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AN OVERVIEW WITH SPECIAL EMPHASIS ON OFF-FARM EMPLOYMENT

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EMPLOYMENT IN INDIA:
AN OVERVIEW WITH SPECIAL EMPHASIS ON
OFF-FARM EMPLOYMENT

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Table of Contents

	<u>Page No.</u>
I <u>Introduction</u>	
A. Purpose	1
B. Employment as a Development Objective	1
C. Content	2
II <u>Present Dimensions and Projections of the Employment Problem</u>	4
A. Data Limitations	4
B. Population and Labor Force	6
C. Participation and Unemployment Rates	10
D. Analyses of Unemployment	16
E. Employment Projections	23
III <u>Off-Farm Rural Employment Programs</u>	30
A. Overview	30
B. Allied Agricultural Activities	34
C. Rural Works	42
D. Village and Small Industries	54
IV <u>Comments on Possible AID Assistance Programs</u>	76
A. Allied Agricultural Activities	76
B. Rural Works	78
C. Small Industry	80
Annex 1 : List of Persons Interviewed	
Annex 2 : Footnotes	
Annex 3 : Tables on Population and Labor Force Distribution	

Parts of this paper were originally prepared in October and November 1980 by Peter Thorman, ASIA/TR and M. C. Gupta, USAID, as an input to USAID's FY 1983 Country Development Strategy Statement (CDSS). It was on the basis of these sections, together with discussions with USAID consultant Thomas Timberg and the Government of India (GOI) that USAID decided not to propose additional rural employment activities (such as dairying or rural enterprises) for FY 1983 and beyond. Consequently, no "Phase II" analyses (see p. 1) were undertaken.

In order to assure that the paper would retain some lasting validity, USAID decided to include the employment estimates and projections of the GOI Sixth Five Year Plan, 1980-85, which was released in draft in March 1981. Later that month the initial results of India's 1981 Census were released. This necessitated further revisions. USAID also drew upon the provisional results of the 32nd Round of the National Sample Survey (NSS), which only became available in August 1981. These revisions were incorporated in a redrafted Section II and in Annex 3, prepared by M. C. Gupta.

John Westley
Program Officer

1. Introduction

A. Purpose

In the review cable on the FY 82 CDSS for India, AID/W requested USAID India to provide an analysis by January 1981 of opportunities for assisting with off farm employment. The Mission proposed the analysis be done in two phases. Phase I is an overall review of the rural employment situation in India with special emphasis on policies, programs and plans that affect off-farm employment opportunities. This report is a part of Phase I.

If a decision is made to proceed with a Phase II, the purpose of that phase will be to establish priorities among project possibilities in program areas which the GOI has agreed USAID might usefully explore with them. The decision on whether to proceed with a Phase II and the nature of it will be dependent, of course, on the conclusions reached by the Mission in discussions of this report and those reached in subsequent discussions, if any, with the GOI.

B. Employment as a Development Objective

One of the principal objectives of the Sixth Five Year Plan (1980-85) is the progressive reduction of unemployment, especially in the rural areas and the "unorganized" sector. ^{1/}

The main reasons for promoting employment are threefold. They are the contribution increased utilization of human resources can make to economic growth, the reduction of poverty, and widespread participation in the development process of India.

The multiple purposes that employment as an objective are intended to serve potentially makes it an extremely difficult concept to deal with at a policy and program level. Trade-offs between the production, income and participation objectives can and do arise. In this respect a remarkable feature of Indian employment planning is the consensus that exists, except at extremes of left and right, on the programs and general areas of economic activity that should be emphasized. The central issue is not what to support, to achieve employment objectives, but how to do it more effectively.

C. Content

The intent of the main body of this paper is to describe the conventional wisdom prevalent in India on the problem of rural employment. To develop this picture we met with persons in government, the academic and donor community and private voluntary organizations who are involved in their work with aspects or the totality of the rural employment problem (see Annex 1). We also drew upon documents recommended to us by these persons and others.

Limitations of time forced us to compress work that could profitably have extended over several months into a period of four weeks. Accordingly, there are persons, whom it was strongly recommended we visit, and also documents that came highly recommended that were by-passed. The main sections of this paper, although updated, were drafted prior to the publication of the Sixth Plan document. Many of the estimates made in various chapters of the Sixth Five Year Plan 1980-1985, especially in the employment and poverty sections will have to be revised in the light of the 1981 census of India results.^{2/} USAID may want to reassess various sections of this paper when more details of the Census results become available.^{3/}

Finally, this paper should be treated as a building block, not as a finished product. In this respect, a major weakness is the lack of detail at the regional or State level. By way of explanation, we would add that at an early stage, serious consideration was given to concentrating on the rural employment problems of one or possibly two States. The advice we finally followed was that of one of the persons interviewed who said, "Look, your paper is going to be spotty whether done at the State or All India level, you might as well try to be comprehensive to start with".

The paper is divided into four sections. The first is this introduction; the second describes the current rural employment situation and attempts to give an idea of the magnitude and dimensions of the employment problem in the near future. This is followed by exploration of programs in three areas of economic activity - allied agricultural activities, rural works and village and small industries-- that, in addition to programs in agriculture, are the main possibilities for ameliorating the rural employment problem. The fourth and final section of the paper suggests approaches to determination of the role, if any, for AID assistance in the area of off farm employment.

