUAL ATTENDANCE PER CAPITA					
	4.1	4.1	3.7	3.6	2.8
LABOR FORCE					
TOTAL LABOR FORCE (THOUSANDS)					
	185951.1	219194.2	264204.4	.	.
FEMALE (PERCENT)					
	30.7	32.5	31.8	29.5	33.6
AGRICULTURE (PERCENT)					
	74.0	74.0	69.3	70.0	52.2
INDUSTRY (PERCENT)					
	11.0	11.0	13.2	15.0	17.9
PARTICIPATION RATE (PERCENT)					
TOTAL	42.8	40.0	39.2	40.0	38.5
MALE	57.0	52.4	51.8	51.8	50.5
FEMALE	27.3	26.9	25.9	23.8	26.6
ECONOMIC DEPENDENCY RATIO	1.1	1.1	1.1	1.0	1.1
INCOME DISTRIBUTION					
PERCENT OF PRIVATE INCOME RECEIVED BY					
HIGHEST 5 PERCENT OF HOUSEHOLDS	26.7	26.3/g	22.2/f	..	..
HIGHEST 20 PERCENT OF HOUSEHOLDS	51.7	48.9/g	49.4/f	..	..
LOWEST 20 PERCENT OF HOUSEHOLDS	4.1	6.7/g	7.0/f	..	..
LOWEST 40 PERCENT OF HOUSEHOLDS	13.6	17.2/g	16.2/f	..	..
POVERTY TARGET GROUPS					
ESTIMATED ABSOLUTE POVERTY INCOME LEVEL (US\$ PER CAPITA)					
URBAN	..	..	132.0	133.8	194.7
RURAL	..	..	114.0	111.1	155.1
ESTIMATED RELATIVE POVERTY INCOME LEVEL (US\$ PER CAPITA)					
URBAN	..	..	..	..	178.2
RURAL	..	..	..	..	164.9
ESTIMATED POPULATION BELOW ABSOLUTE POVERTY INCOME LEVEL (PERCENT)					
URBAN	..	..	40.3	43.8	24.4
RURAL	..	..	50.7	51.7	41.1

.. Not available
 . Not applicable.

NOTES

/a 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.

/b 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 1978 and 1980.

/c 1977; /d 1962; /e 1976; /f 1975; /g 1964-65.

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 "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 majority 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.

AREA (thousand sq.km.)

Total - Total surface area comprising land area and inland waters; 1979 data.
Agricultural - Land area of agricultural area used temporarily or permanently for crops, pastures, market and kitchen gardens or to lie fallow; 1979 data.

GNP PER CAPITA (US\$) - GNP per capita estimates at current market prices, calculated by same conversion method as World Bank Atlas (1978-80 basis); 1960, 1970, and 1980 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 1979 data.

POPULATION AND VITAL STATISTICS

Total Population, Mid-Year (thousands) - As of July 1; 1960, 1970, and 1980 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 1980 data.

Population Projections

Population in year 2000 - Current population projections are based on 1960 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 will be reached.

Population Density

Per sq. km. - Mid-year population per square kilometer (100 hectares) of total area; 1960, 1970 and 1979 data.
Per sq. km. agricultural land - Computed as above for agricultural land only; 1960, 1970 and 1979 data.

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 1980 data.

Population Growth Rate (percent) - total - Annual growth rates of total mid-year population for 1950-60, 1960-70, and 1970-80.

Population Growth Rate (percent) - urban - Annual growth rates of urban populations for 1950-60, 1960-70, and 1970-80.

Crude Birth Rate (per thousand) - Annual live births per thousand of mid-year population; 1960, 1970, and 1980 data.

Crude Death Rate (per thousand) - Annual deaths per thousand of mid-year population; 1960, 1970, and 1980 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 1980.

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=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 1980 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 weights, 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 allowances 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) Death 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 1980 data.

HEALTH

Life Expectancy at Birth (years) - Average number of years of life remaining at birth; 1960, 1970 and 1980 data.

Infant Mortality Rate (per thousand) - Annual deaths of infants under one year of age per thousand live births; 1960, 1970 and 1980 data.

Access to Safe Water (percent of population) - total, urban, and rural - 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 practising physicians qualified from a medical school at university level.

Population per Nursing Person - Population divided by number of practising male and female graduate nurses, assistant nurses, practical nurses and nursing auxiliaries.

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's principal general hospitals, and rural hospitals, local or rural hospitals and medical and maternity centers. Specialized hospitals are included only under total.
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 households, students, etc., covering population of all ages. Definitions in various countries are not comparable; 1960, 1970 and 1980 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 1980 data.

Industry (percent) - Labor force in mining, construction, manufacturing and electricity, water and gas as percentage of total labor force;

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 1980 data. These are based on 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

The following estimates are very approximate measures of poverty levels, and should be interpreted with considerable caution.

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

GNP PER CAPITA IN 1981 US\$250 ^{a/}

	GROSS NATIONAL PRODUCT IN 1981/82 ^{b/}		ANNUAL RATE OF GROWTH (% constant prices) ^{c/}			
	US\$ Bln.	%	1955/56-1959/60	1960/61-1964/65	1965/66-1969/70	1970/71-1974/75
GNP at Market Prices	165.38	100.0	3.7	3.6	3.6	2.9
Gross Domestic Investment	41.74	25.2				
Gross National Saving	37.66	22.8				
Current Account Balance	-4.08	-2.4				

OUTPUT, LABOR FORCE AND PRODUCTIVITY IN 1978

	Value Added (at factor cost)		Labor Force ^{i/}		V.A. Per Worker	
	US\$ Bln.	%	Mill.	%	US\$	% of National Average
Agriculture	39.8	39.6	180.6	70.7	220	56
Industry	25.2	25.1	32.2	12.6	783	199
Services	35.5	35.3	42.6	16.7	833	211
Total/Average	100.5	100.0	255.4	100.0	394	100

GOVERNMENT FINANCE

	General Government ^{e/}			Central Government		
	Rs. Bln.	% of GDP		Rs. Bln.	% of GDP	
	1981/82	1981/82	1977/78-1981/82	1981/82	1981/82	1977/78-1981/82
Current Receipts	285.77	19.4	19.1	149.28	10.1	10.4
Current Expenditures	280.34	19.0	18.2	155.02	10.5	10.6
Current Surplus/Deficit	5.43	0.4	0.9	-5.75	-0.4	-0.2
Capital Expenditures ^{f/}	116.91	7.9	7.8	83.66	5.7	5.5
External Assistance (net) ^{d/}	16.45	1.1	1.0			

	MONEY, CREDIT AND PRICES								February 1982	February 1983
	1970/71	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82		
	(Rs Billion outstanding at end of period)									
Money and Quasi Money	110.2	224.8	277.8	329.1	401.1	472.3	554.5	625.5	615.5	711.7
Bank Credit to Government (net)	54.6	69.2	77.6	76.4	94.2	124.1	164.4	204.4	292.2	353.5
Bank Credit to Commercial Sector	65.2	156.2	188.5	212.2	255.3	310.1	362.8	430.4	422.2	487.7
	(percentage or Index Numbers)								April-Feb 1981/82	April-Feb 1982/83
Money and Quasi Money as % of GDP	27.4	30.3	34.6	36.5	41.2	44.1	43.3	42.5		
Wholesale Price Index (1970/71 = 100)	100.0	173.0	176.6	185.8	185.8	217.6	257.3	281.3	281.7	287.3
Annual percentage changes in:										
Wholesale Price Index	7.7	-1.1	2.1	5.2	-	17.1	18.2	9.3	10.0	2.0
Bank Credit to Government (net)	15.0	6.3	11.1	16.3	16.0	25.6	29.6	19.1	22.7 ^{g/}	21.0
Bank Credit to Commercial Sector	20.5	22.7	20.7	12.6	20.3	21.5	17.0	18.7	20.9 ^{g/}	15.5 ^{h/}

^{a/} The per capita GNP estimate is at market prices, using World Bank Atlas methodology, base period 1979-1981.

All other conversions to dollars in this table are at the average exchange rate prevailing during the period covered.

^{b/} Quick Estimates, Central Statistical Organization.^{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 of net disbursement; 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.^{g/} Percentage change from end-March 1981 to end-February 1982.^{h/} Percentage change from end-March 1982 to end-February 1983.^{i/} Total Labor Force and percentage breakdown from Sixth Five Year Plan, Table 2.6 and Annexure Table 13.8.

