

INDIA: Evaluating Bank Assistance for Agricultural and Rural Development

A Country Assistance Evaluation

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2002
The World Bank
Washington, D. C.



OPERATIONS EVALUATION DEPARTMENT

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Acronyms

AP	Andhra Pradesh
APERP	Andhra Pradesh Economic Recovery Project
CAD	Command Area Development
CAS	Country Assistance Strategy
CDF	Comprehensive Development Framework
CEM	Country Economic Memorandum
DPIP	District Poverty Initiatives Project
FD	Forestry Department
FY	Fiscal Year
GDP	Gross Domestic Product
JFM	Joint Forest Management
MP	Madhya Pradesh
OED	Operations Evaluation Department
QAG	Quality Assurance Group
UP	Uttar Pradesh
VFC	Village Forest Committee
WRCP	Water Resource Consolidation Project
WUA	Water Users Association

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Preface

This paper is one of the background papers prepared as an input to the India Country Assistance Evaluation (Task Manager: Mr. Gianni Zanini) by the Operations Evaluation Department (OED) of the World Bank. Findings are based on a review of project appraisal and completion reports, sector reports, and a number of other documents produced by the Borrower, the Bank, OED, and research papers. An OED mission visited India in April/May 1999. The mission interviewed current and retired government officials and Indian experts. Bank staff were interviewed at both headquarters and in the field office. Their valuable assistance is gratefully acknowledged.

Peer reviewers were Messrs. Benoit Blarel (IFC), Shawki Barghouti (RDV), Ridley Nelson (OEDST), and Anandarup Ray (Consultant, OEDCR). Help was also received on forestry issues from Mmes. Nalini Kumar (OEDST) and Uma Lele (RDV), on irrigation issues from Messrs. I.J. Singh and George K. Pitman (OEDST), and with data and tabulations Julius Gwyer (OEDCR). An earlier version of this paper was reviewed by Mr. Muhammad Farruk (SASRD) in collaboration with Ridwan Ali, Gajanand Pathmanathan and other members of the Bank's India agriculture and rural sector team, and by the Department of Agriculture and Cooperation in the Ministry of Agriculture of the Government of India. It was also discussed at a workshop in New Delhi on April 5, 2000 chaired by Professor Vijay Vyas, and with participation of central and state government officials, academics and members of policy research institutes, and other representatives of civil society. In October and November, 2000 additional comments were received from Stephen Howes and Gajanand Pathmanathan in the Bank's New Delhi office.

The author is grateful for all comments received; they have been taken into account in preparing this revised version. However, the views expressed in this paper remain entirely those of the author. They do not necessarily represent the views of OED or the World Bank.

Executive Summary ¹

1. *Continued agricultural growth but sluggish increases in productivity.* Agriculture provides employment for about two thirds of the national workforce in India and, therefore, growth of the sector has always been important for poverty reduction. Taking 1989/90 (which was close to an average production growth year) as a base, agriculture has been growing at an average rate of 3.4% per annum up to 1997/98, a modest increase over the average for the previous decade of 3.1% per annum. The sector has been undergoing structural change, with a reduction in the relative importance of rice and wheat production in response to moderate demand growth for foodgrains, and an expansion of production of other high value crops, that bodes well for the long-term sustainability of growth in the sector.
2. Nonetheless, India's agricultural performance was far below that of China (5.9% per annum production growth in the 1980s and well above 4% in the 1990s). Moreover, the drought conditions in parts of India in 1999 may well pull the sector's performance down for the decade as a whole. Apart from the misallocation of resources resulting from distorted agricultural policies, a slow-down in technological progress in the major grain crops also affected negatively total agricultural output. The reduced productivity growth in the sector appears to have had a detrimental impact on real rural earnings. Despite the higher agricultural GDP growth, the rate of increase of the real wages of unskilled rural workers slowed down compared to the previous decade and was actually negative in many large states.
3. The Bank's 1999 rural development report concluded that during the 1990s, despite the depreciation of the exchange rate and trade liberalization in other sectors that improved the overall terms of trade for agriculture, producers and traders of agricultural products were over-regulated and faced unbalanced policies that had a negative impact on rural employment. The allocation of substantial resources to subsidies were associated with low levels of public investment in rural infrastructure (particularly rural roads) and major factor market distortions. These policies constrained (and still constrain) the ongoing structural change in the sector and need to be reformed for improved efficiency and long-term sustainability of income gains.
4. *Rural poverty reduction stalled to some extent.* The extent of change in rural poverty reduction remains controversial in India. The official government and Bank data series show that, compared with a rapid decline in the 1980s, the incidence of poverty in rural areas stalled in the 1990s so that by 1996/97 (the latest available reliable survey estimate) the incidence of rural poverty was about the same as it had been at the start of the decade. Alternative estimates of the incidence of poverty for two years in the mid nineties (1993/94 and 1995/96) show that rural poverty declined to levels significantly below those at the beginning of the decade. While the first story is consistent with the

¹ This paper should be read in conjunction with other CAE background papers on transport, environment, and on poverty as well as a sectoral review on forestry in India by OEDST. There are important linkages between this paper and those other papers.

slower growth of real rural wages mentioned above, the second one is more consistent with the reported increase in the rate of growth in agriculture.

5. *Strategic neglect.* Agricultural and rural development policies were never at the top of the Bank's strategic agenda during the first half of the 1990s, despite their crucial role in reducing poverty in India, which had been clearly recognized in the Bank's 1991 main economic report. The Bank's policy dialogue and lending program did not address the serious shortcomings in Indian agricultural policy at the central and state government levels. In addition, the issue of how the distortions in agriculture could undermine the success of the stabilization and adjustment policies and the overarching objective of poverty reduction was ignored. Regional management and government focus was overwhelmingly on macroeconomic and trade issues, which were clearly very important but were not the key issues for poverty reduction.²

6. *Bank lending continued despite inadequate policy framework.* This neglect of policies also held up development of relevant analytical work by the Bank as the basis for a strategic vision for its contribution to poverty reduction through assistance for agriculture and rural development. There was a reduction in Bank lending for agriculture in the early 1990s, but largely due to a review of the dominant irrigation lending component rather than a response to the unsatisfactory policy environment in the sector as a whole. The Bank still continued to lend substantial amounts in the sector in an acknowledged over-regulated, inefficient policy environment, with many "stand alone" projects addressing relatively narrow issues.

7. Lending increased by 43% in the second half of the 1990s compared with the previous five years, but the Bank concentrated it on a few main sub-sectors and placed more emphasis on state-level reforms. The new sharper focus of Bank assistance arose out of the realization that the earlier neglect of agricultural policy issues and the dispersion of projects had limited sustainable impact on poverty reduction and were creating serious problems in project implementation and performance. The Bank's increased lending was for irrigation and drainage, watershed/area development, and forestry, including some project components directed at agricultural research and extension and was largely directed to those states willing to adopt significant policy reforms, such as on water management and pricing. This more selective and more relevant sector orientation had a potentially larger impact on rural development institutions than the dispersed and narrowly-focused projects of earlier years.

8. Nonetheless, this increased lending and support for reforms was not accompanied by any in-depth dialogue with the central government on the many agricultural and rural development policy issues for which it had responsibility, that continued to exert negative

² The Region acknowledged that inadequate improvements were made in agricultural and rural development policy in the 1990s, but considers that this evaluation does not appreciate the imperative for the Bank to focus on supporting the resolution of the macroeconomic crisis of the early 1990s and on the investment and trade reforms that India was prepared to undertake. An earlier draft of this paper was also criticized for not taking into account the impact of a number of changes in government during the 1990s which had a detrimental impact on central—state government relations and in turn had a major impact on the nature and pace of policy dialogue on reform with the World Bank.

effects on production incentives. Furthermore, lending took place without an explicit Bank assistance strategy for fostering policy changes in the agricultural sector.

9. At the end of the 1990s, however, the Bank showed a greater commitment to poverty reduction in the design of rural development projects. These projects will pursue pillars of the Bank's Comprehensive Development Framework (CDF), such as establishing a long term comprehensive institutionally sustainable approach to development, forging client ownership of the program, working with and improving the commitment of existing governance frameworks to poverty reduction, and achieving partnerships and targeted outcomes, and developing social capital which will directly benefit the poorest groups

10. *Relevant ESW.* The main analytical reports in the sector during the 1990s were the Irrigation Sector Review (1991), the Water Resources Management Review (1998), and Towards Rural Development and Poverty Reduction (1999). All were prepared in close collaboration with many institutions and experts in India. The first two formed the basis for Bank support of major institutional changes in water resource management and are highly relevant to the Bank's support for reform of the irrigation sub-sector at the state level.

11. The 1999 rural development report was based on a large number of sub-sectoral background papers. The main report was also highly relevant, but it was not timely. It was regrettable that the Bank waited so long to come to conclusions on crucial strategic issues that were quite obvious and had already been emphasized by Indian and international scholars, and in Bank documents nine years earlier. The internal quality, presentation and readability of the report were satisfactory and the substance had been carefully researched, in many cases collaboratively with Indian partners. Its conclusions, however, were not as forthright as they could have been to make a strong impact on policy change. Apart from the presentation of this and related reports at a successful workshop in New Delhi in April, 1999, there was no further dissemination of its important messages in the nineties. At the end of the decade the impact of the report on agricultural and rural development (including investment in rural infrastructure) was uncertain. There has, however, been much more debate and action on grain marketing and storage policy in the last year, including the commitment by the central government to lift grain storage and movement controls. Unfortunately no government action has yet been taken

12. *Overall evaluation.* For the decade as a whole, Bank-financed rural development projects have had modest relevance to poverty reduction because the overwhelming proportion of their beneficiaries were those with already significant assets rather than those below the poverty line. Poverty reduction was certainly amongst project objectives in appraisal documents, usually tied to increased employment opportunities supported by Bank assistance, but one could find neither analysis nor monitoring that would show that such increased employment would benefit the poor. Moreover, the Bank expanded lending in an inadequate policy environment, that was over-regulated by government, where production and marketing incentives were distorted, and where public resources were used inefficiently for subsidies while investment in rural infrastructure suffered.

However, the stronger focus on policy issues justifies a substantial relevance rating for the agricultural and rural development program of the last five years of the decade.³

13. Although most ongoing agricultural projects are expected by the Bank to achieve their implementation and development objectives, the low ambitions with respect to poverty reduction of many of the projects in the Bank's portfolio during the late 1990s, the inadequate identification and monitoring of project beneficiaries, the still prevalent (albeit changing) shortcomings in the policy environment, made it inevitable that the Bank's contribution to India's goal of poverty reduction was modest. Thus, when measured against the Bank's core objective of poverty reduction, the outcome of the Bank's assistance program for agriculture/rural development in the second half of the 1990s was only moderately satisfactory.

14. The institutional development impact of the program, while modest for the first half of decade, has been substantial over the last five years on account of the changes that have taken place at the state level. Sustainability of the Bank assistance program's achievements without continuing external support is judged as uncertain. The prospects for improving agricultural policy at the central government level have been also uncertain in recent years, but have been improving over the last year. Of course one year is not a good basis for evaluation but recent evidence suggests a much more vigorous focus on agricultural policy issues.⁴

15. *Lessons and Agenda for Future Assistance Programs.* The Bank should intensify the focus of its rural development program on poverty reduction. Moreover, the Bank's impact on rural development, technological progress, and poverty reduction could be much greater and more sustainable, if financial assistance were tightly linked with substantial sector or sub-sector-wide policy reforms such as removing over-regulation of the rural economy and bringing the policy framework for the agriculture sector at the national and state levels in line with liberalization in other sectors of the economy.⁵

³ The Region considers the evaluator's assessment that Bank-assisted rural development projects had only modest relevance to poverty reduction, because they were overwhelmingly focused on people with assets, overly constrained. The presentation in the paper, the Region claims, does little justice to the type of relationship the Bank had in India, and the strategic thrust of its assistance program. While acknowledging the limitations of the poverty monitoring arrangements, the Region pointed out that its projects were aimed at enhancing agricultural growth and hence poverty alleviation indirectly. In its comments the Region also pointed out that a number of operations target the poor explicitly, such as the recently approved watershed projects. The background paper recognizes the poverty reduction focus of some projects (e.g., the *Sodic Lands Reclamation and Watershed* projects, among others) but does not cover projects approved in FY00 and pipeline projects.

⁴ In the context of an interaction with the Ministry of Agriculture and Cooperatives on an earlier draft, Ministry officials advised that a fresh draft of the National Agricultural policy is in the final stages of preparation. Fertilizer and rural electricity subsidies were reduced during 2000 and the Government is actively addressing grain marketing efficiency.

⁵ The Region, while agreeing with the need for an intensified focus on rural development and poverty reduction, objected to the link between financial assistance and substantial sector or sub-sector-wide policy change. This was considered by the Region as too broad, too restrictive, counterproductive and confrontational. It was also pointed out by the Region that, in view of the small proportion that its lending represents compared to India's total public expenditures, the Bank has limited impact on policy change.

16. Such an approach would have a much greater and broader impact on agricultural and rural development and poverty reduction than a focus on specific technical and institutional issues that are at the core of the Bank's ongoing rural development portfolio. Unwillingness of state or central governments to agree to a different path should result in the elimination of any new Bank lending for agriculture.

1. Agricultural Sector Performance And Policy Challenges

1.1 Indian agriculture produces about 31 percent of the value added in the economy and occupies about 67 percent of the labor force. In contrast, the industrial and service sectors produce about 29 and 40 percent respectively of value added but account for only about 13 and 21 percent of the labor force. These shares of value added and the labor force are reflected in a higher rate of poverty in rural areas.¹ While migration out of rural areas is a classic strategy for reducing rural poverty it is not an easy option for the rural poor in India because of the extremely limited alternative income earning capacities outside the rural sector for unskilled workers. Helping the poor out of this trap means a combination of strategies such as, increased productivity and growth in agriculture, greater access to land for the poor,² improving employability outside agriculture and rural areas through training and education as well as making more information available about employment prospects, improving their health, sanitation and water supplies. These are issues on which the Bank could assist, but the core challenge remains increased growth in the agricultural sector.