II. Present Dimensions and Projections of the Employment Problem:

A. Data Limitations

A central point to bear in mind in the discussion of the employment problem that follows is that employment statistics are based on somewhat arbitrary and changing concepts of labor force and gainful activity and that gainful activity defines the states of employment, unemployment and underemployment. The National Sample Survey Organization (NSS) is the single agency responsible for generating such statistics on an all-India basis. The NSSO conducts broadly three types of surveys, viz., (i) socio-economic

surveys covering various topics; (ii) an annual Survey of Industries; and (iii) sample checks of area and yield of crops to improve the quality of the estimates of agricultural production framed by the State Government authorities. Employment and unemployment surveys are components of socio-economic surveys which are continuing multi-subject integrated surveys conducted in the form of annual rounds and sub-rounds.^{4/} Although NSSO has been collecting data on employment and unemployment for over two decades, the main objective of the two quinquennial surveys of the 27th Round (1972-73) and 32nd Round (1977-78) was to measure the nature and extent of employment and unemployment in quantitative terms by age-sex-resident status categories. In both the surveys persons five years of age and over were surveyed and population was divided into three broad but subjective activity categories ("working" or employed, "not working but available for work" or unemployed, and "neither working nor available for work" or not in labor force) and then into several detailed activity sub-categories within each category.^{5/} Three measures of employment were adopted, viz., "current weekly status", "current daily status" and "usual status". Current weekly status refers to an activity of a person during the week preceding the date of survey

and thus the difference in sub-round results measure seasonal variations in employment. The cut-off point was at least one hour of work during the week, i. e., if a person worked one hour or more work during the whole week, he/she was counted as employed. Daily activity status was recorded for each 4-hour half day. The reference period being the preceding 7 days, it measures under-employment. The cut-off point for each half-day was also one hour. Finally the usual status concept refers to an activity pursued by a person for a longer period and corresponds to measures of chronic unemployment. In the 32nd Round, the usual status of a person in relation to an economic activity was determined by the criterion of "major time" in a period of 365 days preceding the date of survey, while in the 27th Round, the period of difference was a long period spanning over the past and future. The 32nd Round also excluded certain marginal workers (persons engaged in domestic duties, engaged in free collection of firewood, vegetables, cattle-feed etc, and weaving, tailoring etc). Unfortunately, these definitional changes make the data from NSS 27th and 32nd rounds non-comparable.

B. Population and Labor Force

The 1980-85 Plan document estimates the labor force for all India, using the activity status measure, at 268 million as of March 1, 1980. ^{6/} Four of every five labor force participants

were located in rural areas of India. The labor force size is projected at 302 million for 1985 (in the group, age 5 and above) with roughly the same percentage in the rural sector.

Table 1 shows the Planning Commission projections of the labor force:

Table 1

Labor Force Projections, 1980 and 1985
(Million)

Age-group	Sex	1980		1985	
		Total	Rural	Total	Rural
5+	Male	191.3	149.2	215.9	166.2
	Female	76.7	66.7	86.4	74.4
	Total	268.0	215.9	302.3	240.6
15+	Male	181.3	140.2	205.5	156.9
	Female	70.1	60.8	79.6	68.3
	Total	251.4	201.0	285.1	225.2
15-59	Male	169.4	130.0	191.7	145.2
	Female	67.6	58.5	76.5	65.7
	Total	237.0	188.5	268.2	210.9

The plan document uses the provisional labor force participation rates (LFPR) of the NSS 32nd Round for various age-sex-resident categories. ^{7/} These rates were applied to the corresponding official population projections prepared by an Expert Committee ^{8/} headed by the Registrar General of India. However, the provisional

population total as of March 1, 1981 according to the Census is 683.8 million (without making adjustment for under-enumeration which was estimated at 1.7% in 1971 census).^{9/} Compared to this, the Expert Committee's projection was 672 million. Provisional census results also indicated a faster growth in urbanization than projected by the Expert Committee (1.61% per annum compared to 1.03%).^{10/} The GOI Planning Commission is examining the impact of the unexpected census results on various development programs including those affecting labor force, employment and unemployment.

In view of the census results, including the urbanization trend, structural changes in the population distribution by age-sex-resident status are expected to occur. After accounting for such changes and using LFPRs applied by the Planning Commission, USAID has estimated the population and labor force distribution by age-sex-resident status category.^{11/} Annex 3 tables given derivation details of USAID estimates. Table 2 shows USAID projections of the labor force.

Table 2

		Labor Force Projections (Million)			
		1980		1985	
<u>Age-group</u>	<u>Sex</u>	<u>Total</u>	<u>Rural</u>	<u>Total</u>	<u>Rural</u>
5+	Male	194.4	148.7	216.0	161.4
	Female	77.6	66.5	85.8	72.5
	Total	272.0	215.2	301.8	234.0
15+	Male	184.1	139.6	205.2	152.0
	Female	70.9	60.6	78.8	66.3
	Total	255.0	200.2	284.0	218.3
15-59	Male	172.0	129.5	191.4	140.6
	Female	68.3	58.3	75.8	63.8
	Total	240.3	187.8	267.2	204.4

USAID labor force estimate of 272 million persons in 1980 corresponds to a population estimate of 680.1 million which includes an upward adjustment of 1.7% for under enumeration to the provisional 1981 census totals. This compares with the 1980 population figure of 659.4 million adopted by Planning Commission. ^{12/}

Table 3 shows ILO estimates of population and labor force ^{13/} (using yet another set of definitions) through the year 2000.

Table 3
Population and Labor Force Projections, 1975-2000
(000)

	<u>1975</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>2000</u>
Population	613,217	694,309	782,890	875,051	1,059,429
Labor Force	240,285	265,103	295,184	329,467	411,348

The Indian labor force is massive and will grow at rates of 2.0 to 2.5% per annum for the foreseeable future. Estimates of growth of labor force for the 1980-85 range from 30 to 35 million. Looked at from another perspective, six to seven million additional jobs per year will be needed just to employ new entrants to the labor force.