BALANCE OF PAYMENTS (US\$ Min.)	1979/80	1980/81	1981/82 ^{j/}	1982/83 ^{j/}
Exports of Goods ^{q/}	7,948	8,504	8,511	8,800
Imports of Goods ^{q/}	-11,383	-16,119	-15,253	-14,801
Trade Balance	-3,435	-7,615	-6,742	-6,001
NFS (net)	1,042	1,365	1,120	1,088
<u>Resource Balance</u>	-2,393	-6,250	-5,622	-4,913
Interest Income (net) ^{k/}	287	600	212	-128
Net Transfers ^{l/}	1,852	2,771	1,577	1,668
<u>Balance on Current Account</u>	-254	-2,879	-3,833	-3,373
Official Aid				
Gross Disbursements	1,218	1,629	1,821	1,933
Amortization	1,894	2,338	2,475	2,569
Transactions with IMF	-	1,035	690	1,980
All Other Items ^{o/}	-740	-130	-1,075	-358
Increase in Reserves (-)	-224	345	2,397	-182
Gross Reserves (end year) ^{p/}	7,204	6,859	4,462	4,644
Net Reserves (end year) ^{m/}	7,204	6,532	3,498	1,703
<u>Fuel and Related Materials</u>				
Imports (Petroleum) ^{q/}	4,046	6,657	5,570	4,686

RATE OF EXCHANGE

June 1966 to mid-December 1971 :	US\$1.00 = Rs 7.50 Rs 1.00 = US\$0.13333
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 1981 :	US\$1.00 = Rs 9.099 Rs 1.00 = US\$0.110
Spot Rate end-December 1982 :	US\$1.00 = Rs 9.634 Rs 1.00 = US\$0.104

MERCHANDISE EXPORTS (AVERAGE 1978/79-1981/82) ^{q/}	US\$ Min.	%
Engineering Goods	901	11
Tea	457	6
Gems	759	10
Clothing	556	7
Leather & Leather Products	470	6
Jute Manufactures	279	4
Iron Ore	352	4
Cotton Textiles	319	4
Sugar	104	1
Others	3,789	47
<u>Total</u>	<u>7,986</u>	<u>100</u>

EXTERNAL DEBT, MARCH 31, 1982

	US\$ billion
Outstanding and Disbursed	18.3
Undisbursed	8.5
Outstanding, including Undisbursed	26.8

DEBT SERVICE RATIO FOR 1981/82 ^{j/} ^{n/} 8.9 per cent

IBRD/IDA LENDING, as of February 28, 1983

	US\$ million	
	IBRD	IDA
Outstanding and Disbursed	1,357	6,688
Undisbursed	1,896	4,270
Outstanding including Undisbursed	3,253	10,958

Spot Rate end-March 1983: US\$1.00 = Rs 10.03
Rs 1.00 = US\$0.0997

^{j/} Estimated.

^{k/} Figures given cover all investment income (net). Major payments are interest on foreign loans and charges paid to IMF, and major receipts is interest earned on foreign assets.

^{l/} Figures given include workers' remittances but exclude official grant assistance which is included within official aid disbursements.

^{m/} Excludes net use of IMF credit.

^{n/} Amortization and interest payments on foreign loans as a percentage of exports of goods and services, and current transfers.

^{o/} Includes commercial borrowing.

^{p/} Excluding gold.

^{q/} Net of crude petroleum exports.

THE STATUS OF BANK GROUP OPERATIONS IN INDIA

A. STATEMENT OF BANK LOANS AND IDA CREDITS
(As of March 31, 1983)

Loan or Credit No.	Fiscal Year of Approval	Purpose	US\$ million (Net of Cancellations)		
			Bank	IDA 1/	Undisbursed 2/
46 Loans/ 76 Credits fully disbursed			1,568.0	-	-
			-	4,364.4	-
482-IN	1974	Karnataka Dairy	-	30.0	11.87
502-IN	1975	Rajasthan Canal CAD	-	83.0	13.99
521-IN	1975	Rajasthan Dairy	-	27.7	6.84
522-IN	1975	Madhya Pradesh Dairy	-	16.4	0.31
585-IN	1976	Uttar Pradesh Water Supply	-	40.0	8.55
598-IN	1976	Fertilizer Industry	-	105.0	3.59
604-IN	1976	Power Transmission IV	-	150.0	10.17
609-IN	1976	Madhya Pradesh Forestry T.A.	-	4.0	0.98
610-IN	1976	Integrated Cotton Development	-	18.0	5.02
1251-IN	1976	Andhra Pradesh Irrigation	145.0	-	52.44
1260-IN	1976	IDBI II	40.0	-	1.31
1273-IN	1976	National Seeds I	25.0	-	17.08
1313-IN	1977	Telecommunications VI	80.0	-	3.68
1335-IN	1977	Bombay Urban Transport	25.0	-	5.69
680-IN	1977	Kerala Agric. Development	-	30.0	14.82
682-IN	1977	Orissa Agric. Development	-	20.0	4.01
685-IN	1977	Singrauli Thermal Power	-	150.0	9.62
690-IN	1977	West Bengal Agricultural Extension & Research	-	12.0	11.60
1394-IN	1977	Gujarat Fisheries	14.0	-	4.68
712-IN	1977	M.P. Agric. Development	-	10.0	1.57
720-IN	1977	Periyar Vaigai Irrigation	-	23.0	10.40
728-IN	1977	Assam Agricultural Development	-	8.0	4.81
736-IN	1978	Maharashtra Irrigation	-	70.0	6.34
737-IN	1978	Rajasthan Agric. Extension	-	13.0	1.37
740-IN	1978	Orissa Irrigation	-	58.0	0.24
1475-IN	1978	Industry DFC XII	78.5	-	3.86
747-IN	1978	Second Foodgrain Storage	-	107.0	64.61
756-IN	1978	Calcutta Urban Development II	-	87.0	8.30
761-IN	1978	Bihar Agric. Extension & Research	-	8.0	6.19

Loan or Credit No.	Fiscal Year of Approval	Purpose	US\$ million (Net of Cancellations)		
			Bank	IDA 1/	Undisbursed 2/
1511-IN	1978	IDBI Joint/Public Sector	25.0	-	4.66
1549-IN	1978	Third Trombay Thermal Power	105.0	-	16.68
788-IN	1978	Karnataka Irrigation	-	117.6	57.00
793-IN	1978	Korba Thermal Power	-	200.0	49.63
806-IN	1978	Jammu-Kashmir Horticulture	-	14.0	11.56
808-IN	1978	Gujarat Irrigation	-	85.0	29.91
815-IN	1978	Andhra Pradesh Fisheries	-	17.5	10.53
816-IN	1978	National Seeds II	-	16.0	10.55
1592-IN	1978	Telecommunications VII	120.0	-	28.48
824-IN	1978	National Dairy	-	150.0	87.61
842-IN	1979	Bombay Water Supply II	-	196.0	170.17
843-IN	1979	Haryana Irrigation	-	111.0	0.10
844-IN	1979	Railway Modernization & Maintenance	-	190.0	63.60
848-IN	1979	Punjab Water Supply & Sewerage	-	38.0	9.88
855-IN	1979	National Agricultural Research	-	27.0	20.30
862-IN	1979	Composite Agricultural Extension	-	25.0	9.45
871-IN	1979	National Cooperative Development Corporation	-	30.0	6.07
1648-IN	1979	Ramagundam Thermal Power	50.0	-	50.00
874-IN	1979	Ramagundam Thermal Power	-	200.0	52.90
889-IN	1979	Punjab Irrigation	-	129.0	68.92
899-IN	1979	Maharashtra Water Supply	-	48.0	17.49
911-IN	1979	Rural Electrification Corp. II	-	175.0	26.76
925-IN	1979	Uttar Pradesh Social Forestry	-	23.0	9.77
954-IN	1980	Maharashtra Irrigation II	-	210.0	99.51
961-IN	1980	Gujarat Community Forestry	-	37.0	18.45
963-IN	1980	Inland Fisheries	-	20.0	18.29
981-IN	1980	Population II	-	46.0	39.48
1003-IN	1980	Tamil Nadu Nutrition	-	32.0	25.95
1004-IN	1980	U.P. Tubewells	-	18.0	3.75
1011-IN	1980	Gujarat Irrigation II	-	175.0	132.77
1012-IN	1980	Cashewnut	-	22.0	18.95
1027-IN	1980	Singrauli Thermal II	-	300.0	221.29
1028-IN	1980	Kerala Agricultural Extension	-	10.0	8.99
1033-IN	1980	Calcutta Urban Transport	-	56.0	30.35
1034-IN	1980	Karnataka Sericulture	-	54.0	44.68
1046-IN	1980	Rajasthan Water Supply and Sewerage	-	80.0	64.42
1843-IN	1980	Industry DFC XIII	100.0	-	15.29