Growth Performance

1.2 Table 1.1 summarizes growth of GDP in the economy as a whole and for agriculture over the 1980s and 1990s.³ It shows that for the 1980s agricultural growth was 3.1 percent per annum but in the 1990s it increased to 3.4 percent per annum (at least up to and including 1997/98).⁴ Compared with a rural population growth rate of about 2 percent per annum this growth would have had some impact on poverty reduction in rural areas. During the 1980s and 1990s (up to 1997/98) the economy as a whole grew at 5.8 and 5.6 percent per annum respectively suggesting a substantial positive growth in per capita GDP. But compared with East Asian economies Indian growth was still relatively low. For example GDP growth in China was just above 10 percent for the 1980s (5.9 percent for agriculture) and 12.4 percent during the early 1990s (4.3 percent for agriculture). This substantial difference occurred despite the fact that India spends a much greater proportion of its GDP on agriculture than similar countries.⁵ Indian

¹ Bank report No. 18921-IN, *India: Towards Rural Development and Poverty Reduction*, June 24, 1999, prepared by the Rural Development Sector Unit, South Asia Region. These data are based on Gaurav Datt, *Has Poverty in India Declined During the Post-Reform Period*, mimeo, February, 1999; International Food Policy Research Institute, Washington DC; and Angus Deaton and Alessandro Tarozzi, *Prices and Poverty in India*, December 13, 1999, mimeo.

² Landless households make up about half of the 320 million or so rural poor (*India: Towards Rural Development and Poverty Reduction*, op cit, page 44).

³ See the Annex for the statistical trends for the 1980s and 1990s in agricultural GDP.

⁴ An earlier draft of this paper discussed at the workshop in New Delhi in April 2000 used an earlier official time series for GDP that indicated that GDP growth in agriculture had not changed significantly between the 1980s and 1990s. There was considerable support for this proposition among participants and subsequently this assessment was confirmed by the Ministry of Agriculture and Cooperatives.

⁵ Some participants at the New Delhi workshop in April 2000 indicated that this comparison was not valid because agricultural productivity in China had increased from a low base with different initial conditions compared with India. Nevertheless, while yields in China in the early 1980s were certainly low, the sustained increase in their yields over 20 years has been a remarkable performance by any comparison and does raise the question as to why Indian agricultural productivity has been so slow to improve.

agricultural performance has obviously still not been adequate to substantially reduce poverty levels in rural areas.

Table 1.1: Agricultural GDP Growth and Incidence of Poverty (1980/81 to 1997/98)

<i>Item</i>	<i>80/81 to 90/91</i>	<i>88/89 to 89/90</i>	<i>89/90 to 90/91</i>	<i>90/91 to 91/92</i>	<i>91/92 to 92/93</i>	<i>92/93 to 93/94</i>	<i>93/94 to 94/95</i>	<i>94/95 to 95/96</i>	<i>95/96 to 96/97</i>	<i>96/97 to 97/98</i>	<i>89/90 to 97/98</i>
Total GDP growth (% pa)	5.8	6.5	5.7	0.4	5.4	5.0	7.9	8.0	7.3	5.0	5.6
Agriculture GDP growth (% pa)	3.1	1.8	3.8	-2.3	6.0	3.7	5.4	0.2	9.4	-1.0	3.4
	<i>87/88</i>	<i>89/90</i>	<i>90/91</i>	<i>91/92</i>	<i>92/93</i>	<i>93/94</i>	<i>94/95</i>	<i>95/96</i>	<i>96/97</i>		
Incidence of Rural Poverty (%)											
- Datt	39.2	34.3	36.4	43.5	40.0	36.5	39.8	37.5	36		
- Deaton/Tarozzi	39.2					32.9		31.6			
Incidence of Urban Poverty (%)											
- Datt	36.2	33.4	32.8	33.7	33.4	30.5	33.5	28.0	30		
- Deaton/Tarozzi	22.6					18.5		16.8			

Source: CSO, National Accounts Statistics 1998, *Quick and Advance Estimates* 1999. GDP in 1993/94 prices. Poverty data; Gaurav Datt op cit, and Angus Deaton and Alessandro Tarozzi, *Prices and Poverty in India*, December 13, 1999, mimeo. Growth rates were estimated by regression of an exponential function.

1.3 Year to year fluctuations in GDP growth have been a feature of Indian agriculture. The drop of 2.3 percent between 1991 and 1992 and again the drop to 0.2 percent between 1995 and 1996 (due to drought), and an increase of 9.4 percent between 1996 and 1997 (due to excellent growing conditions) have certainly not helped to achieve steady progress in employment opportunities for the poor in agriculture

1.4 On the one hand the strong growth of the whole economy and in agriculture during the early to mid-1990s was presumably due in part to the positive effects of the macroeconomic reform program, such as the devaluation of the exchange rate, which resulted in significant price incentives for producers of exportables such as rice and cotton and reduced biases against agriculture. But increased production of food crops stimulated by the improved terms of trade for agriculture did not improve incomes because the rapid increase in food crop supply coincided with a weaker demand for these crops as consumers increased their demand for commodities with a higher income elasticity such high value crops and livestock products. On the other hand, first increased domestic production and then competition from imports for other important crops such as oilseeds and pulses resulted in declines in prices received by producers after the mid-1990s.⁶

⁶ See, for example, Table 2.6 in Bank Report No. 18921-IN, *India: Towards Rural Development and Poverty Reduction*, Rural Development Sector Unit, South Asia region, June 24, 1999. See also *Index of Terms of Trade between Agricultural and Non-Agricultural Sectors* in *Statistics at a Glance*, Directorate of Economics and Statistics.

Trends in Poverty

1.5 The data on poverty in India are at present controversial. One set of estimates prepared by Gaurav Datt (based on the National Sample Survey) indicates that there has been no decline in rural poverty over the first six to seven years of the 1990s (see Table 1.1). Recent estimates of poverty based on the use of prices reportedly paid by households in the survey to calculate the value of expenditures, rather than using the published price indexes, by Angus Deaton and Alessandro Tarozzi indicate a lower incidence of poverty in 1993/94 and 1995/96 than estimated by Datt. Note, though, that the estimates by Deaton/Tarozzi and Datt for poverty in 1987/88 are the same. Even more recent data from the National Sample Survey suggest a decline in poverty in rural areas but there are considerable doubts about the accuracy of these data. There are more participants in this debate over the estimates of poverty in India but their views will be discussed in more detail in the companion background paper on poverty. For the purposes of this paper the poverty estimates by Datt will be used in the context of the analysis of rural development in India and the Bank's assistance program for rural development because it provides a longer time series than other data. According to Datt's estimates the incidence of poverty declined in rural and urban areas in the 1980s. During the 1990s the decline continued in urban areas but not in rural areas up to 1997/98, although there were of course considerable year to year fluctuations in levels of poverty in rural areas. Indeed, in the drought year of 1992 the incidence of rural poverty rose to around 43 percent, and in 1992/93 and 1994/95 it was close to 40 percent (see Table 1.1). By comparison, the incidence of urban poverty continued its steady decline experienced in the 1980s. Looking at it another way, between the pre-reform period July 1989 to June 1991 and the post-reform period of July 1995 to December 1997 the incidence of rural poverty remained virtually the same (increasing marginally from 35.4 to 36.8 percent—a 4 percent increase) while the incidence of urban poverty decreased from 33.1 to 29.0 percent (a decline of 12.3 percent).⁷ Of course, as pointed out in the workshop on this paper in New Delhi, on April 5, 2000, the counterfactual is that poverty may have increased substantially in urban and rural areas if there had been no reform program since the economy would certainly have declined without it.

Regional Agricultural Growth and Rural Wages

1.6 Average growth rates of GDP mask wide regional variations, but they also mask the distribution of growth and rural wages and hence the incidence of poverty. Table 1.2 shows that agricultural growth has declined between the 1980s and the early 1990s in the states of Punjab, Haryana and to a lesser extent in West Bengal which were historically all high performers. Growth has also been slowing down in the Eastern States and Uttar

⁷ This annual assessment of changes in the incidence of poverty in rural areas is controversial since estimates are based on annual surveys derived from a smaller sample than is used for the five-yearly household survey. On the other hand, experience shows that the annual surveys are a reliable basis for broad estimates of poverty at the national level and for urban and rural areas. Despite the estimates of Deaton/Tarozzi, there is considerable support for the proposition that rural poverty has been stagnant overall in rural areas since the beginning of the 1990s. See *India: Towards Rural Development and Poverty Reduction*, op cit for a discussion of the evidence. For the purpose of this paper, therefore, it is assumed that the trend (i.e., relative stagnation) estimated by Datt used in Table 1 are reliable, even though the poverty levels are open to debate.

Pradesh where rural poverty is concentrated but where agricultural performance improved in the 1980s.

Table 1.2: State-Wise Growth in Agricultural GDP and Rural Wages
(% per annum)

	<i>Agricultural GDP</i>		<i>Rural Wages</i>	
	<i>1981-91</i>	<i>1992-96</i>	<i>1980-89</i>	<i>1990-94</i>
North				
Punjab	4.7	3.1	3.6	2.3
Haryana	4.2	3.2	3.2	1.4
Uttar Pradesh	2.7	2.4	6.6	-1.3
East				
Bihar	3.1	-1.7	4.7	-2.1
Orissa	2.2	0.4	5.8	3.9
West Bengal	6.1	5.8	5.3	0.8
Center				
Madhya Pradesh	1.8	4.5	6.2	15.8
Rajasthan	3.5	3.7	5.1	-8.1
West				
Gujarat	-0.7	2.9	3.0	-1.2
Maharashtra	3.5	4.4	8.6	1.7
South				
Andhra Pradesh	1.7	3.0	6.4	-4.0
Karnataka	2.5	4.7	5.3	-6.7
Kerala	2.1	5.3	3.5	3.3
Tamil Nadu	3.3	4.1	8.3	8.3
All India	2.9	3.1	4.8	1.1

Source: Government Spending, Growth and Poverty: An Analysis of Inter-Linkages in Rural India, IFPRI, 1998 taken from Bank Report no. 18921-IN, *India: Towards Rural Development and Poverty Reduction*, Rural Development Sector Unit, South Asia, June 24, 1999

1.7 The major message in the table is the substantial slow down in the rate of rural wage increases, and in some cases negative changes, in each of the major states except Madhya Pradesh and Tamil Nadu. In Andhra Pradesh and Karnataka where the agricultural GDP growth rate improved substantially, rural wages took a substantial dive. There are some curious issues here, for example why did rural wages decline in states where agricultural GDP was increasing, and why did rural wages decline when urban wages were apparently increasing? The most plausible explanation is that the decline in rural wages came at the same time as a drop in productivity in Indian foodcrops production (see Table 1.3 below) and this may well have resulted in a slower growth of employment in crop management and harvesting, a weaker demand for labor and a slower growth in rural wages, particularly if rural workers were inadequately skilled to find non-farm employment. Therefore the stagnation of poverty over this period is not surprising. It is also consistent with the connection between improvement in agricultural technology and poverty reduction established by Mellor and Johnston, and Mellor and Desai (and others), and more recently by Hazell and Haggeblade who underlined the importance of rural-urban growth linkages⁸. These conclusions underline the need for a substantial focus on improving

⁸ Mellor and Desai have made the point that, "... in largely rural low-income countries, accelerated growth in agricultural production is central to (employment and hence) alleviating poverty, and technological change is, in turn, central to that process"; see John W. Mellor and Gunvant M. Desai, *Agricultural Change*

technology.⁹ This is an area where the Bank should be able to make an important and sustained contribution.

Table 1.3: Growth Rates for Rice and Wheat Yields between the 1980s and 1990s
(percent per annum)

Crop	1980/81	1989/90
	to	to
	1989/90	1997/98
Total Rice	3.2	1.2
Rabi Rice	3.7	0.5
Kharif Rice	2.8	1.1
Wheat	3.5	2.1

Source: Derived from Ministry of Finance, Economic Survey, various issues. Growth rates were estimated by regression of an exponential function.

Sources of Rural Growth and Constraints to Growth

1.8 The Bank's 1999 rural development report notes that technology, along with massive subsidies for fertilizer, rural power, and canal-fed irrigation water, were the basis for increases in total factor productivity, growth and employment in rural areas during the 1960s, 1970s and 1980s. In addition, non-market factors such as roads and education have been strongly linked with agricultural growth.¹⁰ But the revolution in technology (green revolution) was almost wholly limited to foodgrains. Indeed by 1990, 70 percent of foodgrain production in India was based on high yielding varieties. To support the production of high yielding varieties the percentage of cropped area under irrigation increased from 18 percent in 1956 to 35 percent in 1990.¹¹ Little technical advance was achieved in rainfed agriculture where most of the poor have their land. At the beginning of the Eighth Five-Year Plan in 1990/91 the Ministry of Agriculture and Cooperatives launched a "watershed approach to rainfed farming" in 25 states and two union territories. It has been successful resulting in increased yields of cereals, pulses and jute and provided the basis for a series of Bank-assisted watershed projects.

and Rural Poverty: A Synthesis, in *Agricultural Change and Rural Poverty*, page 208, in John W. Mellor and Gunvant M. Desai (eds.), The Johns Hopkins Press, 1985. See also John W. Mellor and Bruce Johnston, *The World Food Equation: Inter-relations among Development, Employment and Food Consumption*, *Journal of Economic Literature* 22 (June): pp. 531-74. Inderjit Singh, *The Great Ascent: The Rural Poor in Asia*, The Johns Hopkins University Press, October 1990 provides an analysis of the contribution of total factor productivity to the growth of Indian agriculture and poverty reduction. Hazell P.B.R. and Steve Hageblade, "Rural Urban Growth Linkages in India, *India Journal of Agricultural Economics*, 46(4): 515-529. See also World Bank, *Rural Development: From Vision to Action*, 1997 which notes that "Agricultural growth stimulates economic growth in nonagricultural sectors, which results in increased employment and reduced poverty," page 2.

⁹ Participants at the workshop in New Delhi in April 2000 emphasized the seriousness of the slow growth of agriculture, due it was said, to low investment in research. This situation was exacerbated by the collapse of non-farm employment.

¹⁰ See for example, M.S. Bhatia, *Rural Infrastructure and Growth in Agriculture*, *Economic and Political Weekly*; March 27, 1999, page A43 which established a strong statistical relationship between infrastructural development and the yield of foodgrains, as well as with the value of agricultural output per acre. See also Datt and Ravallion, (1998) op cit.

¹¹ Shenggen Fan and Peter Hazell, April 1997, *Should India Invest More in Less-Favored Areas?*, Discussion Paper No. 25, Environment and Production Technology Division, IFPRI.

1.9 The report on rural development also mentions that the green revolution lost its steam during the 1990s particularly in irrigated areas as public expenditures on maintaining the quality of irrigation systems declined, the development of new varieties slowed down, and the preference for rice diminished in comparison with other foods.¹² All of this (together with a moderate drought in some parts of India in 1992) led to a substantial slow down in the rate of growth in rice and wheat yields between the 1980s and 1990s (see Table 1.3) and must have had a serious impact on rural employment, even though it may not have had a negative impact on the incomes of farmers because of higher prices for wheat and rice in the 1990s. The core requirement for employment and poverty reduction in rural areas is strong sustainable growth in agriculture. Sustained growth in land productivity is one component of growth, but there are others. Essential conditions required for sustainable growth are summarized in Box 1.1.