C. Participation and Unemployment Rates

Table 4 shows participation rates by age, sex and resident status for the NSS 32nd round according to the usual activity criterion^{14/}. The most striking feature of the participation rates is the low level of participation by women, especially in urban areas. Participation rates for women age 15-59 is less than one half the male rate for rural areas and less than one-third for urban areas. The potential exists for a sizable expansion of the labor force through entry of women of all ages.

Table 4

Labor Force Participation Rates by Age-Sex-Resident Status According to Usual Activity Criterion: NSS 32nd Round (1977 - 78).

(Per cent)

	Rural			Urban		
	5-14	15-59	60+	5-14	15-59	60+
Male	13.1	92.2	65.4	5.9	84.3	50.6
Female	9.1	43.1	16.1	3.8	23.8	10.5
All Persons	11.1	68.1	42.0	4.9	57.1	31.0

The participation rates for weekly and daily activity status are generally lower than those for usual status, and are shown for the 15-59 age group in Table 5 below.^{15/}

Table 5

Labor Force Participation Rates for 15-59 Age Group by Sex and Resident Status According to "Weekly" and "Daily" Activity Criterion, 1977-78.

	(Percent)			
	Rural		Urban	
	Weekly Activity Status	Daily Activity Status	Weekly Activity Status	Daily Activity Status
Male	90.44	88.20	84.78	83.83
Female	39.32	34.67	22.18	20.24

As noted above, the results of 27th and 32nd rounds are not fully comparable, and cannot be used to assess trends in participation rates over time.

The Revised Draft Sixth Five Year Plan, 1978-83 (Draft Plan) noted a long term decline in labor force participation of women from the turn of the century through the early 1950's and no significant change in participation rates over the past twenty years.^{16/} Grawe points out that in 1901, 18% of the female workforce was employed in household industry, trade and commerce and 71% in agriculture; in 1971 less than 9% were engaged in household industry, trade and commerce and over 80% in agriculture. In sum, female labor force

participation rates provide no signs that the enormous potential for increase in gainfully employed female workers will be realized any time soon.

3. Unemployment

Unemployment of the labor force according to usual activity criterion for the 27th Round, and 32nd Round is shown in Table 6 ^{17/} below:

Table 6

Unemployment Rates According to Usual Activity Status, NSS 27th Round (1972-73) and NSS 32nd Round (1977-78).

(Percent)

Sex	Rural		Urban		Total	
	1972-73	1977-78	1972-73	1977-78	1972-73	1977-78
Male	1.16	2.22	4.76	6.48	1.89	3.07
Female	0.48	5.52	6.03	17.75	1.02	7.01
Total	0.92	3.26	5.01	8.77	1.51	4.23

The rural unemployment rate of 0.92% in 1972-73 (amounting to approximately four million chronically unemployed) is considered by some to be implausibly small. Visaria in a recent paper argues that the very low rates of measured chronic unemployment may be explained by behaviour of rural self employed and family workers who accounted for over 50% of the rural labor force in the NSS 27th Round. He hypothesizes that these workers "are much less willing to search or report their search and/or availability for work than

are the employees." He adds that small-scale village surveys in which farmers indicated a distinct unwillingness to work outside their own farms support this hypothesis.^{18/}

Some also argue that NSS surveys of employment status underestimate unemployment because persons who withdraw from active search and availability for work based on their perception that they would not find a job are not counted in the labor force. If "discouraged workers" are an important phenomenon, labor force participation rates suggest they would be concentrated primarily among females and young males.

Taking the above into account, the usual activity status statistics indicate that most persons who see work in areas during the course of a year find some work--enough at least to satisfy enumerators that they are usually employed. The changed concept of "majority time" during preceding 365 days adopted in 32nd Round reduces chances of such under reporting and unemployment. This phenomenon is adequately reflected in higher unemployment rates reported in 32nd Round. The key issues for most labor force participants, however, are not whether they can find any work at all but rather (1) how much they find and (2) at what rate of compensation. Table 7 shows employment status according to the weekly activity criterion for the NSS 27th Round and 32nd Round.^{19/} This measure of employment status is comparable to

ones used elsewhere in the world, though the classification of persons who worked as little as one hour a week as employed set it apart.

Table 7

Unemployment Rates According to Current Weekly Activity Status, NSS 27th Round (1972-73) and NSS 32nd Round (1977-78)

(Percent)

Sex	Rural		Urban		Total	
	1972-73	1977-78	1972-73	1977-78	1972-73	1977-78
Male	3.03	3.57	5.97	7.12	3.63	4.29
Female	5.53	4.13	9.18	10.92	5.90	4.97
Total	3.89	3.74	6.55	7.86	4.34	4.48

The much higher rate of rural current unemployment as compared with rural usual or chronic unemployment in the 27th Round - 0.92% (Table 6) as compared with 3.89% (Table 7)-is indicative of important seasonal unemployment in rural areas. The definition of weekly unemployment--no work at all during the reference week and seeking or available for work--is such that small adjustments to the definition would raise unemployment rates substantially. For example, Visaria using an alternative criterion found rural current unemployment rates twice as high in rural areas of Gujarat and Maharashtra as reported using the official weekly activity status definition.

The third measure of unemployment, daily activity status, shows persondays of unemployment among the currently employed. It is arrived at by asking persons currently employed how many days they worked during the reference week (determination of days of employment) and whether they were available to work or seeking work during periods when they were not working (determination of days of unemployment)^{21/}. The rate of daily or persondays unemployment is then the ratio of days available to work or seeking work and not working to total days worked plus days of unemployment of the currently employed. The measure is the average daily rate of days of unemployment among the currently employed as contrasted with usual and current unemployment which is the average yearly and weekly rate of persons unemployed (in the respective reference periods) among labor force participants. Table 8 shows unemployment according to the daily activity criterion.^{22/}

Table 8

Unemployment Rate According to Daily Activity Criterion,
NSS 27th Round and NSS 32nd Round.