Loan or Credit No.	Fiscal Year of Approval	Purpose	US\$ million (Net of Cancellations)		
			Bank	IDA 1/	Undisbursed 2/
1887-IN	1980	Farakka Thermal Power	25.0	-	25.00
1053-IN	1980	Farakka Thermal Power	-	225.0	179.32
1897-IN	1981	Kandi Watershed and Area Development	30.0	-	25.30
1925-IN	1981	Bombay High Offshore Development	400.0	-	42.02
1072-IN	1981	Bihar Rural Roads	-	35.0	28.17
1078-IN	1981	Mahanadi Barrages	-	83.0	77.59
1082-IN	1981	Madras Urban Development II	-	42.0	29.88
1108-IN	1981	M.P. Medium Irrigation	-	140.0	132.36
1112-IN	1981	Telecommunications VIII	-	314.0	210.79
1116-IN	1981	Karnataka Tank Irrigation	-	54.0	53.85
1125-IN	1981	Hazira Fertilizer Project	-	400.0	344.72
1135-IN	1981	Maharashtra Agricultural Ext.	-	23.0	21.75
1137-IN	1981	Tamil Nadu Agricultural Ext.	-	28.0	25.25
1138-IN	1981	M.P. Agricultural Ext. II	-	37.0	36.27
1146-IN	1981	National Cooperative Development Corp. II	-	125.0	109.46
1172-IN	1982	Korba Thermal Power Project II	-	400.0	366.87
1177-IN	1982	Madhya Pradesh Major Irrigation	-	220.0	206.58
2050-IN	1982	Tamil Nadu Newsprint	100.0	-	81.29
1178-IN	1982	West Bengal Social Forestry	-	29.0	26.86
1185-IN	1982	Kanpur Urban Development	-	25.0	23.37
2051-IN	1982	ICICI XIV	150.0	-	124.82
2076-IN	1982	Ramagundam Thermal Power II	300.0	-	300.00
2095-IN	1982	ARDC IV	190.0	-	190.00
1209-IN	1982	ARDC IV	-	160.0	23.34
1219-IN	1982	Andhra Pradesh Agricultural Extension	-	6.0	5.80
2123-IN	1982	Refineries Rationalization	200.0	-	181.91
2165-IN	1982	Rural Electrification III	304.5	-	300.00
2186-IN	1982	Kallada Irrigation	20.3	-	20.00
1269-IN	1982	Kallada Irrigation	-	60.0	48.41
1280-IN	1983	Gujarat Water Supply	-	72.0	71.45
1286-IN	1983	Jammu/Kashmir and Haryana Social Forestry	-	-	-
1288-IN	1983	Chambal Madhya Pradesh Irrigation II	-	33.0	31.70
1289-IN	1983	Subernarekha Irrigation	-	31.0	31.00
2205-IN	1983	Krishna-Godavari Exploration	165.5	127.0	123.26
2210-IN	1983	Railways Modernization & Maintenance II	200.0	-	163.05
1299-IN	1983	Railways Modernization & Maintenance II	200.0	-	197.04
			-	200.0	200.00

Loan or Credit No.	Fiscal Year of Approval	Purpose	US\$ million (Net of Cancellations)		
			Bank	IDA 1/	Undisbursed 2/
2241-IN	1983	South Bassein Gas Development*	222.3	-	222.30
1319-IN	1983	Haryana Irrigation II*	-	150.0	150.00
1332-IN	1983	U.P. Public Tubewells II*	-	101.0	101.00
Total			4,783.1	11,446.6	
of which has been repaid			1,211.8	120.4	
Total now outstanding			3,571.3	11,326.2	
Amount Sold					133.8
of which has been repaid					133.8
Total now held by Bank and IDA 3/			3,571.3	11,326.2	
Total undisbursed (excluding *)			1,854.3	4,052.3	

1/ IDA Credit amounts for SDR-denominated Credits are expressed in terms of their US dollar equivalents, as established at the time of Credit negotiations and as subsequently presented to the Board.

2/ Undisbursed amounts for SDR-denominated IDA Credits are derived from cumulative disbursements converted to their US dollar equivalents on the basis of the SDR/US dollar exchange rate (1 SDR = US\$1.07867) in effect on March 31, 1983.

3/ Prior to exchange adjustment.

* Not yet effective.

B. STATEMENT OF IFC INVESTMENTS
(As of March 31, 1983)

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	1.2	8.7
1981	Coromandel Fertilizers Limited	15.9	-	15.9
1981	Tata Iron and Steel Company Ltd.	38.0	-	38.0
1981	Mahindra, Mahindra Limited	15.0	-	15.0
1981	Nagarjuna Coated Tubes Ltd.	2.9	0.3	3.2
1981	Nagarjuna Signode Limited	2.3	-	2.3
1981	Nagarjuna Steels Limited	1.5	0.2	1.7
1982	Ashok Leyland Limited	28.0	-	28.0
1982	The Bombay Dyeing and Manufacturing Co. Ltd.	18.8	-	18.8
1982	Bharat Forge Company Ltd.	16.3	-	16.3
1982	The Indian Rayon Corp. Ltd.	8.5	-	8.5
	TOTAL GROSS COMMITMENTS	208.3	12.1	220.4
	Less: Sold	53.0	3.2	56.2
	Repaid	28.3	-	28.3
	Cancelled	15.9	1.4	17.3
	Now Held	111.1	7.5	118.6
		=====	===	=====
	Undisbursed	93.1	0.2	93.3
		=====	===	=====

C. PROJECTS IN EXECUTION 1/
(As of March 31, 1983)

Generally, the implementation of projects has been proceeding reasonably well. Brief notes on the execution of individual projects are below. The level of disbursements was US\$1,245 million in FY82, compared to US\$962 million in the previous year. Disbursements in the current fiscal year through March 31, 1983 total US\$1,008 million, representing an increase of about 17% over the same period last year. The undisbursed pipeline as of March 31, 1983, is US\$5,907 million.

Ln. No. 1475 Twelfth Industrial Credit and Investment Corporation of India Project; US\$80 million loan of July 22, 1977; Effective Date: October 4, 1977; Closing Date: September 30, 1983

Ln. No. 1843 Thirteenth Industrial Credit and Investment Corporation of India Project; US\$100 million loan of May 16, 1980; Effective Date: June 27, 1980; Closing Date: December 31, 1985

Ln. No. 2051 Fourteenth Industrial Credit and Investment Corporation of India Project; US\$150 million loan of October 8, 1981; Effective Date: December 3, 1981; Closing Date: March 31, 1988

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, often in the high technology fields and are also mostly export-oriented. Disbursements are on schedule for the twelfth loan and ahead of schedule for the thirteenth and fourteenth loans.

Ln. No. 1260 Second Industrial Development Bank of India Project; US\$40 million loan of June 10, 1976; Effective Date: August 10, 1976; Closing Date: March 31, 1983

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.

Ln. No. 1511 IDBI Joint/Public Sector Project; US\$25 million loan of March 1, 1978; Effective Date: May 31, 1978; Closing Date: March 31, 1983

Loan 1260 has been completed and was closed on March 31, 1983. Disbursements are expected to be completed by the end of April 1983.

Loan 1511 is nearly complete and was also scheduled to close on March 31, 1983. Although project implementation has been satisfactory, a small number of sub-projects remain unfinished. Following a detailed review of the project by a Bank mission in April, a short extension of the closing date will be made to allow completion of these sub-projects and full disbursement of the loan proceeds.

Ln. No. 2050 Tamil Nadu Newsprint Project; US\$100 million loan of September 23, 1981; Effective Date: March 22, 1982; Closing Date: August 31, 1985

Project progress is good. Land acquisition has been completed and construction began in July 1982. Basic engineering work was completed on schedule at the end of August. Procurement is proceeding as planned.

Cr. No. 598 Fertilizer Industry Project; US\$105 million credit of December 31, 1975; Effective Date: March 1, 1976; Closing Date: December 31, 1982

Cr. No. 1125 Hazira Fertilizer Project; US\$400 million credit of October 28, 1981; Effective Date: January 21, 1982; Closing Date: June 30, 1986

Following completion of 37 fertilizer sub-projects, Credit 598 was closed on December 31, 1982. Disbursements are expected to be completed by the end of April 1983. About US\$3 million in the credit account are expected to be cancelled.