Box 1.1: Achieving Sustainable Growth in India Agriculture

The following is a listing of factors which affect the sustainability of growth in Indian agriculture. They are:

- The agricultural sector remains over-regulated (e.g. there are still price and trade controls on rice, wheat and sugar despite considerable support for their removal in policy discussions).
- The fiscal burden of subsidies is still too heavy and they are usually inequitable; (e.g. fertilizer and rural power subsidies usually benefit those with assets and not the asset-less poor).
- Subsidies to agriculture, which were supposed to counter difficulties faced by the sector and the rural poor, turned out to do more harm than good (e.g. throughout most of the 1980s and early 1990s public expenditures on subsidies to agriculture rose, while public capital formation in agriculture declined). As a result improvements in agricultural and rural infrastructure have lagged which is a serious constraint to rural development. Poor rural roads increase costs of marketing agricultural production and raise the costs of inputs with detrimental impacts on productivity.
- The slowdown in the growth of productivity in agriculture has created a squeeze on incomes and employment with the likelihood that food security remains elusive for a large proportion of Indian households despite adequate aggregate food supplies. The way out is improved productivity, for example it has been estimated that a 10 percent improvement in water use efficiency alone would add some 14 million hectares to the gross total irrigated areas.
- Rainfed areas were largely by-passed by the green revolution and as a result many of the poor were left behind those who had access (directly or indirectly) to irrigation. On the other hand rainfed areas offer substantial potential for growth (e.g. see Shenggen Fan and Peter Hazell, April 1997, op cit.) While progress is being made, it is necessary to place a greater emphasis on these areas of agriculture. Not to do so would increase the disparities in income between regions/states.
- Heavy pressures on land and other natural resources such as water in India has created concerns about the sustainability of the physical environment for agriculture (see the CAE background paper on environment)
- Demographic pressures are leading to the fragmentation of holdings. There is an urgent need for land reform to make it possible to trade in land and address the farm fragmentation issues.

Note: A number of these points have been taken from Gulati, (1999) op cit.

1.10 Any improvement in productivity needs to be based on a long term and sustained investment in human capital and research institutions, along with a policy environment which makes the use of technology profitable. These are the necessary conditions for growth that the Bank should address in its assistance program. While agricultural

¹² Gulati has noted, for example, that the growth of foodgrains for the period 1990-97 was only 1.4 percent per annum, well below the population growth; see Ashok Gulati, April 1999, *Towards an Agenda for Reforms in Indian Agriculture*, Paper presented at the NCAER-IEG-World Bank Conference on "Reforms in the Agricultural Sector for Growth, Efficiency, Equity and Sustainability," New Delhi, April 15-16, 1999.

research and extension have been part of the Bank's assistance program in the past. Bank resources devoted to this area have been relatively small and not altogether satisfactory in terms of their impact, as will be discussed below.¹³

2. Relevance And Efficacy Of Bank Assistance Strategy

Country Strategy Issues

2.1 While some Country Economic Memoranda (CEMs) have focused on agriculture (e.g., in 1991 and 1996) agricultural development was not forcefully placed among the major issues in Country Assistance Strategies (CASs) over the first half of the decade under review. Although the adjustment in the exchange rate and the trade regime improved export prospects for rice and cotton, agriculture was excluded from most domestic policy reform in the early 1990s except for an unsuccessful attempt to reduce the subsidy to fertilizer manufacturers in the early 1990s.

2.2 There was no appetite in the central government for opening another front on the reform battle which would face significant political opposition as the attempt to reduce fertilizer subsidies showed. In addition, many policy issues in the agricultural sector were state and not central government responsibilities (for some such as forestry it was both a central and a state government responsibility) and hence the central government was under no pressure to act. Nevertheless, trade policy between states and internationally, the rural non farm sector, and poverty reduction programs (e.g. food subsidies) were central government matters with important implications for rural development. The absence of a strong focus on reform of central and state government policies on agriculture stands in contrast to the commitments made by the South Asia Region in "Rural Development: From Vision to Action" to achieve changes at both levels. Despite this commitment macroeconomic issues had justifiable precedence. There was also a strong view that the preferences of the client for macroeconomic reform should prevail. A concern about the "client" was, however, curious. Surely the government was not the only client. The 320 million or so poor in India, mainly in rural areas, are all stakeholders in the Bank's assistance program, therefore important Bank clients, and would have benefited from a strong rural development program.¹⁴

¹³ In commenting on an earlier version of this paper, the central Ministry of Agriculture and Cooperatives noted that recent estimates indicate that India currently spends 0.49 percent and 0.3 percent of agricultural GDP on research and extension respectively. This, the Ministry stated, was low by international standards and the Standing Parliamentary Committee on Agriculture has agreed that this percentage should be raised to at least 1.0 percent in the short term and between 1 and 2 percent in the next 10 to 15 years. It was also emphasized by the Ministry that studies over the last 15 years have shown that the rate of return to research varied from 40 percent to 218 percent, and that research and development investment was second in importance to rural roads in terms of their impact on poverty reduction.

¹⁴ The Region acknowledges that inadequate improvements were made in agricultural and rural development policy in the 1990s, but considers that this background paper glossed over the major difficulties of the macroeconomic crisis of the early 1990s. The background paper was also criticized for not taking into account the impact of a number of political changes during the 1990s which had a detrimental impact on central government—state relations and in turn had a major impact on the nature and pace of policy dialogue and reform. The revised background paper has acknowledged the policy changes negotiated at the state level in the context of specific lending operations but these changes did not address

Country Assistance Strategies and Agriculture

2.3 Aside from the arguments by Bank management (referred to above) justifying the neglect of agricultural policy issues, it seems there was also a perception among policy makers and Bank staff that the macroeconomic reforms would result in broad-based benefits for agriculture and the poor, and that therefore few specific policy changes for agriculture would be needed. Views on this differ. Some analysts looked at the positive impact of the devaluation of the exchange rate on the prices of exportables such as rice and wheat and the terms of trade for the sector. Others focused on the continued negative impact of agricultural policy on prices for pulses and oilseeds, restrictions on inter-state trade in agricultural products, the badly targeted subsidies and argued that the reform programs of the early 1990s created considerable difficulties for agriculture and the rural sector generally as well as a misallocation of resources.¹⁵ The Bank's rural development report (June, 1999) argues that during the 1990s agricultural production incentives were constrained, growth was not strong in many poor states where real wages slumped, growth in land productivity declined, and the growth in foodgrain production fell behind population growth, and at the same time rural infrastructure such as roads was neglected.

2.4 Box 1.2 provides a stark summary of the limited attention given to agricultural and rural development in the Bank's own macroeconomic analysis such as country economic memoranda (CEMs) and in country assistance strategies (CASs) during most of the 1990s despite the well documented problems facing agriculture in the CEM of 1991. That report had noted, inter alia, that "Given the importance of agricultural sector development for the adequacy, equity and sustainability of the Government's overall development effort, adjustments in agricultural sector policy deserve to be pursued with priority in the context of the Government's broader program of stabilization and reform." In the late 1990s a renewed interest in the sector emerged, but by then valuable time had been lost.

Sector Analysis in Agriculture

2.5 The region prepared a review of irrigation issues published in 1991¹⁶ which also led to the hiatus in lending for irrigation in the early 1990s. That report concluded that the weak performance of many irrigation projects was due to an inadequate institutional framework for the implementation of irrigation projects. It therefore recommended strategies in four areas, namely (a) the need to have a coherent water resources policy based on river basin planning and strengthened data collection and coordination between users and states; (b) government expenditures need prioritization, and financial management of expenditure and revenues needs to be tightened; (c) technical performance needs upgrading, particularly adequate maintenance, better water management, good quality of construction, improved environmental impact and full rehabilitation of communities displaced by irrigation development; and (d) restructure irrigation institutions, enhancing their management and technical capabilities and

the substantial shortcomings in national policies which remain unchanged despite cabinet decisions in 1999 to, for example, implement a new grain policy.

¹⁵ See for example, Ashok Gulati and Shashanka Bhide, *What Do the Reformers Have for Agriculture?* Economic and Political Weekly. May 6-13, 1995.

¹⁶ Bank report No. 9518, *India: Irrigation Sector Review*, Agriculture and Water Division; December, 1991 prepared jointly with the Ministry of Water Resources, India.

progressively devolving responsibilities for water management to farmers and other non-government entities.¹⁷

2.6 The report resulted in a number of Bank-assisted Water Resources Consolidation projects (WRCPs) which will be discussed below. They focused more on river basins with a broader institutional approach to lending in irrigation. These projects also placed much greater emphasis on improved water management. The results from this style of irrigation project have been mixed as will be seen in the discussion of irrigation operations.

2.7 In 1998 the Bank, in collaboration with a range of Indian institutions prepared a very comprehensive Water Resources Management Review that covered the delivery and service aspects of India's irrigated agriculture sector as well as reviewing water management issues such as domestic water supplies.¹⁸ It focused on the issues of water allocation between competing intersectoral users and between states sharing the same river basin. It placed considerable emphasis on the need to shift from a supply-driven approach for water management to a demand-driven approach. These themes have been used in the design of the irrigation component in the Andhra Pradesh Economic Restructuring Project (APERP).

2.8 Four years were used in the late-1990s on a number of sub-sector and policy studies that provided the building blocks for the Bank's recent report on rural development and poverty reduction.¹⁹ Those studies included detailed papers on grain marketing, cotton and textiles, oilseeds, livestock and sugar. An earlier sector report had been prepared on forestry that had drawn attention to the need to improve forest protection and management as the most important forest policy goal for the next decade.²⁰ This has been one of the cornerstones for the series of forestry projects that emerged strongly in the 1990s.

2.9 The final version of the Bank's 1999 report on rural development and poverty reduction avoided strong recommendations and preferred instead to list "challenges," "advocated" institutional reform and decentralization, and set out "requirements" for a reform strategy. Such an approach is consistent with the broadly held view in India and the Bank that high quality analysis of issues is greatly valued by policy makers and academics but that "recommendations" and "action plans" are not appreciated since well documented conclusions are readily understood in India. This does not mean, however, that the Bank should hold back in being clear and forthright in the presentation of the facts and its analytical conclusions. The rural development report could have been bolder in presenting its conclusions so as to make a greater impact on crucial issues for rural development and the poor. The report was discussed at a workshop in New Delhi and subsequently directly with the government. No further dissemination of its messages in the states has been initiated. It is uncertain at this stage what the impact of the report will

¹⁷ A more detailed review of Bank assistance to the irrigated sector can be found in *India: World Bank Assistance for Water Resources Management*, Operations Evaluation Department, October 20, 2000.

¹⁸ Bank report No. 18356-IN, *India: Water Resources Management Sector Review – Initiating and Sustaining Water Sector Reforms*, September 29, 1998.

¹⁹ *India: Towards Rural Development and Poverty Reduction*, op cit . The various background studies are listed in the bibliography of that report.

²⁰ Bank report No. 10965-IN, *India Forestry Sector Review*, 1992.

Box 1.2: Lack of Attention to Agricultural Policy Issues in Bank Strategies during the 1990s

In 1991 it was apparently business as usual for the agricultural sector. That year's Country Strategy Paper stated that "irrigation will continue to account for a substantial share of our agricultural lending but with priority given to improved utilization of existing systems with support for new development restricted largely to the poorer states in Eastern India". In the event no Bank irrigation projects were negotiated in India in 1991 or 1992, as the country department reviewed its lending in irrigation and total lending for agriculture fell substantially. In 1992 the main lending was for forestry which came on the heels of the central government's circular to the states providing guidelines for involvement of village communities and voluntary agencies in the regeneration of degraded forests. The Bank had published a forestry policy paper in 1991 supporting lending.

The CEM in 1991 focused almost completely on agriculture raised similar issues to those raised in the rural development report of 1999, was not followed up and not even discussed at the donors' meeting that year. The main reason appears to have been that macroeconomic issues, trade and manufacturing growth were regarded as far more important than the constraints facing the agricultural sector.

But a year later, the Strategy Update stated that: "In the light of the relative lack of progress in the area of agricultural reform, we are enhancing substantially our ESW program for this sector over the next few years." Why could the very good CEM of 1991 not have been used immediately since it had set out the issues very clearly. Relatively little was done.

The Strategy Paper for 1993 also mentioned agriculture, but emphasis was now on "revitalizing performance" of agriculture "in the better-off states to promote diversification and specialization in the rest of the economy". The Bank did launch studies that were ultimately the basis for the 1999 rural development report. One has to wonder if the country department was serious about agricultural policy at that time. For example, if the focus needed to be on agriculture, then why did the sector operation for agriculture in 1993/94, for which an appraisal mission was sent to India, not eventuate? It is known that the government did not agree, but it was probably a mistake for the Bank not to have persisted since a draft Agricultural Policy Resolution prepared by the government was available which "acknowledged the inadequate and uneven development of agriculture, as well as the underlying causes". The CAS noted the limited progress on addressing the issues identified in the government paper.

When the 1994 CAS was tabled it included much more on agriculture, but it was not clear whether the Bank understood that poverty had shot up that year and progress on rural development was extremely urgent. An annex to the CAS contained the standard prescriptions (e.g., liberalizing internal trade, eliminating restrictions on agro-industries) but it was not clear how these objectives would be achieved. Of course they were not achieved. Again, was this a serious assistance strategy for agricultural development?

When the 1995 CAS emerged Bank management was clearly restless about the lack of focus on agriculture and demanded to know at the senior management review, "Does the CAS provide a well-articulated strategy to accelerate agricultural and rural income growth? Agricultural trade is still subject to quantitative restrictions and controls. Yet, agricultural policy reforms seem to be kept outside the policy dialogue, even though substantial lending in the sector is envisaged. Is the agricultural strategy consistent with the growth objectives of the sector and the poverty objectives of the CAS?"

The 1996 CEM reviewed economic policy issues for the previous five years and reflected on the challenges ahead. It included substantial sections on agriculture and poverty, indeed a number of points which subsequently emerged again in the 1999 rural development report were made in this CEM. Nevertheless, it had little impact on the focus on agriculture and poverty in the CAS.

The next full CAS was in 1997 and again the EXC review wanted to know whether the Bank had a program for rural development. The Region's response was that a study of rural development and poverty was being done. It is surprising that the Region did not by this time have a strong rural development focus in its strategy since in May of 1997 the India: Poverty Assessment report had made a strong point about the important contribution that rural development could make to poverty reduction. The messages had not come through clearly and there was consequently uneasiness on rural issues among the Bank's peer reviewers of the 1997 CAS.

The 1999 CAS update finally emphasized the importance of the rural development and it became priority. The lending program foreshadowed for FY00-02 gives agriculture an important and prominent role.

be although there are positive signs that the government is focussing on achieving changes in agricultural policy. It is possible that the difficulty in ensuring that reports such as these have an impact is the absence of an obvious counterpart ministry in the central and state governments on agricultural and rural policy reform issues.