(Percent)

Sex	Rural		Urban		Total	
	1972-73	1977-78	1972-73	1977-78	1972-73	1977-78
Male	6.84	7.12	8.02	9.41	7.08	7.59
Female	11.17	9.18	13.63	14.55	11.43	9.86
Persons	8.21	7.70	9.00	10.34	8.95	8.18

On average the number of days of unemployment among the roughly 195 million persons currently employed in the reference weeks in the NSS 27th Round was approximately 130 million. If spread evenly over the reference week, the average daily persondays unemployment would be 18.5 million.

The important point of Table 8 is the relatively high level of underutilization of the currently employed. Taking the currently unemployed and the level of underemployment among the currently employed together, a level of unemployment on any given day on the order of 12%-14% does not seem far fetched. This does not take into account "discouraged workers" who drop out of the labor force or the intensity of work among the employed.

D. Analyses of Unemployment

The 27th and 32nd Round as well as earlier rounds of the NSS have provided a wealth of statistics on employment status. Below we briefly summarize some of the findings of researchers who have analyzed the statistics, and also present our own conclusions concerning unemployment in India.

1. The conventional wisdom that the poor cannot afford to be among the unemployed is not inconsistent with analyses of usual activity criterion statistics. Analysis of the low incidence of chronically unemployed in the NSS 27th Round suggest that much of the chronic unemployment is voluntary, nominal among rural female and highest among urban female and is concentrated among

the better off. The basis for this conclusion, in the absence of income data on the chronically unemployed, is the much higher level of literacy and education among the chronically unemployed, e.g. 12% illiteracy for males as compared with a rate of 53% for the adult male population as a whole, and the positive relation^{23/} between levels of education and family income.

2. However, the conclusion that unemployment (as measured by time disposition) is not a problem for the poor is not supported by the daily activity status data. The poor work some part of the year and the work week but a sizeable percentage do not find as much work as they would like. Table 9 which presents daily activity status data by monthly per capita household expenditure groups supports this finding.^{24/} The Table shows a much higher incidence of personday unemployment in the poorest households than in better off ones.

TABLE 9

Daily Status Unemployment Rate by Household Expenditure Group
27th Round, 1972-73

<u>No. Household Expenditure Group</u> <u>(Rs. per Head per Month)</u>	<u>Rural</u> <u>(Percent)</u>	<u>Urban</u> <u>(Percent)</u>
0.00 - 10.99	22.42	29.21
11.00 - 20.99	14.08	15.88
21.00 - 33.99	9.82	11.87
34.00 - 54.99	7.12	9.97
55.00 - 99.99	5.18	7.88
100 and over	2.23	4.92
All (including unrecorded)	8.24	8.97

3. Although measured current and persondays unemployment rates are somewhat higher in urban than in rural areas, the large majority of the unemployed are located in rural areas. The NSS 32nd Round estimated almost three times as many persondays of unemployment in rural as in urban areas. Dantwala makes this point quite forcefully:

" It is necessary to remember a very elementary fact that all the millions of days of additional employment sought to be created under the Sixth Plan have to be provided to the unemployed and under-employed in the five and a half lakh (550,000) villages of India. Therefore, the most critical issues in employment planning are not only the magnitude of the aggregate employment generation and its sectoral distribution but also its spatial and occupational spread".^{25/}

4. Usually employed casual laborers, mainly agricultural workers, suffer the highest incidence of personday unemployment. This conclusion is based on analysis by Visaria of data from Gujarat and Maharashtra States. For example, in Maharashtra State, casual labor constituted 36% of the rural labor force and suffered 70% of the persondays unemployment. Visaria went on to estimate that for every 1.0% increase in casual labor, person-days unemployment will rise 0.4%.

Visaria concluded from his investigation that almost inevitably the rural casual labor population will grow at an accelerated pace and consequently with an increase in its proportion of the labor force, measured unemployment will

grow in turn. He sums up as follows: "It seems clear from the evidence presented (evidence from Gujarat and Maharashtra) that casual laborers should be a high priority group in any programme to alleviate poverty and reduce unemployment".^{26/}

5. Variations in level and characteristics of measured unemployment are substantial among States and need to be taken account of in program formulation. For example, the Sixth Plan (1980-85) stated that 75% of daily status unemployment (5+ age group) was concentrated in seven States. The draft Sixth Plan (1978-83) went on to cite States in which unemployment is low and stable, e.g.; Gujarat, Haryana and Uttar Pradesh; unemployment is predominantly a seasonal problem, e.g., Assam, Madhya Pradesh and Rajasthan; unemployment is a year round problem, e.g., Bihar, Tamil Nadu, Kerala; and States in which it is both a seasonal and year round problem, e.g. Andhra Pradesh, Orissa and West Bengal.

6. Increased productivity and income from employment is critical over the longer term to reduction of poverty. Wage data from the 1974-75 Rural Labor Enquiry which is comparable to data from the 1964-65 Rural Labor Enquiry shows some disquieting results. Real wages have declined as well as days of employment for all rural laborers, resulting in a decline in real daily earnings.