Credit 1125 is proceeding generally satisfactorily. Procurement of all critical items is on schedule. The need to undertake unexpected piling and foundation work identified by detailed soil surveys delayed somewhat the start of major civil works. This has now been completed, and erection of the ammonia and urea plants is scheduled to begin in April-May 1983.

Ln. No. 2123 Refineries Rationalization Project; US\$200 million loan of May 5, 1982; Effective Date: June 29, 1982; Closing Date: September 30, 1986

Project implementation is satisfactory. The conversion component is making very good progress, with construction about to commence. Preparation work and investment approvals for the energy efficiency and pollution control components are underway.

Ln. No. 1925 Second Bombay High Offshore Development Project; US\$400 million loan of December 11, 1980; Effective Date: February 24, 1981; Closing Date: March 31, 1984

Ln. No. 2205 Krishna-Godavari Exploration Project; US\$165.5 million loan of November 9, 1982; Effective Date: February 28, 1983; Closing Date: March 31, 1986

Ln. No. 2241 South Bassein Offshore Gas Development Project; US\$222.3 million loan of March 31, 1983; Effective Date: Expected June 1983; Closing Date: December 31, 1985.

The Bombay High Project is progressing well. All platforms and subsea pipelines have been installed essentially on schedule. ONGC reached its targetted production level of 240,000 Bbl/day in May 1982, and is presently producing 250,000 Bbl/day, 44% of which comes from project wells.

Initial activities under the Krishna-Godavari Project are about four months behind schedule due to longer than anticipated testing and completion time for on-shore wells, lack of adequate number of geophysicists for processing the seismic data, and delay in initiating procurement actions. These problems have been discussed in depth with ONGC, and they are in the process of undertaking steps to correct the situation.

The South Bassein Gas Project is designed to assist India to increase her gas production capability through the installation of offshore platforms for drilling, processing, and gas flaring, and the laying of a subsea pipeline to Gujarat State and the fertilizer plant at Hazira. Initial procurement activities are underway.

Cr. No. 604 Power Transmission IV Project; US\$150 million credit of January 22, 1976; Effective Date: October 22, 1976; Closing Date: June 30, 1983

Cr. No. 685 Singrauli Thermal Power Project; US\$150 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 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 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 million loan and
Cr. No. 874 US\$200 million credit of February 2, 1979; Effective Date: May 22, 1979; Closing Date: December 31, 1985

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
Cr. No. 1053 US\$225 million credit of July 11, 1980; Effective Date:
December 10, 1980; Closing Date: March 31, 1987

Ln. No. 2076 Second Ramagundam Thermal Power Project; US\$300 million loan of
January 6, 1982; Effective Date: March 16, 1982; Closing
Date: June 30, 1988

Cr. No. 1172 Second Korba Thermal Power Project; US\$400 million credit of
February 4, 1982; Effective Date: March 16, 1982; Closing
Date: December 31, 1989

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, together with Credit 1172, which became effective March 16, 1982, support the construction of the 2100 MW development, consisting of three 200 MW and three 500 MW generating units, at the second such station, at Korba, together with related facilities and associated transmission. Loan 1648/Credit 874, together with Loan 2076, which also became effective March 16, 1982, support similar investments at Ramagundam. Loan 1887/Credit 1053 assists in financing the first three 200 MW generating units at the Farakka station. The National Thermal Power Corporation (NTPC) has been carrying out construction and operation of these power stations. Loan 1549 supports the construction of a 500 MW extension of the Tata Electric Company's station at Trombay, designed to help meet the forecast load growth in the Bombay area.

All these large-scale thermal power projects are progressing satisfactorily. Construction works for the Singrauli, Korba, and Farakka stations are on or ahead of schedule, although some slippage has occurred in the implementation schedule for the Ramagundam project. The first unit at the Singrauli station was commissioned on schedule in February 1982, the second unit in October 1982, and the third in March 1983. The first unit at the Korba station was also commissioned in March 1983. In the Third Trombay project, procurement is complete and the generator is expected to be commissioned in April/May 1983. Tata Electric Company's financial performance in 1982, and projections through 1985, are satisfactory. Cost overruns, caused by design modifications, price increases in materials, and increases in customs duties, will be met by the Government of India.

Cr. No. 911 Second Rural Electrification Corporation Project; US\$175 million
credit of June 21, 1979; Effective Date: October 17, 1979;
Closing Date: March 31, 1984

Ln. No. 2165 Third Rural Electrification Corporation Project; US\$304.5 million
loan of June 22, 1982; Effective Date: October 21, 1982;
Closing Date: June 30, 1986

These projects are progressing satisfactorily with no major problems. Procurement of materials and equipment is on schedule, and disbursements are keeping pace with appraisal estimates. Detailed plans for the new Rural Electrification Corporation (REC) training institute to be established in

Hyderabad are well advanced. REC's financial performance continues to be satisfactory. In the near future, REC's major thrust under both projects will be on improving consumer connection performance, which is lagging considerably behind projections. REC is in the process of reassessing the annual work programs of the State Electricity Boards, including an analysis of the reasons for the poor connection performance, the setting of realistic new goals, and the introduction of measures to improve the situation.

Ln. No. 1313 Telecommunications VI Project; US\$80 million loan of July 22, 1976; Effective Date: September 14, 1976
Closing Date: March 31, 1983

Ln. No. 1592 Telecommunications VII Project; US\$120 million loan of June 19, 1978; Effective Date: October 30, 1978; Closing Date: December 31, 1983

Cr. No. 1112 Telecommunications VIII Project; US\$314 million credit of March 26, 1981; Effective Date: June 24, 1981;
Closing Date: December 31, 1984

Loan 1313 has been successfully concluded and was closed on March 31, 1983. Disbursements are expected to be completed by May 31, 1983.

Loan 1592 and Credit 1112 are both progressing satisfactorily and there are no major problems. Initial delays in Loan 1592 as a result of late procurement caused by a strike have been offset by accelerated implementation during 1982. All bidding under Credit 1112 is now complete and civil works are underway. Institutional improvements under all projects have been achieved and the financial position of the Posts & Telegraph Department remains sound.

Cr. No. 844 Railway Modernization and Maintenance Project; US\$190 million credit of November 13, 1978; Effective Date: January 10, 1979;
Closing Date: December 31, 1984

Ln. No. 2210 Second Railway Modernization and Maintenance Project;
Cr. No. 1299 US\$200 million loan and US\$200 million credit of December 23, 1982; Effective Date: February 23, 1983; Closing Date: September 30, 1987

These projects are designed to help the Indian Railways reduce re-manufacturing and maintenance costs of locomotives and rolling stock and to improve their performance and availability. The physical execution of Credit 844 continues to make good progress. Procurement of all critical equipment is complete and civil works are well advanced. Commitments under the project total nearly 97% of the Credit amount. Initial activities for the second project are underway. The Indian Railways' financial and traffic performance continued its significant improvement in FY1982/83, and this is expected to be sustained in FY1983/84.

Cr. No. 1072 Bihar Rural Roads Project; US\$35 million credit of December 5, 1980; Effective Date: January 15, 1981; Closing Date: June 30, 1986

The project aims to construct or rehabilitate 700 km of rural roads and to improve maintenance of the rural road network in Bihar. It is proceeding on schedule. The majority of the equipment required for the project has been delivered. Contracts have been awarded for civil works totalling to about US\$13 million and work began last March.

Ln. No. 1335 Bombay Urban Transport Project; US\$25 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: December 18, 1980; Closing Date: December 31, 1984

Implementation of the Bombay project is satisfactory, with about 75% of the loan disbursed. Construction of new workshop facilities began in January 1982, but to allow for completion the loan closing date may have to be extended one year. A bus fare revision on April 1, 1982 increased revenues by 20% and will enable the project authority to achieve its targeted operating ratio.

There has been considerable recent improvement in the Calcutta project, including definite progress at the policy level in response to IDA's 15-point action program to improve project implementation, which was presented to the project authorities in October 1982. All 75 new tramcars financed under the project have been delivered, an additional 60 should be renovated and in service by December 1983, and the operating performance of the tram company has improved substantially over the last six months. Although the operating performance of the bus corporation remains unsatisfactory, the recent appointment of three new senior staff members to the corporation's management and a new Chairman of the Board is expected to improve operations, and there are now over 500 new buses in service.