2.10 It is known that over the last decade the Bank has made a number of attempts to launch discussions with the government on policy change in agriculture, but they never moved very far. At the root of the Government's resistance to reforming the agricultural policy and institutional framework has not been a lack of understanding of the many policy shortcomings, but the lack of a leading reform advocate with the determination to overcome the plethora of responsibilities in the sector among many center and state agencies, and with the political strength to take on the rural elites. What is still needed is a strong reform program to eliminate market distortions and integrate India fully with world markets, while protecting the poor and assuring the supply of quality inputs. It seems that agriculture and rural development policy, while everyone's business is nobody's responsibility.²¹

2.11 Over the same period that the rural development report was being prepared, the 1997 poverty assessment was completed.²² This poverty assessment, which reviewed connections between growth and poverty reduction, strongly underlined the important role which rural development could make to poverty reduction.

Evaluation of Sector Work

2.12 The main sector analyses in the 1990s were the report on irrigation (1991) and water resources management (1998), and the recent rural development and poverty reduction (1999) together with their many background papers. These reports were highly relevant to India's rural development and to the Bank's operational work, although the rural development report was long overdue. As will be discussed below, the reports on irrigation and water resources stimulated major revisions in the Bank's approach to

²¹ There is of course a Ministry of Rural Development in the central government which has an implementing role in a large number of rural development programs, as well as rural employment, targeted investment programs, and all matters related to the panchayati raj institutions. The Ministry of Agriculture is responsible for matters such as extension and the administration of agricultural regulations and research with which the Bank has had a long standing relationship. It is understood that the Bank has tried to find a point at which a dialogue on agricultural and rural development policy could take place but this has so far not been successful. It must be achieved. In the 1970s and 1980s Sir John Crawford was the Bank's representative in an intense dialogue on agricultural policy and technology issues. This dialogue was praised by a former senior Indian government minister because it served to bring together stakeholders from various institutions who would otherwise not have communicated on agricultural policy and technology issues. The leadership of Sir John Crawford was also highlighted in the paper by Uma Lele and Balu Bumb, "The Food Crisis in South Asia: the Case of India," in *The Evolving Role of the World Bank: Helping Meet the Challenge of Development*, by K. Sarwar Lateef (ed.), The World Bank, 1995. Real progress on many policy issues was made. The approach of asking a respected leader in rural development to bring together representatives from various institutions could achieve the policy changes that are needed.

²² Bank Report No. 16483-IN. *India: Achievements and Challenges in Reducing Poverty*, Country Operations, Industry and Finance Division, May 27, 1997; this was followed up next year by a report on the role of social services and targeted programs in reducing poverty, namely Bank Report No. 17881-IN. *India: Reducing Poverty in India – Options for More Effective Public Services*, Poverty Reduction and Economic Management Division, June 1998. These reports will be discussed in more detail in the background paper on poverty for the CAE.

irrigation and other water resource projects, particularly at the state level. The Bank waited too long to come to conclusions on crucial strategic issues in agriculture and the rural sector that were quite obvious and had (on the basis of analysis already done some years earlier) been emphasized by Indian and international scholars, and in Bank documents. Internal quality and readability of the report were satisfactory and the substance had been carefully (and in many cases collaboratively with Indian partners) researched. A successful workshop on reforms in Indian agriculture was held using the rural development report and associated papers, and a representative of the then government declared that changes in agricultural policy along the lines of those suggested in the report were under discussion. Since then the Regional office has, it claims, taken every opportunity to bring the report's policy conclusions to the attention of policy makers. Nevertheless public discussion has been minimal and, given few changes in government agricultural policy so far, the overall impact of the report is uncertain. The earlier Forestry Sector Review report was also highly relevant to the design of the Bank's series of forestry projects and very timely since it followed closely on the Bank's policy paper on forestry. While all of this was excellent work, it did not result in a paper on Bank assistance strategy for either irrigation, forestry or rural development in India and in this sense the efficacy and impact of this work have been modest so far.

3. The Bank's Agriculture Sector Lending Program ²³

Overview of Program

3.1 There were 84 agriculture projects financed by the Bank since FY80 (see the attached Annex Tables 1 and 2) and 29 since FY90. Irrigation and drainage (which excludes watershed projects) has dominated the portfolio (see Figure 3.1 below). It accounted for 47 percent of total net commitments for agriculture since FY80, and 50 percent since FY89. During the first half of the 1990s the share of irrigation lending declined by about 40 percent having already declined by 56 percent in the second half of the eighties. These declines for irrigation were mirrored by declines in the total net commitments for agriculture, particularly in the first half of the nineties. On the other hand lending to agriculture is now up to virtually the same share as in the late 1980s and irrigation lending has retained its dominant role. There was also a significant commitment to extension (sometimes as components of state focused projects with a different principal theme) in the early 1990s. Support for agricultural research was quite small (although again some research components are included in some rural agriculture/development projects) until a major project was negotiated in FY99. Forestry has been another significant part of the portfolio spanning both the first and second half

²³ This section should be read in conjunction with the separate paper referred to above, namely *India: World Bank Assistance for Water Resources Management*, prepared by the Operations Evaluation Department of the World Bank. That paper carries more detail on aspects of Indian irrigation development than could be covered in this paper. It also covers rural domestic water supplies.

of the 1990s. Watershed/area development has also become much more important in the last ten years.

3.2 The fluctuations in lending volume for agriculture over time have been extraordinary. Net commitments dropped sharply from the late 1980s to the early 1990s which reflected the reduced attention to agriculture in the CASs in the early 1990s, but it was presumably also influenced to some extent by the disappointing results from the massive lending for irrigation in the 1980s.²⁴

3.3 As mentioned already, there also emerged a more prominent focus on rainfed agriculture and watershed/area development.²⁵ This was part of a conscious strategy of a greater emphasis on rainfed agriculture. Nevertheless, the choice of projects in the mid-1990s (in other words the reflection of the focus on rainfed agriculture) was related more to opportunities to lend to the states which agreed to implement policy change rather than a specific Bank assistance strategy for rural development. Indeed the Bank had neither a national nor any state agricultural/rural development assistance strategies. Of course, most states did not have water resource management policies at this stage either.²⁶

(a) Irrigation and Drainage²⁷

3.4 **Operations.** Irrigation and drainage has been the flagship sub-sector in the agricultural lending program and indeed a major component of the total India program.²⁸ The main reason was that irrigation and drainage were core priorities for the government because of their importance to productivity growth provided by the availability of high yielding varieties of wheat and rice. Irrigation was essential for the optimum use of fertilizer and to obtain high yields from improved varieties, and it was the main source of growth in the agricultural sector. The importance of irrigation is reflected in the fact that water used for agriculture and livestock accounts for about 92 percent of all water used in India.²⁹ This share attracts attention to agricultural water use; it also underlines the pressures which will come to bear on the available water resources as the demands from domestic, industrial and other users increase within river basins and between river basins. Domestic water supply has increased in the Bank's lending program (Karnataka and Uttar Pradesh), but it is not apparent that competition for water among users (highlighted as an issue in the sector analysis mentioned above) has been adequately addressed as part of the Bank's assistance program despite the considerable efforts as part of the project

²⁴ In 1985-89 the Bank committed \$686 million to irrigation and drainage projects, but all except one had an unsatisfactory or marginally satisfactory outcome according to OED evaluations.

²⁵ Note that there were some Bank-assisted watershed projects in the 1980s. This was therefore not a new line of lending for the Bank.

²⁶ Tamil Nadu issued a water policy in 1994 and Orissa in 1995. Rajasthan is in the process of finalizing a state water policy. Andhra Pradesh issued an irrigation sector policy in 1998.

²⁷ A separate background paper water resource policies in India is being prepared by I.J. Singh and K. G. Pitman. In addition A. Vaidyanathan prepared a separate paper on the Bank's involvement in irrigation development in India. The following paragraphs have drawn some material from these papers.

²⁸ Bank report No. 18416-IN, *India: Water Resources Management Sector Review* reviews the irrigation sector in India.

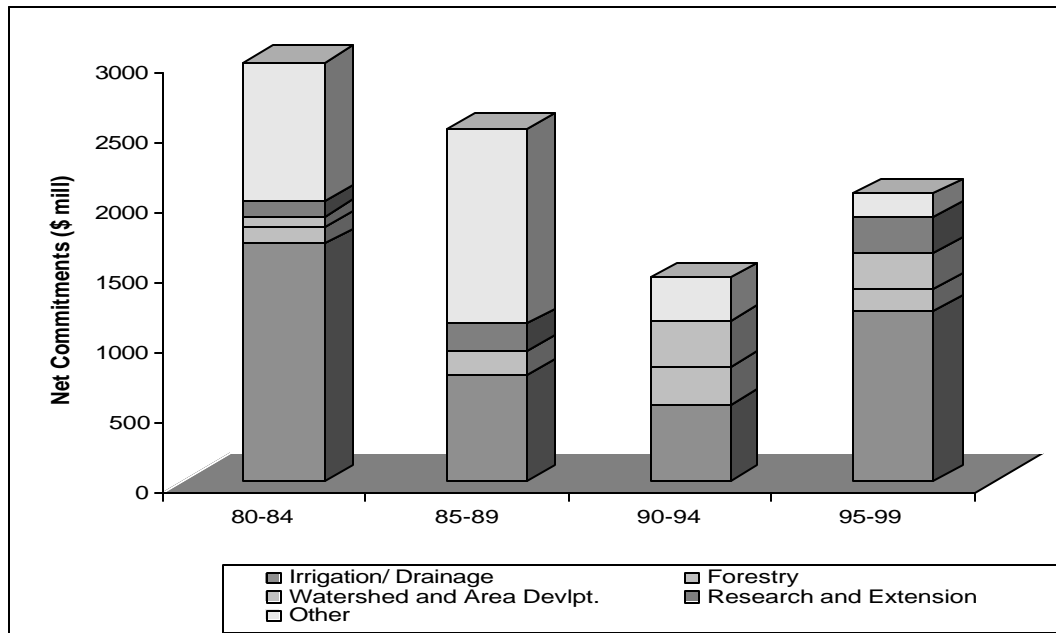
²⁹ A. Vaidyanathan, *Water Management: Institutions and Irrigation Development in India*, Oxford University Press, 1999.

activities.³⁰ The Hydrology project (under the heading of environment) is aimed at improving hydrological information. It will be valuable in the debate on water allocation.

3.5 Both the Bank and the Indian authorities have struggled to improve the efficiency and effectiveness of irrigation systems to improve water delivery, maintain yields and raise cost recovery levels. With yields of crops under irrigation bottoming out, cropping intensity only about 137 percent compared to 110 percent 10 years ago,³¹ capital and operating costs rising, and few improvements in water delivery efficiency, irrigation projects have come under considerable pressure to improve their effectiveness.

3.6 In response, the Bank focused increasingly in the mid- to late-1990s on strengthening the institutional capacity of irrigation management systems and also focused its assistance on logical units such as water basins rather than individual projects. This approach encompassed the government's Command Area Development (CAD) approach. The Water Resources Consolidation Projects (WRCPs) in various states and the more recent irrigation component in the Andhra Pradesh Economic Restructuring Project (APERP), which focuses, inter alia, on improvements in water management and pricing, were developed as part of this approach to move towards addressing water resources management at the state level, and to strengthen implementation capacity. This was a logical way to address the problems since the Bank's assistance could then focus more on strengthening the State capacity to plan, manage and implement large projects, while at the same time address policy and water resource management issues such as the competition for water resources and water pricing. It also allowed for a "consolidated" approach to the completion of various projects, since one of the problems of Bank-assisted projects in the past was that they were often not completed.

Figure 3.1: Bank Lending for Agriculture and Area Development (FY80 to FY99)



³⁰ There have been and still are many disputes in India over inter state water allocation and rights. India has an Inter-State River Dispute Act to resolve such disputes.

³¹ A. Vaidyanathan (personal communication).

3.7 *Evaluation of the operations.* The attached Annex table which lists the projects approved since FY80 shows that there has been a considerable improvement in the performance of the portfolio. Since FY90 some eight irrigation and drainage projects have been approved. At the time this paper was first prepared two of these projects were rated as unsatisfactory in terms of implementation performance and one was judged as unsatisfactory in terms of development objectives. Currently they are satisfactory on both counts. The river basin approach through the WRCPs has not been an unqualified success. The main focus in these projects is still on construction. In addition a number of issues such as the role of farmer organizations (as in the Tamil Nadu WRCP) and cost recovery are no closer to being resolved than before.³²

3.8 The unsatisfactory implementation performance of the Andhra Pradesh Irrigation III in the late 1990s was of considerable concern since there was a risk that the development objectives may be only partly met. The fundamental problem was that after about 35 percent of the project implementation period has elapsed, less than 10 percent of the project works had been completed. It was the third phase of this project and the apparent inability of the project management unit to meet the performance targets was a reflection of the fragility of even experienced implementation institutions in the state. While the problems in AP Irrigation III were resolved, it is clear that irrigation projects are still vulnerable to substantial implementation problems despite the numerous irrigation projects the Bank has financed in India in the past. For example, the Upper Krishna Irrigation II project was a disaster. This project was evaluated by OED as having an unsatisfactory outcome, unlikely sustainability and modest institutional development. It does, however, provide important lessons for the future. A summary of the results of this project and the lessons can be found in Box 3.1. The poor performance common to many irrigation projects and projects in some other sectors may be related to the Bank's penchant to establish project implementation units which are outside the regular institutions. When projects are completed and if they are to become sustainable they need to be absorbed into the mainstream institution.³³ On the other hand, the Uttar Pradesh Sodic Lands Reclamation project which is also part of the ten year cohort has been widely hailed as a remarkable achievement. A second similar project has been appraised, approved and launched in an adjacent location. Details are provided in Box 3.2 and it reflects the achievements as well as some issues which will need to be addressed if this model is to be sustainable.

³² For example in the Project Status report for the Punjab Irrigation and Drainage prepared at the time of project closing concludes that "overall progress on the project in physical and financial terms is satisfactory." On the other hand a "substantial proportion" of work is still to be completed on the component aimed at improving the development of backward areas and the R & R of people affected by dam construction. The Tamil Nadu WRCP is an example in which many achievements are recorded. Nevertheless one of the core requirements for sustainable water resource development in the Tamil Nadu, namely the system improvement and farmer turnover program through which farmers will participate in the improved water management in irrigation systems, is recorded in the latest project status report as "seriously behind schedule." The project is due to close in March 2002. The latest Project Status Report for the Orissa WRCP consulted during the preparation of this paper reported that cost recovery was only 12 percent of estimated O&M costs as against a target of 80 percent by March 31, 1999.