TABLE 10

Employment per Year and Daily Earnings of Usually Occupied persons in Agricultural Labor and Rural Labor Households in 1964-65 and 1974-75 277

	Employment		Daily Earnings			
	Per Year		All Agricultural Operations		Non-Agricultural Operations	
	1964-65	1974-75	1964-65	1974-75	1964-65	1974-75
	(Days)		(Rupees/1960-61 Prices)		(Rupees/1960-61 Prices)	
1. Agricultural Labor						
Households						
Men	272	246	1.00	0.88	1.08	0.89
Women	183	179	0.66	0.62	0.64	0.58
Children	280	254	0.50	0.49	0.52	0.50
2. All Rural Labor						
Households						
Men	277	250	0.99	0.89	1.31	1.11
Women	199	184	0.62	0.62	0.83	0.64
Children	267	254	0.53	0.49	0.57	0.50

7. Conventional wisdom holds that the great majority of the poor work 12 hours per day for 270 or more days per year and do not earn enough income (Rs. 76 per month per capita in rural areas and Rs. 88 per month in urban areas in 1979-80) from their employment to rise above poverty level. Surveys to estimate underemployment by income or what is referred to as "visible unemployment" have not been undertaken.

Conventional wisdom notwithstanding, employment statistics suggest what is already reflected in policies and programs. Underemployment by time disposition criteria is widespread. Short term programs to provide jobs that would supplement hours of work at going wage rates can attract underemployed labor and raise incomes (though not necessarily above poverty levels). At the same time programs to raise productivity and incomes from existing work are essential to long term prospects of reducing the numbers living in poverty-- 270 million in rural areas and 57 million in urban areas: ^{28/}

8. The preceding only scratches the surface of a large volume of literature on unemployment and underemployment in India.

The messages that probably have some broad validity are first that underemployment (in the sense of persons working less hours than desired some weeks and also being seasonally unemployed) is an important phenomenon. The conventional wisdom that only the rich can afford to be unemployed in developing countries such as India should be modified to only the rich can afford to be unemployed for most part of the year.

Underemployment is highest among casual laborers who live primarily in rural areas of India. The extent and characteristics of the unemployed vary widely as among the States. Programs directed at the problem of unemployment require analysis disaggregated by region and labor force characteristics.

9. Finally, awareness of underlying concepts and measures and the limits of employment status statistics is critical to using them well. Unemployment statistics almost surely underestimate the available labor supply and disregard the vast potential labor supply presently outside the labor force. Because of shifts in factors such as labor force composition and physical location, and economic conditions (and not the least in employment status survey concepts and measures) an increased growth rate for employment and incomes could coexist with even higher growth rates of measured unemployment.

10. In sum, employment status statistics can be helpful in analysing the employment problem, but they tell only part of the story. The policy implication is that in attacking the employment problem in India one has to be reconciled to bold programs and vigorous action to ameliorate a problem, the magnitude and dimensions of which are at best only partially understood and

and likely to remain so for the foreseeable future.

E. Employment Projections

India is the only major developing country in the world in which there has not been long term shift in employment out of agriculture into mining and manufacturing and tertiary activities. Table II below shows employment in agriculture to have been 72% of all employment in 1911 and 74% in 1971; in mining and manufacturing, 10% in 1911 and 10% in 1971.

TABLE II
Distribution of the Employed Population 1911 - 71
(Percent)

<u>Census Year</u>	<u>Agriculture</u>	<u>Mining and Manufacturing</u>	<u>Others</u>
1971	73.8	9.8	16.4
1961	73.0	10.4	16.6
1951	72.8	9.3	17.9
1941	74.0	9.2	16.8
1931	72.0	8.7	19.3
1921	73.1	9.0	17.9
1911	72.3	9.8	17.9

The broad sectoral structure of employment, which has remained largely unchanged since the turn of the century, provides the framework for the Government's attempts to come to grips with

employment planning. The drafters of the Sixth Plan estimated that 34.2 million persons would be added to the labor force and that 34.3 million person years could be generated by the end of the plan period, continuing to leave a residual of about 12 million person years of unemployment in 1985.^{30/} This would leave about 4% of the estimated labor force unemployed.^{31/}

Table 12
Projected Growth of Employment 1979-80/1984-85

Sector	Employment in million person years		Increase	Annual growth of employment (%)	Annual growth of	
	1979-80	1984-85			Value added (%)	Gross Output (%)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Agriculture and allied	80.331	95.251	14.920	3.47	3.83	5.20
Mining	0.724	0.894	0.170	4.31	11.25	11.50
Manufacturing	22.012	27.759	5.747	4.75	6.50	7.62
Construction	9.286	11.321	2.035	4.04	5.10	7.10
Others (including services)	38.757	50.164	11.407	5.30	5.47	6.36
Total	151.110	185.339	34.279	4.17	5.20	

Present estimates take note of lower elasticities observed in many sectors. Earlier the Planning Commission had estimated employment generation very ambitiously (See Table 13).^{32/}

Table 13

Sectoral Employment Generation 1973-79
(Based on employment coefficients and the input/output model)