Cr. No. 756 Second Calcutta Urban Development Project; US\$87 million credit of January 6, 1978; Effective Date: April 7, 1978; Closing Date: December 31, 1983

Cr. No. 1082 Second Madras Urban Development Project; US\$42 credit of January 14, 1981; Effective Date: March 2, 1981; Closing Date: March 31, 1986

Cr. No. 1185 Kanpur Urban Development Project; US\$25 million credit of February 4, 1982; Effective Date: April 22, 1982; Closing Date: June 30, 1986

Physical performance in the Calcutta project is generally good. All sub-projects presently under implementation are scheduled to be completed by March 31, 1983. Following a review of the overall program for Calcutta's further development, the Government of West Bengal shifted its investment

priorities somewhat and consequently requested a revision of some components of this project. IDA agreed to the suggested changes, and the closing date has been extended by nine months to allow for completion of the redefined project.

Credit 1082, is proceeding satisfactorily, with the exception of the sites and services component, where legal challenges are causing delays in land acquisition. The Government of Tamil Nadu (GOTN) is actively pursuing the resolution of these court cases and has identified alternative sites to be used so that the sites and services works can be finished by the project closing date. The financial performance of the Pallavan Transport Corporation (PTC), the project implementing agency, is unsatisfactory. It is not generating funds sufficient to meet its financial targets. An action plan to cut operating costs, reduce new investment, and raise revenues has recently been formulated and, subject to the agreement of GOTN, will enable PTC to achieve the required targets by 1983/84 and maintain them thereafter.

Progress under Credit 1185 is mixed. Procedures to improve cost recovery have not been introduced as agreed, studies on institutional strengthening of the project agencies have not begun, and the project authority suffers from a serious lack of staff with proper management expertise. However, there has been considerable improvement recently in land acquisition for slum upgrading, where completed works have benefitted nearly 6,700 households. Procurement is proceeding well and all physical works are expected to be completed on schedule.

Cr. No. 585 Uttar Pradesh Water Supply and Sewerage Project; US\$40 million credit of September 25, 1975; Effective Date: February 6, 1976; Closing Date: December 31, 1982

Following the completion of physical works, the project was closed on December 31, 1982. Institutional and financial performance under the project were unsatisfactory, and several of the implementing agencies were unable to achieve the financial performance targets which had been agreed with IDA.

Cr. No. 842 Second Bombay Water Supply and Sewerage Project; US\$196 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 million credit of October 27, 1978; Effective Date: January 25, 1979; Closing Date: March 31, 1984

Cr. No. 899 Maharashtra Water Supply and Sewerage Project; US\$48 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: December 31, 1985

Cr. No. 1280 Gujarat Water Supply and Sewerage Project; US\$72 million credit
of November 9, 1982; Effective Date: February 8, 1983;
Closing Date: September 30, 1987

Recent progress under Credit 842 has been encouraging. Preparation of contract documents and drawings for the water supply component is well advanced. For the 137 sewerage sub-projects, all tender documents have been completed and construction is well underway, although there have been serious delays on the two major sewerage treatment plants due to land acquisition difficulties. Cost overruns are expected and IDA has requested the project authorities to prepare detailed estimates and proposals for dealing with these. The financial performance of the Bombay Water Supply and Sewerage Department continues to be satisfactory, and all financial conditions under the project are being met.

The closing date of Credit 848 has been extended one year as a result of initial procurement delays. Physical implementation of the project is now proceeding satisfactorily, and all works are expected to be finished by the extended completion date of December 1983. The quality of construction work is excellent, and the Punjab Water Supply and Sewerage Board is proving to be an effective implementing agency. However, there continue to be significant problems with financial and operational performance, which must be improved considerably if agreed targets under the project are to be met. IDA has brought this to the attention of the project authorities repeatedly, and plans to concentrate its supervision efforts for the duration of the project on improving the financial and operational aspects of implementation.

Credit 899 is proceeding reasonably well. It has now entered the full construction stage, and work is satisfactory. Disbursements are in line with the appraisal estimates. The level of tariffs is adequate to achieve the financial performance targets under the project. The Government of Maharashtra is preparing detailed estimates and proposals for dealing with the anticipated cost increases which have occurred as a result of delayed start of construction and retendering on one major water supply facility. Attention now needs to be devoted to the resolution of the staffing difficulties in the Maharashtra Water Supply and Sewerage Board, particularly the lack of financial staff to properly administer their financial operations.

Under the Rajasthan project, Credit 1046, the rural water supply schemes are well advanced and engineering designs for the urban schemes have been nearly finalized. Progress in the project has been hampered by the Government of Rajasthan (GOR) fund allocations running at between 50%-60% of annual requirements. A recent Cabinet decision has deferred the construction of the planned Hemawas/Kuri Pipeline to provide water to the city of Jodhpur, in order to consider the possibility of accessing water from the Rajasthan Canal instead. A feasibility report has been completed. GOR has decided on the alternative Rajasthan Canal source, which will be funded without Bank assistance.

Initial work under Credit 1280 is proceeding well. The design team has been established and detailed design of all sub-projects is on schedule. The bid documents for civil works in Ahmedabad, one of the project cities, have been approved and will be issued shortly. Work is now concentrating on preparation of bids for materials procurement.

- Cr. No. 502 Rajasthan Canal Command Area Development Project; US\$83 million credit of July 31, 1974; Effective Date: December 12, 1974; Closing Date: June 30, 1983
- Ln. No. 1251 Andhra Pradesh Irrigation and Command Area Development (TW) Composite Project; US\$145 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 million credit of June 30, 1977; Effective Date: September 30, 1977; Closing Date: March 31, 1984
- Cr. No. 736 Maharashtra Irrigation Project; US\$70 million credit of October 11, 1977; Effective Date: January 13, 1978; Closing Date: March 31, 1983
- Cr. No. 740 Orissa Irrigation Project; US\$58 million of October 11, 1977; Effective Date: January 16, 1978; Closing Date: October 31, 1983
- Cr. No. 788 Karnataka Irrigation Project; US\$126 million credit of May 12, 1978; Effective Date: August 10, 1978; Closing Date: March 31, 1984
- Cr. No. 808 Gujarat Medium Irrigation Project; US\$85 million credit of July 17, 1978; Effective Date: October 31, 1978; Closing Date: June 30, 1984
- Cr. No. 843 Haryana Irrigation Project; US\$111 million credit of August 16, 1978; Effective Date: December 14, 1978; Closing Date: August 31, 1983
- Cr. No. 889 Punjab Irrigation Project; US\$129 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
- 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. 1108 Madhya Pradesh Medium Irrigation Project; US\$140 million credit of March 26, 1981; Effective Date: May 13, 1981; Closing Date: March 31, 1987

- Cr. No. 1177 Madhya Pradesh Major Irrigation Project; US\$220 million credit of February 24, 1982; Effective Date: April 16, 1982; Closing Date: June 30, 1987
- Ln. No. 2186 Kallada Irrigation Project; US\$20.3 million loan and US\$60 million
Cr. No. 1269 credit of July 6, 1982; Effective Date: September 21, 1982; Closing Date: March 31, 1987
- Cr. No. 1288 Second Chambal Madhya Pradesh Irrigation Project; US\$31 million credit of September 7, 1982; Effective Date: December 1, 1982 Closing Date: March 31, 1987
- Cr. No. 1289 Subernarekha Irrigation Project; US\$127 million credit of November 9, 1982; Effective Date: January 10, 1983; Closing Date: April 30, 1987.
- Cr. No. 1319 Haryana II Irrigation Project; US\$150 million credit of February 23, 1983; Effective Date: Expected May 1983; Closing Date: March 31, 1988.

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.

Following unsatisfactory early project progress, Loan 1251 was reformulated in May 1980, at which time project completion was planned for December 1984. On the basis of improved implementation performance under the reformulated program, a one-year extension of the closing date is now under consideration.

Implementation of Maharashtra I has been unbalanced, with emphasis on major works. As of March 31, 1983, the original closing date, the large construction components were about 80% complete, but there were major shortfalls in the minor irrigation and CAD works. Over recent months there has been some improvement in implementation, with the provision of adequate budget resources and staff, and the preparation of detailed work programs for completion of the works. Therefore, a one-year extension of the closing date is being considered to allow completion of all project components and hence full development of the irrigation potential of the area.

As a result of cost overruns, the Periyar Vaigai Project was reformulated in 1981, at which time completion was planned for March 1984. Accordingly, the closing date has been extended by one year to March 31, 1984. Recent implementation progress has been encouraging, particularly in the construction of field channels. The project could profit still further, however, from improved coordination among the various Government of Tamil Nadu agencies responsible for project execution.

The Karnataka Project is experiencing serious delays in command area development and completion of construction of the distribution system, due mainly to lack of proper support from the State Government and inadequate staffing of the project entity. The urgent attention of the State Government must be devoted to the early resolution of these implementation problems.