³³ This practice is apparently declining. For example the Tamil Nadu WRCP, the Orissa WRCP and the irrigation component in APERP do not have project implementation units.

Box 3.1: The Upper Krishna Irrigation Project - An Extraordinary Failure

Objectives

The objectives of the Upper Krishna Irrigation Project II project (approved 1989 for \$167 million) were to: increase the employment and income of some 100,000 relatively poor families in the arid north of Karnataka through (a) the development of 150,000 ha of irrigation which included the construction of a number of dams; (b) the R & R of displaced persons and the improvement of their living standards; (c) strengthen Karnataka's technical and managerial skills in irrigation management; and (d) contribute to an effective anti malaria campaign.

The first two objectives were the most important and needed to be closely coordinated. The irrigation development objectives were only partially achieved (120,000 ha of irrigated land were developed compared with the target of 150,000 ha). While the plentiful availability of irrigation water at virtually zero cost to users has increased yields and returns by 200–400 percent, slow development of the command area and improper management of water resources has led to practically no net benefits to the project because of the substantial project cost. The irrigation component was completely supply driven, and the abundance of surplus water compared to present water requirements has eliminated almost any incentive for efficient utilization of water resources. The oversupply of water with considerable water logging has caused serious damage to houses and crops..

Implementation Weak

A field visit by OED staff to the command area confirms the serious project implementation problems. The OED mission found no functioning water users associations (WUAs), despite the fact that during 1990–92 fifty WUAs were created. WUA members had stopped water rotation soon after the water supplies arrived because there was ample water for all members, even tail-enders, and saw no reason to ration irrigation water and submit individual water delivery preferences to group decisions.

For the state government dam construction on the Krishna river was the priority. As a result, despite written assurances, the dam construction took place without completing the re-settlement arrangements. Many villages were submerged; and as a result hasty and costly temporary arrangements needed to be made. Intensive Resettlement expenditures by the state government in the 21 months after closing the Bank's credit (June 30, 1997) have been US\$166.3 million, compared to US\$100.8 million during the eight year period of Bank assistance (1989-97). This influx of funds, combined with improved administrative procedures and institutional capacity, has led to an increase in the percentage of resettlers utilizing income generating scheme grants (from 12 percent to 16 percent), land purchase grants (from 16 percent to 29 percent), and house construction grants (from 33 percent to 51 percent) during the same 21 months.

Outcome and Lessons

This project had an unsatisfactory outcome and is unsustainable despite the late corrections to the resettlement component. The lessons from this project are: (i) the Bank ignored its own agreement with the government on the need for coordination between irrigation development and re-settlement; (ii) improved water management policy reforms were not pursued; (iii) supply led irrigation development cannot be sustained. The main question, however, is why after so many years of experience with irrigation projects was it possible for the Bank to be associated with such a dramatic failure?

Source: Project files, and OED mission Back to Office report, and OED Performance Audit under preparation.

Box 3.2: UP Sodic Lands Reclamation Project – A Successful Collaborative Effort

Objectives

The main objective of this project approved in 1993 for \$54 million was, building on previous experience, to reclaim areas which under previous water management regimes had become contaminated with high levels of salt in the soil had become unproductive.

The approach involved large-scale drainage, on farm development, the use of chemicals, and the promotion of forest species on community lands, the strengthening of local institutions so that they can participate in the implementation of the land reclamation program, and the formation of water user groups (now being converted to Self Help Groups). Important target groups for the allocation of the reclaimed land were the poor and landless. The first project is almost completed; a second similar project has been appraised, approved and launched. Local farmers and the UP government are very enthusiastic about these projects.

Outcome

In aggregate the results have been quite remarkable. Very substantial benefits have come from increased crop yields on the previously largely unproductive lands leading to increased family income. There has been an increase in crop diversification and considerable beneficiary involvement in the land development program through Village Implementation Committees which review and decide on land allocation within the project. Farmers are also involved in the maintenance of irrigation infrastructure. Women's Self Help Groups, each with about 20 members, have been established which operate small-scale credit schemes. Paddy and wheat yields have risen from 1.2 tons per ha. to 3.74 tons per ha and from 0.75 tons per ha to 2.63 tons per ha respectively. Average family incomes have increased from Rs. 13,550 to Rs. 19,964. About 11,138 ha of land has been allocated to the landless; each farm being of the order of 0.5 ha in size.

Longer Term Issues

One issue in this project is that the planned cost recovery of O&M costs will be only partial in the short term. However, since many of the beneficiaries are the poor and the farms are very small, this may well be a better way to transfer benefits to the poor than other ongoing targeted programs in India, but it does raise the issue of sustainability in the longer term.

Source: Mission observations and interviews.

3.9 One of the ongoing issues in irrigation development in India is the low level of cost recovery. The general situation in Indian states is that during the past decade, apart from one year, the recovery rates of operation and maintenance costs in all water sectors have been around or below 8 percent.³⁴ Improvements are at hand, however, through a substantial change in water management through the establishment of water users associations that not only become part of the management of water but also take responsibility for the collection of water charges. This system has now been adopted in all Bank-financed projects. The available evidence indicates that economic pricing of water and the establishment of water users associations will result in a higher efficiency of water use and a better collection of water charges.³⁵ This achievement, if sustained, will be a major accomplishment of Bank assistance and would be transferable to irrigation development in India generally. There is, generally, however a long way to go. See, for example the experience of the Orissa WRCP mentioned in footnote 32 above. At the same time the irrigation component in APERP has become an example of how strong government commitment to water users associations to manage water distribution,

³⁴ See *India: World Bank Assistance for Water Resources Management, op cit.*

³⁵ See, for example, Niranjana Pant, *Impact of Irrigation Management Transfer in Maharashtra*, Economic and Political Weekly, March 27, 1999.

effective and equitable water allocation, and cost recovery can rapidly (in the space of three years) result in a number of benefits for farmers such as better maintenance, timely supply of irrigation water, increased irrigated area, and higher productivity.³⁶

3.10 One of the disappointments of the irrigation cohort is the lack of any evidence that the projects have had a positive impact on employment and poverty reduction. Two issues are relevant: (a) there has been no systematic monitoring of income levels of the poor in connection with any of the irrigation and drainage projects; and (b) it is unlikely that poverty was changed to any large extent because most of the benefits from increased production and employment would have accrued to those with land who are not likely to be the poor, particularly in the context of declining productivity of irrigated crops.³⁷

3.11 Finally, while the move towards a river basin approach was certainly better than the traditional project investment approach, the content of the broader projects still had many of the characteristics of the past. Many of the Bank projects share the same defects as non-Bank assisted projects. Although the Bank did establish conditions on cost recovery and the efficiency of irrigation schemes, its pursuit of these objectives has been characterized by some experienced Indian observers of irrigation development as “lukewarm” in ensuring project conditions on these issues were met, and has “not been willing to commit resources to systematic evaluation of project implementation and impact.”³⁸ The nature of lending for irrigation in the latter part of the 1990s is, however, changing compared with the first half of the decade. The importance of water pricing is emphasized more, and the role of water users associations is recognized and is an important part of the institutional design of current projects. It is surprising that for such a large part of the agricultural lending program none of the CASs over the last 10 years has discussed irrigation or water resources development policy separately. As mentioned above there were comprehensive reviews of irrigation in 1991, and again in 1998, yet the 1999 CAS update chose to refer to the rural development report (1999) with no mention of the irrigation reports in the discussion of rural lending strategy.³⁹ Given its share of the lending program, it is not clear that irrigation lending receives adequate review as part of the overall strategy. This concern is underlined by the fact that there is at present no statement of Bank assistance strategy for the irrigation sub-sector.

³⁶ See World Bank Technical Paper No. 449, *Transferring Irrigation Management to Farmers in Andhra Pradesh, India*, October 1999.

³⁷ The appraisal document for the large Andhra Pradesh Irrigation III (\$325 million) declares it is not intended to focus on the poor. Although the project is estimated to generate 105,000 new jobs, it is not clear that any of those new jobs will be captured by the poor such as the landless and landholders without irrigation land.

³⁸ See A. Vaidyanthan, *Bank Group Operations in India's Irrigation Development: A Critical Review of Programme and Impact*, July 1999 (draft for discussion). Note that the Region objected strongly to this characterization of its commitment to the evaluation of project implementation and impact. The Region stated that this view of the situation was many years out of date.

³⁹ The 1997 CAS was a very comprehensive document that highlighted the importance of addressing poverty reduction as a core objective. But, apart from the mention of irrigation in the matrix, there was no discussion of irrigation lending strategy.

(b) Research and Extension

3.12 **Operations.** Lending for agricultural research and extension was low and intermittent. Apart from the Forestry Research, Education and Extension project (1994) and the Agricultural Human Resource Development project (1991), there was a gap of 12 years between the approval of a small National Agricultural Research project which closed in 1996.⁴⁰ and the recently approved National Agricultural Technology project for which the project concept paper was not prepared until February 1995. Given that the earlier project was being implemented successfully and the clear need for vigorous technology development in agriculture, it is surprising that the Bank and the government did not prepare a follow-up project earlier. After all, the CAS of 1993 stated that the focus then would be on “revitalizing performance” of agriculture with “investment operations at the national level (which would) aim at increasing the efficiency and relevance of the agricultural technology generation and dissemination system.” In this CAS the National Agricultural Technology project was proposed for FY97—a four year lead time. National research projects are complex, but despite the existence of research components in some rural development projects, it should not have taken up to 1999 to bring this project to the Board, particularly in the face of the urgency of continuing technological change in agriculture. Reasons provided by the Region were that there were considerable delays in reaching conclusions on the framework for the project with the Indian authorities. Unfortunately, however, opportunities were lost for an extremely important investment for the Indian economy and for the poor because of the positive employment effects of technological change.

3.13 Similar questions could be asked about extension. No national extension project has been approved since 1987, except the extension component in the Forestry Research, Education and Extension project. On the other hand one finds extension components in other projects such as the Agricultural Development project for Rajasthan. This is a state-focused initiative. The reasons for the delay in developing a follow-up national extension project according to the Region were fundamental and costly disagreements about extension methodology and staffing. It is, however, hard to understand why it took 10 years to initiate further support for extension although last year extension was incorporated as a pilot activity in the National Agricultural Technology project mentioned above. The outcome of the Bank-assisted extension efforts supported by the Bank will be discussed under the heading of efficacy of projects below.

3.14 **Evaluation of operations.** OED has evaluated both national agricultural research projects (approved in 1970 and 1986 and are therefore not included in the cohort for this evaluation)⁴¹ as having satisfactory outcomes since they had succeeded in achieving their objective of strengthening agricultural research at state universities as part of a decentralization of research. There were, however, implementation delays, particularly in civil works. These efforts by the Bank to support research were much too small given the importance of technological progress in agriculture; a much larger effort was warranted

⁴⁰ This project (and its predecessor) was judged by OED as having a satisfactory outcome and substantial institutional development. On the other hand it took 10 years to disburse.

⁴¹ Note that the Bank had also financed a number of state research and extension projects.

and is warranted in future. The previous extension projects (also not part of the cohort for this evaluation) had not received a favorable rating from OED (see Box 3.3).⁴²

Box 3.3: OED Evaluation of Extension Projects

The outcome of recent support for extension, was judged to be marginally unsatisfactory by OED. It led to substantial costs for the government because the program had a large increase in staff that required funding when the extension projects were closed. In its comments on this project, the Ministry of Agriculture and Cooperatives stated that the Bank's contribution in project implementation was satisfactory.

The original objective for the Bank's support to extension was to assist farmers (using the "training and visit" or "T and V" system) to implement the green revolution and achieve higher grain yields and production. This was achieved. Attention then turned to extension to rainfed agriculture. While extension support is fundamental to the sustainability of Indian agriculture, it was clear that T and V did not work for a diverse rainfed agriculture that was not heavily dependent on the use of high yielding varieties and the intensive use of inputs. New approaches are being tested in the recently approved National Agricultural Technology project.

Source: Bank report no. 18139, *India: Performance Audit Report for the National Agricultural Extension Project III*, 1998.

(c) Forestry⁴³

3.15 Operations. Central and state governments have joint responsibility over forest resources in India and the Bank has had a satisfactory operational dialogue with both groups. The agricultural use, general encroachment by settlements and the resulting degradation of forestry areas in India has moved at a rapid rate creating dangers for erosion and damage to important water catchments in India. The National Forestry Policy issued in 1988 which, apart from the normal sustainable production, biodiversity and conservation objectives, also embraces the idea that if people can participate in the management of forests then their group actions can be harnessed to achieve broader public benefits. This idea has subsequently been used by the state governments to prepare their own forest policy⁴⁴ which has led to a participative approach to forest management and development. From this has emerged a core concept of Joint Forest Management (JFM).

⁴² Evaluations by OED of earlier extension projects in India (Report Nos. 8573, 13632 and 16156 dated 1990, 1994 and 1996 respectively) had raised some concerns about issues such as financial sustainability, weakness and effectiveness of village extension workers, the quality of extension, adequacy of attention to local conditions and the lack of involvement of the private sector. In a recent *Performance Audit Report for the National Agricultural Extension Project III*, 1998, OED concluded that the project was marginally unsatisfactory largely because the extension model being implemented had a number of serious institutional inadequacies.

⁴³ In the context of the OED *Forestry Sector Review* a specific country case study on forestry issues in India has been prepared. For a detailed discussion of the forest sector and Bank-assisted projects in India that paper should be consulted. The following paragraphs have used information from the case study as well as other documents.

⁴⁴ See, for example, *Policy for Forestry Development in Andhra Pradesh*, in Bank report No. 12193-IN, Annex 1.

3.16 In Madhya Pradesh a Bank-assisted forest development project has adopted the JFM approach. It is based on the following broad steps: (a) discussions between a community and the Forestry Department (FD) to discuss the needs and opportunities for management of local forests; (b) a village forest committee (VFC) is formed with wide membership from the community; (c) a management and production plan; and (d) the VFC implements the plan and decides on how to share the costs and benefits. This is working because: (a) there are state policies and administrative orders which provide the framework for the project; (b) a close and constructive relationship between the FD and the community has been forged; and (c) there are substantial and sustainable benefits to communities and the poor which are generated from the JFM approach.⁴⁵

3.17 There are six ongoing state forestry projects assisted by the Bank as well as the Forestry Research, Education and Extension project, plus the Ecodevelopment project in the cohort of projects under review in this CAE. The JFM components in the state projects are designed to be important to improved forest management and poverty reduction. According to project status reports the JFM components are performing well and addressing the needs of communities. The OED case study on forestry development in India notes four contributions by the Bank in the context of the forestry projects, namely that they (a) provide crucial additional financing which makes it possible for important programs to make progress; (b) help achieve technological progress; (c) help change the attitudes of forestry officials working with people on forestry issues; and (d) provide catalytic role in bringing policy and institutional issues to the table for discussion.