Sl. No. (1)	Name of Sector (2)	Estimated Employment in standard person years (millions)			Sl. No. (1)	Name of Sector (2)	Estimated Employment in standard person years (millions)		
		1977-78 (3)	1982-83 (4)	Increase (5)			1977-78 (3)	1982-83 (4)	Increase (5)
1	Agriculture and Allied Activities	91.81	106.55	14.74	3.10	Rubber Products	0.16	0.25	0.08
1.1	Field Crops	51.33	55.86	4.33	3.11	Chemicals	0.99	1.63	0.64
1.2	Plantations	7.77	9.08	1.50	3.12	Petroleum Products	0.06	0.08	0.03
1.3	Milk and Animal Husbandry	24.80	31.48	6.68	3.15	Non-metallic mineral products	3.01	4.17	1.16
1.4	Forestry	6.76	8.93	2.17	3.14	Basic Metals	0.55	0.85	0.29
1.5	Fishing	0.96	1.21	0.25	3.15	Metal Products	0.68	1.02	0.33
2.	Mining and Quarrying	0.99	1.17	0.18	3.16	Electrical Machinery	0.31	0.46	0.15
3.	Manufacturing	27.72	37.16	9.43	3.17	Other Machinery	0.83	1.18	0.34
3.1	Food	5.50	6.87	1.29	3.18	Transport Equipment	0.88	1.28	0.40
3.2	Beverages	0.19	0.23	0.04	3.19	Miscellaneous Manufacturing	1.63	2.32	0.70
3.3	Tobacco	1.74	1.94	0.21	4.	Other Sectors	55.91	78.18	22.28
3.4	Textiles	6.63	8.71	2.09	4.1	Electricity, Gas and Water	0.73	1.17	0.45
3.5	Footwear etc.	0.78	0.92	0.14	4.2	Construction	9.29	13.68	4.38
3.6	Wood and Wood Products	2.94	4.05	1.11	4.3	Transport and Communications	8.47	11.75	3.28
3.7	Paper and Paper Products	0.14	0.23	0.09	4.4	Trade Storage and Warehousing	11.64	15.12	3.49
3.8	Printing and Publishing	0.27	0.44	0.17	4.5	Other Services	25.78	36.46	10.68
3.9	Leather and Leather Products	0.36	0.53	0.17		GRAND TOTAL	176.44	223.07	46.63

Note: Sub-totals do not tally at places due to rounding of the figures to two places of decimals.

These draft plan estimates have been critically examined by several researchers. The discussion that follows draws on these analyses.

In the Draft Plan organized or registered industrial sector annual growth was assumed to be 7% and the overall employment elasticity of output 0.7 (a 10% rise in output would be accompanied by a 7% rise in employment). In contrast, during the Fourth and Fifth Plans, annual growth rates of recorded industrial production were 4.5% and 5% per annum; actual estimates for employment elasticity of output were at the very highest 0.5%. One paper has suggested that a more realistic (but still optimistic) estimate for growth in the modern industrial sector (1978-83 plan period) would be about 50% below Draft Plan estimates or about one million jobs per year.

Whatever the above case, even under the Draft Plans extremely optimistic assumptions, 80% of the additions to the work force would have to find employment outside the modern industrial sector. This last point has important implications for employment planning. The Draft Plan states it as follows:

"Therefore the key element of the strategy to reduce the unemployment problem will have to be to increase income and employment in agriculture and allied activities and in small scale manufacturing and services".

Estimates of increase in employment in unregistered small-scale non-farm production and services are exceptionally

difficult to make because statistical information about these activities is incomplete. A best guess of employment in the sector for the early 1970s was on the order of 45 million. Grawe using this figure and assuming 7-8% per annum output growth in the sector and a labor coefficient of 1, estimates additional employment would be at least 3.5 million per annum. The actual potential he states is likely to be less, perhaps in the range of 2.0-2.5 million new jobs per annum. ^{33/} Grawe's estimate compares with a Draft Plan estimate of 6.8 million person years of additional full time employment by 1983 in village and small industries and 6.27 million part time jobs in this sector by 1983.

In agriculture and allied activities, the estimate of growth of employment in the Draft Plan is approximately three million jobs per annum. Alagh, Sinha, Dantawala and others who have examined the Draft Plan estimates for employment growth in agriculture, have generally concluded that the underlying assumptions are not supported by available evidence. Sinha, for example, concludes as follows::

The elasticity of employment with respect to output lies within a narrow range 0.3-0.5 even though the regions covered by our analysis differ widely in manland ration and in the technology complex. Even if we take the upper limit, employment in agriculture will rise at about half of the rate of growth of output. The Plan projections which assume equal rates of increase in employment and output thus overestimate the employment potential of agricultural growth by over

5 million . From the policy point of view, this determines the scale on which non-conventional, employment-oriented programmes like rural works have to be planned, if it is not possible to cover this gap by accelerating employment in other sectors" ^{34/}

Overall, Draft Plan estimates of employment growth were not supported by available evidence. The two sectors for which empirical evidence exist, agriculture and organized industry, show employment elasticities for changes in output below those used in the Plan. Estimates for allied agricultural activities and small village industries are difficult to assess because the empirical basis for estimates are very weak.

What can be learned from the type of employment planning undertaken in the Draft Plan? First, expansion of modern industry will absorb only a small proportion of new labor force entrants and existing underemployed. Second, the majority of additions to the labor force as in the past will have to be absorbed into the unorganized agricultural and non-agricultural sectors. Third, continuation of past trends will result in a worsening of the employment situation. In other words, an effective strategy to raise productivity and increase employment opportunities in unorganized agriculture and non-agricultural activities, as proposed in the Sixth Five Year Plan, 1980-85, is critical to longer term amelioration of the employment problem. Fourth,

to the extent that implementation of small farmer and village and small industry programs (unorganized sector programs) do not meet expectations of the Plan, short term employment will be needed to augment employment and incomes. Rural work programs are the main vehicle for increasing employment in the short term.

The striking aspect of the Indian analyses of the employment situation, as noted at the outset of the paper, is the extent to which the positive program recommendations of analysts cluster around the same areas--expansion of irrigation; development of "allied agricultural activities" ranging from animal husbandry to forestry; promotion of village and small industries; and expansion of rural works programs.

In the next chapter of this paper we will explore three of the four program areas that form the core of employment strategy in India. Agriculture, the fourth area, is not taken up because the purpose of the paper is to explore those areas where USAID has not analyzed the role it might offer to play in assisting the Indian Government to meet its employment objectives. The three areas to be covered--allied agricultural activities, rural works programs and village and small industries--fall under the general heading of off-farm employment.