Although the Gujarat Medium Project is 30% behind schedule on average, there has been considerable recent improvement. There is no longer a shortage of field staff, construction standards have improved, and there has been substantial progress in finalizing the designs of the distribution systems. Disbursements, at 50% of the SAR target, are expected to improve following the introduction of steps designed to reduce ineligible expenditures. The GOG is currently preparing detailed implementation schedules to ensure completion of the 23 sub-projects by June 1984.

The Gujarat II Project has also demonstrated recent signs of improvement. Staffing problems, which had been a cause of serious delays, have now been resolved. The quality of construction work has improved, design problems have been corrected, and the Water and Land Management Institute is contributing significantly to the training of Irrigation Department staff. Although the project remains considerably behind schedule and will face cost overruns, all components continue to be economically and financially viable. The GOG is now preparing detailed implementation schedules for the completion of project works which will form the basis for future monitoring.

Shortages of cement and inadequate provision of budgetary resources continue to delay implementation of the Punjab Project. In addition, there are cost overruns in the canal and watercourse lining components of about 15% and 40%, respectively; and the study of water charges, due in August 1981, remains incomplete. The Government of Punjab has repeatedly been requested by Bank supervision missions to address these issues urgently.

The Madhya Pradesh Medium Irrigation Project is considerably behind schedule. The sub-project appraisal process has been overly slow. While there are 12 sub-projects now under implementation, approximately 20-25 are needed to assure expected project benefits and full disbursement of the credit proceeds. Moreover, the works are unbalanced in favor of construction of dams rather than conveyance systems. Several significant procurement contracts are scheduled to be awarded in April 1983, which is expected to bring about accelerated project implementation.

There has been significant recent progress in the MP Major Project. Procurement procedures have been streamlined, several major ICB and LCB contracts are expected to be awarded in March-April 1983, and design work for the canal structures is progressing well. The GOMP's planned intensification of project activities during the current December 1982-June 1983, and the 1983/84 construction seasons, should be adequate to offset initial start-up delays. Attention can now be devoted to completion of the resettlement plan for persons to be displaced by project reservoirs, and to initiation of the minor project components, such as roads, research stations, and the establishment of drainage and hydrometeorological networks.

Credit 1289 supports an irrigation and industrial/water supply program on 255,000 ha in the States of Bihar, Orissa and West Bengal. Credit 1319 continues the Government of Haryana's modernization program through the lining of irrigation channels and the provision of supplementary water from augmentation tubewells. Early project activities are proceeding as scheduled.

Progress of the remaining projects is generally satisfactory.

Cr. No. 1116 Karnataka Tank Irrigation Project; US\$54 million credit of March 26, 1981; Effective Date: May 5, 1981; Closing Date: March 31, 1986

The project is designed to finance the construction of 120-160 tank irrigation schemes throughout the State of Karnataka. The Government of Karnataka has proposed a reduction to 87 in the number of schemes to be completed. Project preparation has been slow due to serious staffing vacancies and the overloading of senior project staff with non-project responsibilities. Design work is seriously behind schedule and construction has not yet begun at the dam sites. The Government of Karnataka has been asked to prepare a program to complete the scheduled works within the agreed project period, together with a staffing and budget plan, by the end of October 1982.

Credit 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.

Credit No. 1332 Uttar Pradesh Public Tubewells II Project; US\$101 million credit of March 31, 1983; Effective Date: Expected June 1983; Closing Date: March 31, 1988.

The first project has been successfully completed within the original closing date. In fact an additional 70 tubewells above the 500 originally planned at appraisal were constructed. Disbursements are expected to be completed by June 30, 1983.

Initial activities are underway for Credit 1332, which provides for the installation of 2200 new tubewell systems, and the upgrading of 750 existing tubewell systems, based on the modernized design which was successfully proven in the first project.

Cr. No. 682 Orissa Agricultural Development Project; US\$20 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 million credit of June 1, 1977; Effective Date: August 30, 1977; Closing Date: September 30, 1983

Cr. No. 712 Madhya Pradesh Agricultural Extension and Research Project; US\$10 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 million credit of June 30, 1977; Effective Date: September 30, 1977; Closing Date: March 31, 1984
- Cr. No. 737 Rajasthan Agricultural Extension and Research Project; US\$13 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 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 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
- Cr. No. 1137 Tamil Nadu Agricultural Extension Project; US\$28 million credit of May 7, 1981; Effective Date: July 22, 1981; Closing Date: June 30, 1987
- Cr. No. 1135 Maharashtra Agricultural Extension Project; US\$23 million credit of May 7, 1981; Effective Date: July 22, 1981; Closing Date: June 30, 1987
- Cr. No. 1138 Second Madhya Pradesh Agricultural Extension Project; US\$37 million credit of May 7, 1981; Effective Date: July 22, 1981; Closing Date: June 30, 1987
- Cr. No. 1219 Andhra Pradesh Agricultural Extension and Research Project; US\$6 million credit of May 5, 1982; Effective Date: July 27, 1982; Closing Date: March 31, 1988

These twelve credits finance the reorganization and strengthening of agricultural extension services and the development of adaptive research capabilities in thirteen States in India. In areas where the reformed extension system is in operation, field results have been most encouraging, both in terms of adoption of new agricultural techniques and of increased crop yields.

In Madhya Pradesh I and Orissa, significant gains have been made under the projects.

There has been considerable improvement in the West Bengal Project over the past year. Staffing problems have been resolved, and civil works have started. Attention now needs to be devoted to improvement in fieldwork, which is weak due to insufficient supervision of extension workers and poor generation of agricultural recommendations.

In Rajasthan, too, significant early gains were achieved following the establishment of a well organized and stable extension service. Although the quality of field work is somewhat uneven, the basic extension system is well established.

Implementation of the Assam Project is slow due in part to unsettled conditions in the State. Insufficient supervision contributes, inter alia, to lack of coordination among various implementing agencies, staff vacancies, and poor understanding of the AEOs appropriate role in the extension system--all of which result in ineffective field work.

Implementation of the Bihar Project is unsatisfactory. Despite the decision of the Government of Bihar (GOB) one year ago to commit adequate budget funds and appoint key staff, there has been no progress to date. Staff vacancies remain, field extension continues to be weak, and civil works have not yet started.

In Gujarat, Haryana and Karnataka, all covered under the Composite Agricultural Extension Project, the basic extension system has been established and attention now needs to focus on the quality of extension recommendations and the filling of remaining staff vacancies. The Directorate of Extension in the Central Government's Department of Agriculture needs strengthening.

In Kerala, following the successful introduction of the T&V system in three Districts, the project was extended to the entire State in December 1982. The recruitment of the additional staff should be completed by April 1983, after which project implementation is expected to accelerate considerably.

In Maharashtra, project implementation is ahead of schedule. The basic infrastructure of the revised extension service is well established. Field workers are visiting farmers regularly and their recommendations are being widely accepted.

The Madhya Pradesh II Project remains behind schedule due to delayed sanctioning of budget resources during the first two project years. There has recently been considerable improvement in implementation which is expected to continue.

Implementation of the Andhra Pradesh Project has been hampered during its first year by vacancies in senior staff positions caused by the decision of the newly elected State Government to retire all staff over 55 years of age. Promotion boards are now meeting to choose staff for the vacant positions. Field activities have been ongoing for about six months and are generally satisfactory, although an improved orientation program would be of benefit to staff at all levels. Civil works and procurement activities are on schedule.

Cr. No. 680 Kerala Agricultural Development Project; US\$30 million credit of April 1, 1977; Effective Date: June 29, 1977; Closing Date: March 31, 1985

Project progress continues satisfactorily. Implementation of the smallholder component, the project's largest, continues to gain momentum with a 36% increase in plantings in 1982/83. One crumb rubber factory of the nine included in the project is in operation and a further two should be commissioned in late 1983. The cashewnut component is completed.

Ln. No. 2095 Agricultural Refinance and Development Corporation IV Project;
Cr. No. 1209 US\$190 million loan and US\$160 million credit of February 24, 1982; Effective Date: May 25, 1982; Closing Date: June 30, 1984

The project, which is a continuation of ARDC III, consists of a two-year time slice of ARDC's lending program to farmers. The project is proceeding well, with disbursements ahead of schedule. In July 1982, ARDC and ACD/RBI were successfully merged into the National Bank for Agriculture and Rural Development (NABARD). The merger was carried out efficiently, permitting operations to continue uninterrupted. The loan recovery performance of the State Land Development Banks during 1981/82 was weak. NABARD has introduced rehabilitation programs and management studies designed to improve loan recovery and the overall performance of the participating banks.