3.18 A major problem at present is that many policy, legal and institutional issues still need to be resolved. The Bank-assisted projects are designed to address these issues. It is understood that the central government is well pleased with these projects and is anxious to continue a strong forestry program in the states with Bank support.

3.19 ***Evaluation of operations.*** The concept and design of these projects are attractive. The concept is that forests will be sustainably managed if communities have a strong stake in their management and income generation. They are designed to reach out to communities and transfer the public good benefits of sound forest management to a wide cross section of the community, including the poor. Only the West Bengal Forestry project, which along with the Maharashtra Forestry project, was the first in the series of state forestry projects and has been completed. The West Bengal Forestry project was rated as satisfactory at closure and evaluated by OED as having a satisfactory outcome. Nevertheless, the OED evaluation noted that, while the project objectives “were relatively clear, implementation strategy was not entirely consistent.” For example, it appears that “some components emphasized flexibility while others projected a prescriptive approach”. Also the project did not include any indicators for assessing impacts, social considerations, sustainability and other outcomes.⁴⁶ The Maharashtra Forestry project is currently rated as satisfactory for both implementation progress and the achievement of development objectives. The project has, however, been moving slowly and has been extended. The latest project status report also notes some problems in the quality of plantations and institutional reform. It should be said, however, that this

⁴⁵ Adapted from Box 6.2, in *India: Towards Rural Development and Poverty Reduction*, op cit, page 78.

⁴⁶ OED, *Evaluation Textbase for India – West Bengal Forestry*, June 24, 1998.

series of projects shows promise for contributing to improved resource management and they are also likely to make a strong contribution to poverty reduction.

(d) Area Development Projects, Watershed and Other Projects

3.20 *Operations.* As mentioned already, this is a mixed bag but they are important since they accounted for about 15 and 14 percent respectively of net commitments for agriculture in the nineties. Area development projects are part of an ongoing series of projects of which the Uttar Pradesh (UP) Diversified Agricultural Support project (1998) and the Watershed Management Hills II (1999) were the latest. The UP Diversified Agricultural Support Project is an amalgam of agricultural development activities supposedly leading to improved food security, fiscal policy issues labeled as “public priority setting processes” and aimed at increasing the share of public expenditure on agriculture in the state budget, cost recovery, institution building including agricultural research and contract research, rural infrastructure development including rural roads and rural markets, and environmental concerns such as integrated pest management and integrated plant nutrition management. A feature of the preparation of this project (apart from costing an incredible \$1.7 million over 5 years to prepare) was that there was considerable participation through consultation with beneficiaries and community groups during the preparation of this project. There will also be a substantial role for NGOs during the implementation phase. There were already two watershed management projects (classified by the Bank as environment projects) being implemented during the 1990s. One focused on the plains and the other on the hills. At the end of FY99 a second “hills” project was approved. This project will intensify a participative approach to design and implementation. In future a series of watershed projects is being planned in contrast to area development projects to reflect the idea that watersheds should be the organizing principle for area development in rural areas. The main objective of the Watershed Management Hills II project is to “improve the productive potential of the project area through watershed treatment technologies and community participation.

3.21 There are two ways of looking at the “other” projects. At first, they reflect important needs on the part of the government at the time (e.g. the Drought Assistance Program and the Emergency Reconstruction project in 1991). On the one hand this group is a considerable mixture of activities, some of which seem more the responsibility of the private sector than the public sector (e.g. fisheries and seeds). Also, many of them do not seem part of a priority program for poverty reduction, but it is apparent after discussions with task managers that some projects such as those supporting the rubber, fisheries and sericulture industries can have substantial positive impacts on the employment of the poor and this prospect was the rationale for Bank financing. No doubt there are important issues being addressed in these projects, but lending for these disparate activities (accounting for about 43 percent in the eighties and 14 percent of the net commitments in the 1990s) has fragmented the lending program. Also there may be other donors who would be interested in lending in these areas because projects can be smaller and focused on a particular state which would make them more attractive for financing by other donors. This paper agrees with the strategy in the most recent CAS, namely that of adopting a broad perspective on lending in the rural sector without narrow subsectoral projects which are found in this “other” category.

3.22 The “other” projects also contain a number of thorny issues. Some of them have not been adequately addressed. For example a chronic issue in the sericulture project was child labor in silk processing. For many years supervision reports regularly identified it as a major problem but the matter was not resolved. Child labor in the silk industry (at least in Bank-assisted projects) appears now to be resolved, but it should not have taken six years for it to happen. Inadequate procurement procedures along with a corrupt supplier of “seed shrimp” set the Shrimp and Fish Culture project back many years.

Box 3.4: Dairying Development and the World Bank – A Substantial Controversy

The Bank supported a program called Operation Flood through five IBRD/IDA projects approved from 1974 to 1987 credit and loans totaling \$425 million. The Region and OED evaluated all these projects as having had satisfactory outcomes. Controversies about the program related to differing evaluations about the relative importance of the basic objections, benefits and costs of the projects, the justification for future lending to the dairying cooperatives, and the Bank’s performance as lender, manager and advisor. Despite these controversies it was agreed that the projects provided important benefits for the poor, particularly women.

The Region and OED differed as to (a) the total cost of Operation Flood, (b) the major price distortions in the dairy industry, and (c) the inevitability of government interference in the management of Operation Flood.

OED showed that due to the deflating dollar value of food aid (because of the rupee’s rate of inflation), and double counting the Bank’s contribution (once as a loan to government, and a second time when passed on to Operation Flood), the Region had badly over-estimated the cost of Operation Flood (\$5.1 billion versus a true cost of about \$2.7 billion, 1996 dollars).

The Region recommended freeing up investment in the dairy industry, without prior elimination of state subsidies, to corporate investors in dairy plants (up to 50% of capital cost, plus tax holidays and other concessions). OED favored the elimination of subsidies so as to provide a level-playing field for corporate and cooperative competition.

The Region felt that government interference with the management of state level cooperatives was virtually inevitable. OED pointed to progress made in eliminating such interference, and emphasized that the management of Operation Flood was at least as keen as the Bank to promote true farmer control of village, regional and state level cooperatives.

On the benefit side, OED pointed out that the growth in milk production, due to improved marketing channels, was comparable to the increases in grain production achieved under the Green Revolution. Thus, ironically, OED took a much more optimistic view of what had been achieved by the Region, than did the Region.

The evaluation of the dairying development program in this paper endorses the OED evaluation which is basically to build on a sound program that works and fix distortions wherever they occur. Cooperatives in India can play an important and efficient marketing and service function for small milk producers with major benefits for the poor and for women. Obviously the current system still needs some fixing. If there is agreement on shortcomings, the way forward is to work on them collaboratively. Solving the problems could be the basis for future lending.

Sources: Bank report No. 14522-IN, *India – Livestock Sector Review: Enhancing Growth and Development*, Agriculture and Water Operations Division, South Asia Region, May 23, 1996; Bank report No. 16848-IN, *The Impact of Dairying Development in India: The Bank’s Contribution*, Operations Evaluation Department, June 30, 1997; and Operations Evaluation Department, *India: The Dairy Revolution – The Impact of Dairy Development in India and the World Bank’s Contribution*, World Bank, 1998. The help of W. Candler in preparing this box is gratefully acknowledged.

3.23 Also included in this group were a controversial series of projects from the 1970s and the 1980s, for which OED evaluation reports have recently been issued, was the line of five Dairying Development projects. These projects, starting in 1974 and the last one closing in April, 1996, were designed to support the implementation of farmer-owned and farmer-controlled milk production cooperatives. They were an important part of the Bank's assistance program in the 1970s and 1980s but they were also controversial projects because of differences about their effectiveness in establishing a sustainable cooperative dairying industry, their costs, their impact on poverty reduction, and an embarrassing series of bad judgments, undeliverable promises and a delayed decision on the second extension for the fifth project. Box 3.4 discusses the main issues related to these projects.

3.24 *Evaluation of operations.* The discussion above of sector performance and challenges referred to the importance of rainfed areas of India. There are two logical reasons for this. First these are areas where there is usually a high concentration of poor people. Second, the analysis by Hazell and others referred to above suggests that the prospects for substantial increases in productivity in rainfed areas are significant. The Integrated Watershed Management Hills I and Plains I projects were rated as satisfactory. The major reason for this rating was that these projects achieved their major relevant objectives (including poverty reduction) efficiently with only a few shortcomings.⁴⁷ It is understood that watershed/rural development projects will be a more important part of the lending program in future.⁴⁸ If they are to be more important then it will be advisable to monitor closely the experience of the UP Diversified Agricultural Support project. This project (described earlier) seems to cover an impossibly large number of areas in one project. It remains to be seen whether the mix of activities can all be implemented and coordinated by a number of state agencies under the overall responsibility of the Agricultural Commissioner branch of the UP government.⁴⁹

3.25 There are seven "other" projects in this group for the 1990s. Of these two (National Sericulture and National Seeds) have been completed. At closure the Region assessed both as satisfactory in terms of their implementation performance and achievement of development objectives. According to the OED rating the National Seeds project had a satisfactory outcome. The outcome of the Sericulture project, on the other hand, was rated by OED as unsatisfactory. OED's evaluation does not mention the extensive use of child labor in silk reeling as a major problem in this project. As mentioned already, child labor was a persistent and unresolved issue during project supervision. While this problem apparently remains in some states such as Karnataka (the major silk producing state), it is being addressed in the context of the UP Diversified Agricultural Support project.⁵⁰

⁴⁷ Written comments from the Ministry of Agriculture and Cooperatives were highly complimentary about the Bank's assistance during the implementation of these projects.

⁴⁸ The lending program shows Karnataka and Andhra Pradesh Watershed projects in FY01 and FY02.

⁴⁹ It is noted that the latest Project Status Report (January 9, 2001) shows that the management of this project is unsatisfactory

⁵⁰ The UP project includes support to the silk industry. A program which is part of this project combines improved silk types and better technology so that the employment of children is not as attractive as the use of mechanical reeling methods. In addition UP is moving to pass legislation aimed at discouraging the use

3.26 The ongoing Shrimp and Fish Culture project is rated unsatisfactory at present by Bank supervision reports, but strenuous efforts are being used to correct the current problems. It would appear that this project will be turned around in the near future as a result of intense collaboration between the project authorities and the Bank's New Delhi office. In essence the project has excellent objectives, namely giving the poor an opportunity to become involved in the private sector development of the coastal shrimp industry which has attracted a lot of private investment because of the buoyant trade. It is not clear, however, how sustainable and transferable the arrangements forged for this project will be.

Overall Results of Project Lending

3.27 Of the agricultural approved over the last ten years, three out of five completed projects have been rated by OED as having a satisfactory outcome. For projects still under implementation, almost all are currently rated in supervision reports as being satisfactory in term of implementation and likely achievement of development objectives. The ongoing projects include some that were until recently unsatisfactory but were turned around as a result of considerable efforts by Indian officials in collaboration with Bank staff. Nevertheless, a disappointment of the cohort of projects approved the 1990s is that the focus on poverty reduction is weak. There was no explicit analysis of the likely impact on poverty reduction in project appraisals, no baseline information on the status of poverty in the project area, and no systematic monitoring mechanisms for evaluating the status of poverty at the end of the project. Hence the overall assessment of these projects is that their relevance to the Bank's fundamental objective of poverty reduction has been modest although there is no doubt that poverty focus has increased in recent years. The efficacy of Bank-assisted projects has in poverty reduction terms also been modest.⁵¹

3.28 Another disappointing aspect of this set of completed projects is that all of them have been judged by OED to have uncertain or unlikely sustainability. This failure in terms of sustainability continues a trend from the 1980s for projects in this sector.⁵² This is a major message about the India lending program in agriculture and should by now have been of greater concern to the Bank's management than it has apparently been. Government commitment to continue with most projects is doubtful as well as their ability to be adequately "self-financed" if they were continued. Exceptions to this

of children in silk reeling, and finally programs will be put in place to ensure that children have easy access to education (see World Bank South Asia web page, "Best Practice on Child Labor in India").

⁵¹ The Region considers that the view in the paper that the Bank-assisted rural development projects had only modest relevance to poverty reduction because the overwhelming proportion of projects focused on people with assets, was "overly constrained". The Region also felt that the view in the paper does little justice to the type of relationship the Bank had in India, and the strategic thrust of its assistance program. On the other hand the Region acknowledges the limited monitoring arrangements, but pointed out that its projects have been aimed at enhancing agricultural growth and hence poverty alleviation indirectly. In its comments the Region also pointed out that a number of operations (such as the watershed projects), target the poor explicitly. The background paper has recognized the poverty focus of the Sodic Lands Reclamation projects and has acknowledged the positive outcome of the two watershed management projects approved in FY90.

⁵² For the 1980s close to 66 percent of projects were satisfactory or marginally (moderately) satisfactory in terms of their outcome. On the other hand only 20 percent of those same projects were judged to be sustainable.

assessment of sustainability may be the Forestry projects, but even if they were sustained it would not change the overall picture. Institutional development impact is evaluated as modest. A review of supervision reports of the earlier projects indicates that the implementing institutions are not doing well and the Bank's penchant for establishing project implementation units has done very little to build strong sustainable institutions.

3.29 Overall for the decade Bank-assisted projects have modest relevance and efficacy, and therefore a moderately unsatisfactory outcome. Sustainability and institutional development have been, respectively, uncertain and modest. Projects approved in the second half of the 1990s are expected to show a better outcome. Institutional development impact over the last five years is judged to be substantial as the Bank has in recent years made many changes and placed much more emphasis on this issue in sub-sectors such as irrigation.⁵³

Conclusions on the Bank's Assistance Program

Pointers from the Nineties

- This paper concludes that the Bank should have pressed central and state governments more intensively in the early 1990s to achieve policy change in agriculture that would have reduced controls in the sector in line with the decontrol that was taking place in the rest of the economy.
- Of course the early 1990s was not completely devoid of progress on agricultural policy. Central government trade restrictions on agricultural products were relaxed. In addition, adjustments were made in fertilizer pricing policy although these were subsequently revoked. Progress was made at the state level on implementing cost recovery for gravity-fed irrigation water, but the subsidies on electricity used to pump irrigation water remained. These changes were not nearly enough to improve production efficiency in the agricultural sector.
- The detrimental impact of over-controlled markets on the incentives for producers and traders, and the inefficient resource allocation resulting from most subsidies are well known. Nevertheless agricultural policy change to improve the efficiency of agriculture is a sensitive issue because usually it results in a loss of benefits for powerful but non-poor political interests. This conflict of interest has been a major reason for slow progress on agricultural policy change. It is understood, however, that a revised national agricultural policy is under preparation by the government.
- The 1997 CAS made the support for policy reform in agriculture an important objective and referred boldly to a number of policies that need to be addressed. Unfortunately very little was done and the delay in achieving improvements has been costly to the agricultural sector and to the poor.