III. Off-Farm Rural Employment Programs

A. Overview

The removal of poverty is the foremost objective of the Sixth Five Year Plan (1980-85).^{35/} Poverty for this purpose is defined in terms of a poverty line, taken as the mid-point of the monthly per capita expenditure class having a daily calorie intake of 2,400 per person in rural areas and 2,100 in urban areas.^{36/} In 1979-80 prices, the mid points are Rs. 76 per month (\$ 101 per capita per annum @ \$ 1.00 = Rs. 9.00) for rural areas and Rs. 88 per month (\$ 117 per capita per annum) for urban areas.^{37/} Based on NSS household consumer expenditure data, it is estimated that about half of the Indian population was living below the poverty line as of 1977-78. Table 14 below gives the percentage of people below the poverty line in 1972-73 and 1977-78, and compares them to the highly ambitious 1984-85 targets:

Table 14
Percentage of People Below Poverty Line

	<u>1972-73</u>	<u>1977-78</u>	<u>1984-85</u> (target)
Rural	54.09	50.82	30.00
Urban	41.22	38.19	30.00
All-India	51.49	48.13	30.00

The two other major objectives of the 1980-85 plan are progressive reduction in the incidence of unemployment and strengthening of the redistributive bias of public policies and services in favor of the poor.^{38/} To achieve these objectives, the GOI has integrated various rural development and rural works programs into multi-sector income and employment generating programs and has emphasized improved coordination and more effective implementation. The employment policy in the Sixth Plan is to achieve the two major goals of reducing underemployment for the majority of labor force and cutting down on the long term unemployment. Ceterus paribus, programs and projects with higher employment potential are to be given preference.^{39/} While various sectoral programs are described under sections B, C and D below, new integrated programs are reviewed in the paragraphs that follow.

The most important of the multi-sector efforts is the Integrated Rural Development Program (IRDP). This program, introduced in 1978-79, envisaged integration of the methodology and approach of three on-going programs, viz., The Small Farmers Development Agency (SFDA), The Drought Prone Area Program (DPAP) and The Command Area Development Program (CAD). These programs among them covered 2,300 development blocks out of the total 5,011 blocks in the country as of 1978-79.^{40/} These three programs were to continue in the old blocks at roughly the 1977-78

level of funding. From among the blocks not covered by SFDA, DPAP and CAD, IRDP was to cover 300 new blocks each year beginning in 1978-79. Accordingly IRDP was launched in 2,300 blocks in 1978-79, including 2000 out of the old 3000 blocks plus 300 new blocks. The target beneficiaries of IRDP (like those of SFDA, DPAP and CAD) are small farmers, marginal farmers, agricultural laborers and rural artisans. The parameters for identification of small farmers and marginal farmers are the same as those adopted under SFDA, i. e., two hectares of dry land or equivalent irrigated land for small farmers and one hectare of dry land or equivalent irrigated land for marginal farmers. In DPAP areas the land norms vary from 1 hectare to 10 hectares. As of October 1980, however, the SFDA program was merged with IRDP and IRDP has been extended to all blocks. The program aims to cover 15 million families by March 1985 at the rate of 3000 families per block per year. About one-third of the beneficiaries are expected to be employed in rural industrial, commercial and service enterprises.

In 1979-80, agriculture and irrigation (excluding allied agricultural activities) accounted for about 70% of the 1,475,000 IRDP beneficiaries; the animal husbandry sub-sector provided benefits to 16%, followed by village industries and tertiary sector (about 3% each), forestry and fisheries (about 1% each) and other

activities (about 6%). This highlights the important potential of animal husbandry among off-farm rural employment programs. Financial assistance per beneficiary during 1979-80 averaged Rs. 467 (\$ 52) of subsidy, Rs. 303 of loans from cooperative societies, and Rs. 383 of commercial bank loans. ^{41/}

Some of the major plan programs with significant employment potential or otherwise benefitting the poor are listed below along with estimates of beneficiaries during the period 1980-85, indicating the sections of this paper wherein these programs ;have been described. As the same person could derive benefit from than one program, the figures are not necessarily additive:

- 1) IRDP: 15 million families (Section III A).
- 2) Operation Flood II: 10 million families, of which about 8 million basically milk producing (Section III B)
- 3) Other dairy development programs: 5 million families (Section III B)
- 4) Fish Farmers' Development Agencies : No estimate (Section III B)
- 5) Village and Small Industries sector: 9 million persons (Section III D)
- 6) National Rural Employment Program (NREP): 300 to 400 million mandays of employment per year or 1.1 to 1.5 million standard person years @ 273 mandays = 1 standard person year (section III C)
- 7) Components of Minimum Needs Program: Substantial additional employment of indirect nature (not reviewed)
- 8) National Scheme of Training Rural Youth (TRYSEM): Training 0.2 million youth every year (Section III B)
- 9) State government schemes; Maharashtra, Tamil Nadu, Madhya-Pradesh and Karnataka: No estimate (partially under III B and partially under III C).

B. Allied Agricultural Activities

In the preceding section we reviewed the envisaged employment potential of various plan programs. It was noted that animal husbandry and dairying offer particularly substantial scope for off-farm rural employment. This sub-sector will, therefore, be reviewed in some detail in this section. Some other allied agricultural activity programs such as inland fisheries, SFDA, the Special Live Stock Program and Desert Development Program are also reviewed briefly in this section.

Animal Husbandry and Dairying :

India's dairy economy is characterized by a vast cattle population with low productivity, very low daily per capita milk consumption and production by small farmers of approximately 90%^{42/} of all milk. Animal husbandry and dairying as a potential source of employment comes next only to crop husbandry, especially for small and marginal farmers and the landless. It is highly labor intensive and requires no change in the rural character of the labor force. The GOI National Commission on Agriculture strongly recommended promoting animal husbandry and dairy programs for small and marginal farmers and the landless. Accordingly during the Sixth Plan, these programs form a substantial and integral part of major development projects such as IRDP, DPAP and hill and tribal area development projects.