Cr. No. 855 National Agriculture Research Project; US\$27 million credit of December 7, 1978; Effective Date: January 22, 1979; Closing Date: September 30, 1983

The project has made significant progress over the last six months. Contact has improved with the State agricultural universities, where there is considerable enthusiasm for NARP objectives. Implementation of sub-projects in Haryana, Kerala and Tamil Nadu is proceeding on schedule. The basic research projects, although satisfactory thus far, need to focus their attention on local needs and problem-oriented multi-disciplinary research.

Cr. No. 747 Second Foodgrain Storage Project; US\$107 million credit of January 6, 1978; Effective Date: May 17, 1978; Closing Date: June 30, 1983

The project was revised in May 1982 to provide additional bag storage capacity in lieu of the bulk storage component. A one-year extension of the closing date was granted, with the possibility of further extension if project implementation improved. The project continues to be considerably behind schedule. However, implementation has gained some momentum since September 1982, when specific targets were established for accomplishment of certain project works by June 1983. Land acquisition, construction, and procurement are, overall, in line with these targets, but there remain deficiencies in staffing, and in the monitoring, training and research programs which have to be overcome to ensure satisfactory project progress.

Cr. No. 871 National Cooperative Development Corporation (NCDC) Project; US\$30 million credit of February 2, 1979; Effective Date: May 3, 1979; Closing date: December 31, 1984

Cr. No. 1146 Second National Cooperative Development Corporation (NCDC) Project; US\$125 million credit of July 21, 1981; Effective Date: November 11, 1981; Closing Date: June 30, 1987

These credits provide funds to rural cooperatives in various States for the construction and operation of godowns (warehouses) and cold storage and marketing facilities. Major emphasis is placed on institution building in order to make NCDC grow into a more effective development institution to serve India's rural cooperative sector. Disbursements under Credit 871 are on schedule. However, the construction of godowns has been slower than anticipated because cement supplies have been erratic and the response by contractors to tender offers has been poor in remote areas. Although the project is expected to be completed on time, increases in construction costs are likely to require a revision of the project scope to keep expenditures within the project financing provisions.

Project implementation in most of the nine participating States under Credit 1146 is also behind schedule, principally because of organizational delays. The participating agencies have taken steps to speed up implementation, but progress continues to be hampered by lack of adequate number of properly trained staff, supply shortages and cost escalations. NCDC and the State agencies concerned have resolved to do what is required to speed up implementation of these projects.

Cr. No. 482 Karnataka Dairy Development Project; US\$30 million credit of June 19, 1974; Effective Date: December 23, 1974; Closing Date: September 30, 1983

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: March 31, 1983

Cr. No. 824 National Dairy Project; US\$150 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. Farmer response has been excellent. About 18,000 dairy cooperative societies (DCS) have been established, with over two million members. Profitability of most DCSs is good and construction of dairy and feed plants is proceeding well.

In Credit 482, construction of the mother dairy at Bangalore, the key processing facility, was delayed by litigation. Construction by an experienced civil works contractor has now begun. To allow for near completion of this dairy, and for the Government of Karnataka to implement improvements in their management support of the dairy producers' unions as required under the project, the closing date has been extended by one year.

Under Credit 521, nearly 1,500 dairy cooperative societies (DCSs) have been formed, benefitting over 78,000 families. During 1981/82, these DCSs collected over 30 million liters of milk, for which the producers were paid Rs 67 million. The project was scheduled to close on December 31, 1982. However, as several project-financed facilities are not yet complete, including two processing plants, one powder plant, four training centers, and living quarters for staff, the GOI has requested an extension of the closing date, which is now under consideration.

Credit 522 has been successfully completed and was closed on March 31, 1983. Over 800 dairy cooperative societies were formed, serving a membership of approximately 35,000 families. Disbursements are expected to be completed by May 31, 1983.

Physical execution under Credit 824 is excellent, with the establishment of new rural and urban dairies, cattle feed plants, and the acquisition of rail and road milk tankers. The cooperative processing industry is served by 18,000 cooperatives with membership of over two million households. In addition, substantial institution building is taking place through the formation of federations, unions and cooperatives in 59 milksheds covered under the Operation Flood II Agreements designed to ensure autonomy in pricing and a three-tiered cooperative structure.

Ln. No. 1273 National Seed Project; US\$25 million loan of June 10, 1976;
Effective Date: October 8, 1976; Closing Date: June 30, 1984

Cr. No. 816 Second National Seed Project; US\$16 million credit of July 17,
1978; Effective Date: December 20, 1978; Closing Date:
December 31, 1984

These projects are designed to increase the availability of high quality agricultural seed, and cover nine States. Although they are two to three years behind schedule because of initial problems in coordination and monitoring, mainly at the national level, there has been significant progress over the last year. The construction of transit and bulk storehouses has been delayed by land acquisition problems. However, there has been good progress in civil works and equipment procurement for the seed processing plants. It is expected that all works except seed farm development under both projects will be completed by December 1984.

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

This project helps to finance cashew planting and plantation improvement programs in the States of Andhra Pradesh, Karnataka, Kerala and Orissa.

The planting and improvement programs initially made very good progress although this has been dampened in 1982/83 by decreased cashewnut prices and Corporation land acquisition problems resulting from the Forest Conservation Act (1980). There is still every expectation that the project will fulfill its objective of significantly increasing cashew production and improving the incomes of the farmers.

Cr. No. 610 Integrated Cotton Development Project; US\$18 million credit of February 26, 1976; Effective Date: November 30, 1976; Closing Date: December 31, 1983

Project implementation continues to improve. The area to be covered by the project (183,000 ha) has been attained, and yields are increasing. Major processing facilities in Maharashtra and Haryana are under contract and work is progressing satisfactorily. The link between university research and project activity is excellent. However, because of poor performance in the early stages, the project closing date has been extended by two years to December 31, 1983, to allow for completion of the project works and full utilization of the credit proceeds.

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

The recent significant improvement in the staffing situation of the Department of Sericulture should bolster the previously curtailed extension program and should lead to increased bivoltine silk production which is a major project objective hitherto not being achieved. All other project components are progressing satisfactorily, especially the industrial component where spun silk mill and silk filature are expected to be operational within 9-12 months.

Cr. No. 806 Jammu-Kashmir Horticulture Project; US\$14 million credit of July 17, 1978; Effective Date: January 16, 1979;
Closing Date: June 30, 1984

The recent change in management of Jammu and Kashmir Horticultural Produce Marketing and Processing Corporation is expected to recoup implementation progress lost in the last 12 months, and about 60% of project facilities could be operational for the 1983 harvest. Training programs and research activities are now well behind schedule.

Cr. No. 925 Uttar Pradesh Social Forestry Project; US\$23 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

Cr. No. 1178 West Bengal Social Forestry Project; US\$29 million credit of February 24, 1982; Effective Date: April 9, 1982; Closing Date: December 31, 1987

Cr. No. 1286 Jammu-Kashmir and Haryana Social Forestry Project; US\$33 million credit of September 7, 1982; Effective Date: December 7, 1982; Closing Date: March 31, 1988

Physical progress under Credit 925 is satisfactory, except in the Eastern Region of the State, where greater population density, lower per capita income and fragmented farm size have been disincentives to the planting programs. Remedial measures designed to address these problems, including free distribution of seedlings and a planned land consolidation program, are under consideration by the project authorities.

Credit 961 is proceeding well. In response to rising prices for poles and pulpwood, the project has been adopted enthusiastically by the local residents. The current rate of planting is more than five times that which existed before the project. Project management is good, with cost control, audit, disbursement and procurement activities in line with appraisal report schedules. If the present momentum is maintained, it may be possible to resolve the rural fuelwood crisis in Gujarat within a decade.

Implementation of the West Bengal Project is satisfactory. The overall physical targets of the project have been exceeded. The building program is progressing well and ahead of schedule. Attention now needs to focus on the recruitment and training of forestry extension workers, who are becoming urgently needed as tree plantings increase and project activities accelerate.

Credit 1286, which became effective in December 1982, is designed to increase supplies of fuelwood and secondary products through the establishment of 94,000 ha of a new tree plantations, the rehabilitation of 17,000 ha of degraded forests, and the strengthening of research, training and forestry extension services in Haryana and Jammu and Kashmir. Both States have made a good start in implementing the first season's plantation program, and procurement of vehicles and equipment is underway.