⁵³ A table in the annex summarizes the ratings.

Pointers for the Future

- Investments in watershed and area development projects with emphasis on rainfed farming, as well as forestry, and agricultural research and extension projects are potentially powerful vehicles for generating incomes and sustainable poverty reduction. But, the Bank's impact on rural development and poverty reduction will be much greater and more sustainable if financial assistance is tightly linked with sector-wide or sub-sector-wide policy reforms to remove the over-regulation of the rural economy.
- The Bank's experience from its work in developing countries is that the outcomes of projects in terms of rate of return and the impact on poverty reduction are likely to be enhanced if investment takes place in the context of improved policies.
- Improved policies at the central government level could include changes in the Essential Commodities Act to make it less sweeping by removing, for example, the restraints on inter-state trade in food that can be introduced at any time. There would also be benefits from the abolition of the Small Scale Industries Reservation Act that constrains the establishment of even modestly sized food processing industries. Although it is recognized that changes in fertilizer pricing are being introduced, phasing out subsidies on fertilizer including a re-alignment of relative prices for the major fertilizer groups would lead to more efficient fertilizer use and higher productivity.
- At the state government level, reduction in rural power subsidies leading to market pricing of electricity in the context of reforms taking place in the energy sector would improve efficiency and also reduce excessive use of water for irrigation. Ensuring efficient pricing of irrigation water through appropriate water charges. In addition, removing administered price regimes for cotton, and increasing state budget allocations to infrastructure development could all be matters for an intensive dialogue in the context of agreements on Bank assistance programs for rural development.⁵⁴

Future Strategy and Lending

3.30 One of the contradictions in the Bank's assistance program is that it has continued to lend to the agricultural sector while its own analysis showed that the sector was over-regulated and that policies were by and large inefficient, and often detrimental to the long run growth of the sector. The Bank should therefore mount a vigorous dialogue to explore the areas of policy agreement and work with Indian counterparts for change. Contemporary issues that stand out as important from the previous analysis and provide an agenda for future dialogue, projects and sector work include:⁵⁵

- The appropriate objectives and orientation of agricultural price policy
- How to promote more private investment in agriculture

⁵⁴ It is recognized that since the first draft of this paper was prepared irrigation and electricity charges have been raised in some states, often in conjunction with prospective Bank financing of projects.

⁵⁵ Some of these points were made at the CAE workshop on this paper in New Delhi, on April 5, 2000.

- The implications of structural change in agriculture for public investment in rural infrastructure
- The reasons for and possible solutions to the stagnant non-farm employment opportunities
- How to support the improvement of rural credit programs
- How to increase technological progress and its extension

3.31 Lending linked to agreements on sector or sub-sector policy reform would have a much greater and broader impact on agricultural and rural development than projects focused on specific state level technical and institutional issues.⁵⁶ While there are separate areas of jurisdiction over policy issues between the central government and the states, unwillingness of the state or central governments to agree to such an approach should result in eliminating any new Bank lending for rural development for that state or at the central government level.⁵⁷

Serious Lack of Sustainability of Projects

3.32 Sustainability of completed rural development projects over the last 20 years has generally been evaluated by OED as “uncertain” to “unlikely.” The lesson is that institutions and their funding are not able to sustain themselves following the close of even successful projects. This failure needs to be addressed if there is to be any longer term impact from the Bank’s efforts.

- The Bank should focus on this issue or withdraw from lending. It is a particularly serious problem in agriculture because the many poor are being misled about their long term prospects if they are part of unsustainable investment programs
- In this context it is encouraging that the Bank is re-examining its insistence/preference for the use of project coordinating units and special project implementation units. They are not the best way to ensure ownership and hence sustainability—indeed they may well be counter productive for those objectives.

Future Projects

3.33 The Bank should sustain its focus on area development and watershed projects aimed at involving the poor more directly in rural development design, planning and implementation. The proposed Karnataka and Andhra Pradesh watershed projects are highly relevant in this regard. These operations promise to be an important effort to develop social capital at the grass roots level with substantial pay-offs in changing the culture of village participation in investment and human capital development as well as village governance. They will also pursue pillars of the Bank’s Comprehensive Development Framework (CDF) such as establishing a long term comprehensive

⁵⁶ An example from the Bank’s lending instruments is the Public Expenditure Restructuring Loan (PERL).

⁵⁷ The Region considered this strategy confrontational and counterproductive for the Bank because of its small leverage. The author does not consider it either confrontational or counterproductive for the Bank to take a firm stand on the need to achieve policy changes that are widely accepted in India as necessary for improved efficiency in agriculture. Given the obligation on the Bank to ensure the most effective use of its funds and to support pro-poor growth, changes in policy would reduce the Bank’s and the Government’s exposure to the risk of project failure.

institutionally sustainable approach to development, forging client ownership of the program, working with and improving the commitment of existing governance frameworks to poverty reduction.

3.34 An important part of any future assistance program should be support for increasing the pace of technological change and its extension because of its importance to long term growth, competitiveness for agriculture in world and regional markets, for income generation, and for poverty reduction.

**Annex A -Table 1: World Bank Lending and Evaluation for Agricultural/Area Development
(FY 80 – FY 99)**

Project Information						OED ratings						QAG	Supervis ion ratings		Can-celled
Project ID	Project Name	Net Commitment US\$mill	Fiscal Year	Revised Closing Date	Program objective	Outcome	Sustai-nability	Instit Dev.	Dev. Effec-tiveness	Bank Perform	Borrower Perform	At Risk	Latest IP from OIS	Latest DO from OIS	Percent
41264	Watershed Mgt. Hills III	135.0	1999	3/31/05	Env and Sustainable Dev							Nonrisky	S	S	
50646	UP Sodic Lands II	194.1	1999	9/30/05	Env. and Sustainable Dev							Nonrisky	S	S	0%
10561	Natl Agric. Techno-Logy	196.8	1998	12/31/03	Environmen-tally Sustai-nable Dev.							Nonrisky	S	S	0%
35824	UP Div. Agric. Support	129.9	1998	3/31/04	Poverty Redn. and Human Resource Dev.							Nonrisky	S	S	0%
35169	U.P. Forestry	52.9	1998	7/31/02	Environmen-tally Sustai-nable Dev.							Nonrisky	S	S	0%
49477	Kerala Forestry	39.0	1998	12/31/02	Environmen-tally Sustai-nable Dev.							Nonrisky	S	S	0%
36062	Ecodevelopment	28.0	1997	6/30/02	Environmen-tally Sustai-nable Dev.							Nonrisky (?)	U	U	0%

Project Information						OED ratings						QAG	Supervision ratings		Cancelled
Project ID	Project Name	Net Commitment US\$mill	Fiscal Year	Revised Closing Date	Program objective	Outcome	Sustainability	Institutional Dev.	Dev. Effectiveness	Bank Perform	Borrower Perform	At Risk	Latest IP from OIS	Latest DO from OIS	Percent
35158	Andhra Pradesh Irrigation III	325.0	1997	1/31/03	Environmentally Sustainable Dev.							Nonrisky	S	S	0%
10529	Orissa WRCP	290.9	1996	9/30/02	Environmentally Sustainable Dev.							Nonrisky	S	S	0%
10485	Hydrology project	122.4	1996	3/31/02	Environmentally Sustainable Dev.							Nonrisky	S	S	
10506	Madhya Pradesh Forestry	58.0	1995	12/31/99	Environ. Sustain Devlpt.	Sat	Likely	Subst.	8.25	Sat	Sat				0%
10503	Agric. Human Resource Devlpt.	59.5	1995	12/31/00	Poverty Redn. and Human Resource Dev.							Nonrisky	S	S	0%
10522	Assam Rural Infrastructure	126.0	1995	12/31/03	Economic Management							Actual	S	S	0%
10476	Tamil Nadu WRCP	282.9	1995	3/31/02	Environmentally Sustainable Dev.							Nonrisky	S	S	0%

Project Information						OED ratings						QAG	Supervision ratings		Cancelled
Project ID	Project Name	Net Commitment US\$mill	Fiscal Year	Revised Closing Date	Program objective	Outcome	Sustainability	Instit. Dev.	Dev. Effectiveness	Bank Perform	Borrower Perform	At Risk	Latest IP from OIS	Latest DO from OIS	Percent
10449	Andhra Pradesh Forestry	77.4	1994	9/30/00	Environmentally Sustainable Dev.							Nonrisky	S	S	0%
10448	Forestry Research and Education	47.0	1994	12/31/99	Environmentally Sustainable Dev.							Nonrisky	S	S	0%
9964	Haryana WRCP	258.0	1994	12/31/00	Environmentally Sustainable Dev.							Actual	U	U	0%
9959	Rubber	55.4	1993	9/30/99	Poverty Rend. and Human Resource Dev.							Nonrisky	S	S	40%
10407	Rajasthan Agric. Develpt. Program	106.0	1993	9/30/99	Economic Management							Nonrisky	S	S	0%
9961	UP Sodic Lands Reclamation	54.7	1993	3/31/01	Environmentally Sustainable Dev.							Nonrisky	S	S	0%
10391	West Bengal Forestry	34.0	1992	12/31/97	Environmentally Sustainable Dev.	Marg. Sat	Uncertain	Modest	6.0	Sat	Sat				0%

Project Information					OED ratings						QAG	Supervision ratings		Cancelled	
Project ID	Project Name	Net Commitment US\$mill	Fiscal Year	Revised Closing Date	Program objective	Outcome	Sustainability	Instit. Dev.	Dev. Effectiveness	Bank Perform	Borrower Perform	At Risk	Latest IP from OIS	Latest DO from OIS	Percent
9921	Shrimp & Fish Culture	36.5	1992	6/30/99	Poverty Redn. and Human Resource Dev.							Actual	S	S	57%
10390	Maharashtra Forestry	107.8	1992	3/31/00	Environmentally Sustainable Dev.							Nonrisky	S	S	13%
10362	AP Cyclone Emergency Reconstruction	210.0	1991	3/31/95	Poverty Redn. and Human Resource Dev.	Sat	Uncertain	Substantial	7.75						0%
9958	Tamil Nadu Agr. Devlpt.	112.8	1991	12/31/98	Economic Management	Sat	Likely	Substantial	8.25	Sat	Sat				0%
9877	Dam Safety	83.9	1991	9/30/99	Environmentally Sustainable Dev.	Mod Sat	Uncertain	Modest	6.0	Sat	Sat				45.1%
9882	Watershed Hills	632.	1990	3/31/99	Environmentally Sustainable Dev.	Sat	Likely	Substantial	8.25	Sat	Sat				28.1%

Project Information					OED ratings					QAG	Supervision ratings		Cancelled		
Project ID	Project Name	Net Commitment US\$mill	Fiscal Year	Revised Closing Date	Program objective	Outcome	Sustainability	Instit. Dev.	Dev. Effectiveness	Bank Perform	Borrower Perform	At Risk	Latest IP from OIS	Latest DO from OIS	Percent
9860	Watershed Plains	52.6	1990	3/31/99	Environmentally Sustainable Dev.	Sat	Likely	Substantial	8.25	Sat	Sat				15.1%
9965	Punjab Irrig. & Drainage	145.3	1990	7/31/98	Poverty Redn. and Human Resource Dev.	Unsat	Uncertain	Neglig.	4.0	Unsat	Unsat				12%
9922	National Seeds 2	147.2	1989	6/30/96	Poverty Redn. and Human Resource Dev.	Sat	Uncertain	Modest	6.75	Sat	Unsat				2%
9996	National Sericulture	106.3	1989	12/31/96	Poverty Redn. and Human Resource Dev.	Unsat	Uncertain	Modest	4.5	Unsat	Unsat				40%
9898	Upper Krishna Irrigation (Phase II)	166.8	1989	6/30/97	Poverty Redn. and Human Resource Dev.	Unsat	Unlikely	Modest	4.25	Unsat	Unsat				49%
9992	Drought Assistance Project	350.0	1988	3/31/89	Economic Management	Sat	Likely	Not rated							0%
9962	National Dairy II	277.1	1988	4/30/96	Economic Management	Sat	Likely	Substantial	8.25	Unsat	Sat				23%

Project Information					OED ratings						QAG	Supervision ratings		Cancelled	
Project ID	Project Name	Net Commitment US\$mill	Fiscal Year	Revised Closing Date	Program objective	Outcome	Sustainability	Instit. Dev.	Dev. Effectiveness	Bank Perform	Borrower Perform	At Risk	Latest IP from OIS	Latest DO from OIS	Percent
9863	National . Agricultural Extension III	66.6	1987	3/31/95	Poverty Redn. and Human Resource Dev.	Marg. Unsat	Unlikely	Modest	5.0	Sat	Sat				22%
9859	Bihar Public Tubewell	22.3	1987	5/31/95	Poverty Redn. and Human Resource Dev.	Unsat	Unlikely	Negligible	3.75						67%
9846	National Water Management	114.0	1987	3/31/95	Poverty Redn. and Human Resource Dev.	Unsat	Unlikely	Negligible	3.75	H. Unsat	Unsat				0%
9847	Nat. Agricultural Research I	57.2	1986	6/30/96	Economic Management	Sat	Uncertain	Substantial	7.75	Sat	Sat				21%
9845	West Bengal Minor Irrigation	39.4	1986	3/31/94	Poverty Redn. and Human Resource Dev.	Sat	Likely	Substantial	8.25						60%
9843	Andhra Pradesh Irrigation II	140.0	1986	6/30/95	Poverty Redn. and Human Resource Dev.	Highly Unsat	Uncertain	Negligible	2.25						48%

Project Information						OED ratings						QAG	Supervision ratings		Cancelled
Project ID	Project Name	Net Commitment US\$mill	Fiscal Year	Revised Closing Date	Program objective	Outcome	Sustainability	Instit. Dev.	Dev. Effectiveness	Bank Perform	Borrower Perform	At Risk	Latest IP from OIS	Latest DO from OIS	Percent
9893	Maharashtra Composite Irrigation III	128.8	1986	12/31/96	Poverty Redn. and Human Resource Dev.	Unsat	Unlikely	Negligible	3.75	Unsat	Unsat				19%
9828	Nabard Credit Project	375.0	1986	6/30/91	Economic Management	Unsat)	Uncertain	Modest	4.5						0%
9834	Kerala Social Forestry Project	25.8	1985	3/31/93	Environmentally Sustainable Dev.	Sat	Unlikely	Modest	6.5	Sat	Sat				19%
9829	Narmada River Devlpt. (Gujarat) Sardar Sarovar Dam & Power	118.5	1985	6/30/95	Poverty Redn. and Human Resource Dev.	Marg. Sat	Uncertain	Modest	6						61%
9830	Narmada River Devlpt (Gujarat) Water Delivery & Drainage	145.2	1985	7/1/92	Poverty Redn. and Human Resource Dev.	Marg. Sat)	Uncertain	Substantial	7						3%
9832	National Agricultural Extension Project	33.0	1985	3/31/93	Poverty Redn. and Human Resource Dev.	Marg. Sat)	Uncertain	Substantial	7						16%