Ln. No. 1897 Kandi Watershed and Area Development Project; US\$30 million loan of September 12, 1980; Effective Date: November 18, 1980; Closing Date: March 31, 1986

The recent improvement in project execution continues, and project activities are well coordinated. Progress on the main Dholbaha Dam is satisfactory, and the afforestation and soil conservation components are on schedule. Feasibility reports for ten watersheds have been completed, five of which have been reviewed and approved by the Bank. There are expected to be cost savings from the irrigation and flood control components of the project, as a result of which the Bank is now reviewing the overall project design and concept and the possibility of expanding the project scope.

Ln. No. 1394 Gujarat Fisheries Project; US\$14 million loan and US\$4 (TW) million credit of April 22, 1977; Effective date: July 19, 1977; Cr. No. 695 Closing Date: June 30, 1984

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

In Gujarat, the harbor works are now proceeding well following the finalization of a contractual dispute in September 1982. These harbor works and shore facilities are expected to be completed within the next year. The village roads and water supply components have been largely completed. However, the credit component is considerably behind schedule as a result of the weak financial position of the Gujarat Fisheries Central Cooperative Association (GFCCA) and loan recovery problems of the participating banks. Recommendations for improvement of GFCCA are currently under review by the Government of Gujarat.

In Andhra Pradesh, one of three fishing harbors being constructed under the project has been operation for nearly one year, and the remaining two are scheduled to be completed by mid-1983 and early 1984. The financing of mechanized fishing vessels remains at a standstill due to loan recovery problems of the participating banks. NABARD is in the process of discussing with the banks ways to rectify this situation. Due to an expansion of private sector investment in seafood processing plants, the Government has decided to delete one of the two processing plants from the project and reduce the scope of the second one.

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

Project implementation is generally satisfactory. Construction of the fish hatcheries in all five project States has commenced, and the first hatcheries are expected to begin limited operations by June 1983. All 58 Fish Farmer Development Agencies are fully functional and, as project activities accelerate, are placing necessary extension agents in the field. Progress of the pond improvement schemes has slowed considerably due to difficulties with loan sanctioning by the participating banks. Through a more active involvement in the loan approval process, NABARD is taking steps to correct this situation.

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

Implementation of the project is proceeding well. Marked improvement has occurred in several components especially construction, now that cement is being allocated to the project on a priority basis. As a consequence, disbursements are accelerating. The Director of the Population Centre in Uttar Pradesh has been appointed and the training program is well underway.

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

The project is fully operational in Madurai District, with all nutrition and health workers in place. Evaluation data show a significant decline in malnourishment in the project area and the participation rate for those people eligible for project benefits is over 90%. Civil works are a few months behind schedule, but the Government of Tamil Nadu has intensified its supervision work which is expected to speed up completion of the health subcenters and training facilities. Preparations are well advanced for the planned expansion of the project into two more Districts in the State in 1983.

INDIA

HIMALAYAN WATERSHED MANAGEMENT PROJECT

SUPPLEMENTARY PROJECT DATA SHEET

Section I: Timetable of Key Events

- (a) Time taken by the country to prepare the project
Two years.
- (b) The agency which has prepared the project
The Government of UP assisted by Bank Group staff.
- (c) Date of first presentation to the Association and date of first mission to consider the project
November 1981; December 1981.
- (d) Date of departure of appraisal mission
October 1981.
- (e) Date of completion of negotiations
April 27, 1983.
- (f) Planned date of effectiveness
August 1983.

Section II: Special IDA Implementation Actions

None.

Section III: Special Conditions

- (a) GOUP to undertake land shaping in the terraces only after the results of concerned research are agreed with the Bank (para 48);

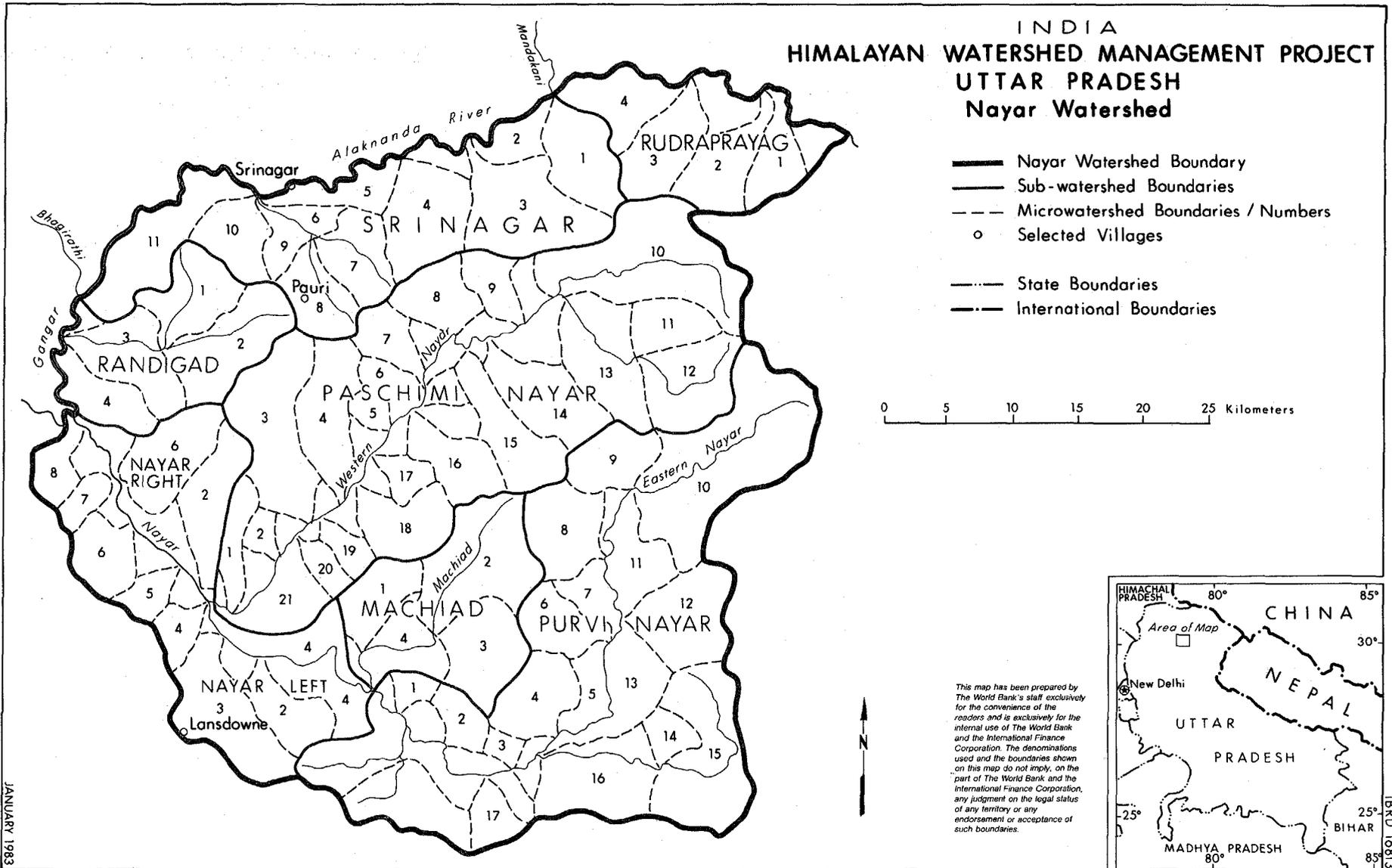
- (b) The GOUP to prepare detailed rules for cattle exchange program and use only buffaloes for exchange with cattle (para 49);
- (c) The GOUP to prepare and furnish to the Bank, by September 30, 1983, an outline of research to be carried out under the Project (para 53);
- (d) Preparation, appraisal and implementation of sub-watershed projects to follow agreed criteria (para 56);
- (e) By September 30, 1983, GOI to appoint a Watershed Development Commissioner and create adequate staff positions in WDC (para 56);
- (f) GOI to send for the Bank's comments and approval all subwatershed projects appriased before mid-term review (para 55); and
- (g) GOI and the GOUP to carry out jointly with the Bank a mid-term review of the project within the first quarter after completion of the third year of the project (para 64).



INDIA
HIMALAYAN WATERSHED MANAGEMENT PROJECT
UTTAR PRADESH
Nayar Watershed

-  Nayar Watershed Boundary
-  Sub-watershed Boundaries
-  Microwatershed Boundaries / Numbers
-  Selected Villages
-  State Boundaries
-  International Boundaries

0 5 10 15 20 25 Kilometers



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