Project Information					OED ratings						QAG	Supervision ratings		Cancelled	
Project ID	Project Name	Net Commitment US\$mill	Fiscal Year	Revised Closing Date	Program objective	Outcome	Sustainability	Instit. Dev.	Dev. Effectiveness	Bank Perform	Borrower Perform	At Risk	Latest IP from OIS	Latest DO from OIS	Percent
9848	National Social Forestry	154.1	1985	3/31/93	Environmentally Sustainable Dev.	Sat	Likely	Modest	7.25	Sat	Sat				7%
9833	National Agricultural Extension II	37.1	1985	3/31/93	Poverty Redn. and Human Resource Dev.	Marg. Sat	Uncertain	Modest	6						24%
9815	Gujarat Medium Irrigation I	145.2	1984	3/31/94	Poverty Redn. and Human Resource Dev.	Sat	Uncertain	Substantial	7.75				S	S	16%
9814	Periyar- Vaigai Irrigation I	33.1	1984	10/31/93	Poverty Redn. and Human Resource Dev.	Sat	Likely	Substantial	8.25				S	HS	5%
9812	Rainfed Areas Watershed Devlpt.	20.1	1984	12/31/93	Poverty Redn. and Human Resource Dev.	Sat	Uncertain	Modest	6.75				S	S	35%
9811	Third National Cooperative Devlpt. Corporation Projectj	188.6	1984	6/30/92	Economic Management	Unsat	Unlikely	Modest	4.25						14%

Project Information					OED ratings					QAG	Supervision ratings		Cancelled		
Project ID	Project Name	Net Commitment US\$mill	Fiscal Year	Revised Closing Date	Program objective	Outcome	Sustainability	Institutional Dev.	Dev. Effectiveness	Bank Perform	Borrower Perform	At Risk	Latest IP from OIS	Latest DO from OIS	Percent
9817	Karnataka Social Forestry Project	24.7	1984	3/31/92	Environmentally Sustainable Dev.	Sat	Unlikely	Negligible	6						9%
9816	Orissa Irrigation Project II	66.2	1984	3/31/88	Environmentally Sustainable Dev.	Unsat	Uncertain	Modest							37%
9813	Upper Ganga Irrigation	100.4	1984	9/30/94	Poverty Redn. and Human Resource Dev.	Sat	Uncertain	Modest	6.8				S	U	20%
9800	Chambal (Madhya Pradesh) Irrigation Project II	29.8	1983	3/31/89	Environmentally Sustainable Dev.	Sat	Uncertain	Not rated							4%
9798	Haryana Irrigation II Project	133.8	1983	3/31/92	Poverty Redn. and Human Resource Dev.	Sat	Likely	Substantial	8.25						11%
9797	Himalayan Watershed Management	28.3	1983	9/30/92	Environmentally Sustainable Dev.	Marg. Unsat	Uncertain	Modest	5.25						39%

Project Information						OED ratings						QAG	Supervision ratings		Cancelled
Project ID	Project Name	Net Commitment US\$mill	Fiscal Year	Revised Closing Date	Program objective	Outcome	Sustainability	Institutional Dev.	Dev. Effectiveness	Bank Perform	Borrower Perform	At Risk	Latest IP from OIS	Latest DO from OIS	Percent
9802	Jammu and Kashmir and Haryana Social Forestry Project	33.0	1983	3/31/91	Environmentally Sustainable Dev.	Sat	Uncertain	Modest	6.75						0%
9801	Maharashtra Water Utilization Project	31.4	1983	8/31/91	Poverty Redn. and Human Resource Dev.	Unsat	Uncertain	Modest	4.5						43%
9796	Suberna- rekha Irrigation Project	127.0	1983	4/30/89	Environmentally Sustainable Dev.	Unsat	Unlikely	Modest							0%
9799	Uttar Pradesh Tubewells 1	101.0	1983	3/31/91	Poverty Redn. and Human Resource Dev.	Unsat	Unlikely	Substantial	5.25						0%
9787	Andhra Pradesh Agricultural Extension Project	6.0	1982	3/31/89	Poverty Redn. and Human Resource Dev.	Unsat	Uncertain	Modest	4.5						0%

Project Information						OED ratings						QAG	Supervision ratings		Cancelled
Project ID	Project Name	Net Commitment US\$mill	Fiscal Year	Revised Closing Date	Program objective	Outcome	Sustainability	Instit. Dev.	Dev. Effectiveness	Bank Perform	Borrower Perform	At Risk	Latest IP from OIS	Latest DO from OIS	Percent
9784	Fourth Agricultural Refinance and Devlpt. Corporation	350.0	1982	6/30/84	Not Classified	Unsat	Uncertain	Modest							0%
9785	Kallada Irrigation and Tree Crop Devlpt. Project	80.3	1982	3/31/89	Environmentally Sustainable Dev.	Unsat)	Uncertain	Modest	4.5						0%
9786	Madhya Pradesh Major Irrigation	186.5	1982	6/30/91	Poverty Redn. and Human Resource Dev.	Sat	Uncertain	Not rated							15%
9788	West Bengal Social Forestry Project	28.8	1982	3/31/91	Environmentally Sustainable Dev.	Sat	Uncertain	Modest	6.8						1%
9772	Kandi Watershed and Area Devlpt. Project	26.1	1981	3/31/88	Not Classified	Sat	Unlikely	Modest							13%
9773	Karnataka Tanks Irrigation Project	54.0	1981	3/31/89	Environmentally Sustainable Dev.	Unsat)	Uncertain	Modest	4.5						0%

Project Information					OED ratings					QAG	Supervision ratings		Cancelled		
Project ID	Project Name	Net Commitment US\$mill	Fiscal Year	Revised Closing Date	Program objective	Outcome	Sustainability	Instit. Dev.	Dev. Effectiveness	Bank Perform	Borrower Perform	At Risk	Latest IP from OIS	Latest DO from OIS	Percent
9777	Madhya Pradesh Agricultural Extension Project II	37.0	1981	6/30/89	Poverty Redn. and Human Resource Dev.	Marg Sat	Likely	Modest	6.5						0%
9774	Mahanadi Barrages Project	83.0	1981	3/31/89	Poverty Redn. and Human Resource Dev.	Sat	Likely	Not rated							0%
9778	Maharashtra Agricultural Extension Project	23.0	1981	6/30/87	Not Classified	Sat	Uncertain	Substantial							0%
9771	Second National Cooperative Devpt. Corporation Project	117.6	1981	6/30/87	Not Classified	Sat	Uncertain	Modest							6%
9776	Tamil Nadu Agricultural Extension Project	27.9	1981	6/30/87	Not Classified	Sat	Uncertain	Substantial							0%

Project Information						OED ratings						QAG	Supervision ratings		Cancelled
Project ID	Project Name	Net Commitment US\$mill	Fiscal Year	Revised Closing Date	Program objective	Outcome	Sustainability	Instit. Dev.	Dev. Effectiveness	Bank Perform	Borrower Perform	At Risk	Latest IP from OIS	Latest DO from OIS	Percent
9775	Madhya Pradesh Medium Irrigation Project	132.6	1981	3/31/88	Environmentally Sustainable Dev.	Unsat	Unlikely	Modest							5%
9761	Cashew nut Project	15.4	1980	9/30/87	Environmentally Sustainable Dev.	Sat	Likely	Modest							30%
9763	Gujarat Community Forestry Project	37.0	1980	12/31/85	Not Classified	Sat	Likely	Modest							0%
9757	Inland Fisheries Project	19.3	1980	9/30/88	Environmentally Sustainable Dev.	Sat	Likely	Modest							3%
9755	Karnataka Sericulture Project	53.9	1980	9/30/88	Poverty Redn. and Human Resource Dev.	Sat	Uncertain	Modest							0%
9762	Kerala Agricultural Extension Project	10.0	1980	6/30/86	Not Classified	Sat	Uncertain	Modest							0%
9760	Second Maharashtra Irrigation Project	210.0	1980	12/31/85	Not Classified	Unsat	Unlikely	Modest							0%

Project Information						OED ratings					QAG	Supervision ratings		Cancelled	
Project ID	Project Name	Net Commitment US\$mill	Fiscal Year	Revised Closing Date	Program objective	Outcome	Sustainability	Instit. Dev.	Dev. Effectiveness	Bank Perform	Borrower Perform	At Risk	Latest IP from OIS	Latest DO from OIS	Percent
9756	Third Agricultural Refinance and Devlpt. Corporation	250.0	1980	6/30/82	Not Classified	Unsat	Not rated	Not rated							0%
9758	Uttar Pradesh Public Tubewells Project	18.0	1980	3/31/83	Not Classified	Sat	Not rated	Not rated							0%
9759	Second Gujarat Irrigation Project	159.3	1980	4/30/89	Poverty Redn. and Human Resource Dev.	Unsat	Uncertain	Modest	4.5						9%

Annex A - Table 2: Summary of Agricultural/Rural Development Lending (FY80-FY99)

<i>Periods, Totals and Proportions</i>	<i>Forestry</i>	<i>Irrigation/ Drainage</i>	<i>Research and Extension</i>	<i>Watershed and Area Development</i>	<i>Other</i>	<i>Totals</i>
	(\$ million)					
FY 80-84	123.5	1,691.6	103.9	74.5	994.8	2,988.3
FY 85-89	179.9	746.2	193.9		1384.4	2,504.4
Sub total	303.4	2,437.8	297.8	74.5	2,379.2	5,492.7
Proportions	5.5%	44.4%	5.4%	1.4%	43.3%	100.0%
FY 90-94	266.2	541.9		334.6	301.7	1,244.7
FY 95-99	150	1092.9	256.3	264.9	154.0	1,783.1
Sub totals	416.2	1,757.2	256.3	599.5	455.7	3,484.9
Proportions	11.9%	50.4%	7.4%	17.2%	13.1%	100.0%
Total (FY 80-99)	719.6	4,195.0	554.1	674.0	2,834.9	8,977.6
Proportions	8.0%	46.7%	6.2%	7.5%	31.6%	100.0%

Annex A - Table 3: Summary Evaluation of Agricultural and Area Development Projects (FY90-99) ^{a/}

<i>Rating Criteria</i>	<i>1990-94</i>	<i>1995-99</i>
Outcome	Moderately Unsatisfactory	Moderately Unsatisfactory
Relevance	Modest	Modest
Efficacy and Impact	Modest	Modest
Sustainability	Uncertain	Uncertain
Institutional Development Impact	Modest	Substantial

^{a/} These evaluations (on the basis of the impact of projects on poverty reduction) are for projects only and are therefore not an evaluation of the assistance program for agriculture and rural development as a whole. See the Executive Summary (para. 12) for a summary of the overall evaluation of the program covering the 1990s and includes the evaluation of economic and sector work.

Annex B: Summary of Discussion at CAE Workshop on Agriculture, Rural Development, and Poverty Reduction

April 5, 2000

Introductory presentation drew attention to:

- Relatively little World Bank (and Government) attention to agricultural development issues and limited concern about poverty reduction in the first half of the 1990s.
- A substantial pick up in the Bank's focus on agricultural development and poverty reduction in the second half of the 1990s.
- Overall OED concluded that Bank-assisted agriculture and rural development programs had inadequate focus on poverty reduction during the 1990s despite sound results in forestry and watershed development.
- On balance the outcome of the agriculture, rural development and poverty reduction programs were judged to be marginally satisfactory, with modest institutional development and sustainability.

Discussion

The chair noted three issues emerging from the paper:

- The stagnation of agricultural growth;
- The impact of this deceleration of growth on poverty reduction
- What should have been done by the Bank and the Government during the 1990s.

The chair also noted two important institutional changes that were not highlighted in the background paper, namely:

- The emergence of decentralized government through the Panchyat Raj institutions
- The recent revamping of the Public Distribution System.

Agricultural Growth and Performance

- Data suggested that growth in agriculture, while fluctuating annually, was similar in the 1990s compared with the 1980s. Nevertheless, many in the audience observed that agriculture was nevertheless performing poorly. For example, the growth in grain yields and the rate of growth of grain production had both declined, although it was recognized that these trends were part of an overall structural adjustment in agriculture resulting in less emphasis on traditional grain crops.
- It was agreed that the decline in public investment in Indian agriculture during the 1980s was a contributing factor to slow growth in agriculture during the 1990s.
- There was agreement on the slow down in growth of real rural wages and also the collapse of non-farm employment—with obvious impacts on incomes and poverty.

Dialogue on Agricultural Policy

- There was also agreement that the Bank had not interacted closely enough with either central Government/states on constraints of agricultural policy to rural development.
- No disagreement that the Bank's dialogue on agricultural and rural development policy with the states had, increased in the late 1990s.

- It was suggested that the background paper should point out that agricultural development would probably have been much worse had it not been for the changes in macroeconomic policy such as exchange rates and trade in the early 1990s.

Poverty Reduction

- There was uncertainty about actual trends in rural poverty given that the NSS data (used in the background paper) showed a stagnation in rural poverty during the 1990s but very recent analysis by Deaton and Tarozzi showed that poverty had declined in some years during the 1990s.
- Nevertheless, there was a consensus that if rural poverty had declined during the 1990s, the decline was relatively small because of droughts and other problems in the agricultural sector.
- It went without saying that the overall national trends in rural poverty could not be tied to or changed by the Bank's assistance program because of its relatively small impact on India as a whole. The background paper on poverty should make this clear.

Performance of Bank -Assisted Projects

- It was suggested that the Bank should focus even more on supporting research, rainfed agriculture and forestry than at present. At the same time there was also support for irrigation projects.
- On the evaluation of projects, they should be evaluated against their original objectives (Extension), namely support for irrigated grain production. Also, care should be taken with criticism in terms of short term results (Upper Krishna irrigation) which in the longer term should be seen as opportunities for learning rather than crucial failures.
- Emphasis was placed on the importance of forestry and watershed projects for the future along with rural roads.
- Bank should continue to focus on institutional issues for small farmers who characteristically had few supporting institutions.

Future Strategy

- There was no objection to the focused approach recommended in the paper.
- Bank's focus on reforming states should be addressed in terms of where there is demand for support.
- Bank should see its support as synergistic in terms of the rural sector as a whole.