India's milk production is targetted to reach 38 million metric tons (MT) by 1984-85, implying an annual growth rate of 4.8% over the officially estimated output of 31.5 million MT in 1980-81. ^{43/} With the latest population estimate of 696.8 million as of 3/1/1981, ^{44/} daily per capita consumption amounts to about 124 gms (much below the minimum estimated requirement of 201 gms), and which would reach 137-138 gms in 1984-85 assuming present population growth trends. During the Sixth Plan, Operation Flood II (OF II) will be the major dairy development project, providing economic benefits to about 10 million rural families. Other central and state dairy projects are to cover an additional 5 million families. The various programs, central and state, are briefly described in the following paragraphs.

Operation Flood I, launched in 1970 with the assistance of dairy commodities donated by the World Food Program (WFP) and completed on March 31, 1981, achieved the major objective of obtaining a substantial share in the liquid milk market of the four metropolitan cities of Bombay, Calcutta, Delhi and Madras. Compared to the envisaged target of 2.965 million litres per day capacity, it has established a processing capacity of 2.875 million litres per day in the Feeder Balancing Dairy Plants. The project has helped in organizing 11,500 producer cooperative societies with a membership of 1.34 million. ^{45/} However, OF I was not an unmixed success; it failed to achieve its ambitious objectives

with respect to the establishment of mother dairies and feeder balancing dairies. The GOI Ministry of Agriculture had accepted before the Parliamentary Committee of Public Undertakings that it cannot achieve all these objectives even in 20 years.^{46/}

Operation Flood II, launched in October 1979, is the major dairy development project under the Sixth Plan. Its plan period allocation of Rs. 4,855 million (\$ 607 million), expected to come mostly from World Bank and European Economic Community (EEC), accounts for 57% of the allocation for the animal husbandry and dairying sub-sector and is equivalent to 39% of the crop husbandry subsector allocation.^{47/} It is proposed to create milk processing and marketing facilities for 4.36 million litres per day in the four metropolitan cities and feeder balancing facilities in the rural areas for 20 million litres a day through the cluster federations.^{48/} Additionally modern milk marketing is to be organised in about 150 cities with a population of over 100,000 each. The project objectives include building a viable self-sustaining dairy industry by mid-1985, covering 10 million rural milk producers' families, and erecting a National Milk Grid linking rural milk sheds to demand centers.^{49/}

In addition to Operation Flood II coverage of 10 million rural families, 15 million families are to be reached through other

dairy projects, special livestock production projects and dairy cattle improvement schemes intended to help people in hill areas, tribal areas, backward classes, etc. At the state level, dairy development programs will mainly be confined to completion of dairies under construction, creating additional facilities for increasing throughput in the existing plants, training of personnel, assistance to dairy cooperatives and strengthening of dairy extension services in areas outside the Operation Flood II project. ^{50/} It is anticipated that the share of marketing of milk through the organised sector will rise from about 10% at present to 15% by 1985.

The results of the available evaluation studies and micro-level studies on dairy development indicate that dairy projects can have a favorable impact on poverty and unemployment. One initial evaluation of a project in the Jaipur area of Rajasthan shows increased production in covered households (because of increased use of crossbred cows and cattle feed), very significantly increased income (about Rs. 2,800 per respondent - one full time laborer equivalent) and the additional employment (typically reflected in decreased disguised unemployment). The 43 sample houses were found to expend the equivalent of 49.5 person years on dairying per year - though how much of this is additional is another question. The income gain was offset by a 42.4% decline in domestic milk consumption - an average decline of roughly 640 kilos a household a year or 60 kilos per family member. About 37% of the beneficiaries as compared to 34% of the total rural population were below the

^{51/}poverty line. This seems to imply that the poor not only benefit proportionately to their number they also probably do more than in other development programs. On the other hand only 2.3% belonged to scheduled castes as opposed to 28% for Rajasthan state as a whole. This may reflect a traditional specialisation of other castes in cattle-raising. One study in Kaira shows higher consumption of milk by all classes of villages affected by the scheme as well as higher income.^{52/}

Fifty-six research papers on "The Economics of Livestock Enterprise with Special Reference to its Employment Potential" were accepted at the 40th Annual Conference of Indian Society of Agricultural Economics held in December 1980.^{53/} The results of various micro-studies indicated that the results obtained with the cross-bred program on organised farms and research stations were quite encouraging, although very few systematic studies have been conducted to objectively evaluate the economic performance under field conditions. Fears were expressed that the introduction of the cross-breeding program in rural areas might result in (i) inefficient draught cattle, (ii) higher mortality and morbidity of animals, (iii) feed and fodder scarcity and (iv) marketing problems. Many writers argued that it would be extremely difficult for small and marginal farmers to provide the feeding and management regimes required for crossbred cows. The impact of crop-livestock integration on risk and the stability of

income, although believed to be generally favourable, has not been empirically investigated.

Regarding the impact of the dairy development program, especially on employment, most agricultural economists agreed that "serious limitations of data base and a uniformly acceptable methodology constrain the quantitative measurement of economic, technical, nutritional and social returns^{54/}". However, some of the broad conclusions regarding the employment and income effects of dairying are summarized below:

- Dairying is more labor intensive than crop husbandry and most added labor supply comes from within the family (which in turn helps in reducing disguised unemployment). By contrast, increased emphasis on crop production will tend to increase the use of non-family (hired) labor.
- A large number of women and children, especially in landless households and small and marginal farm families, could supplement their income and employment potential through dairy enterprises.
- Returns on dairying, unless pursued vigorously, are low especially for local cows.
- Buffaloes generate more employment than local cows.
- There appears to be stagnation in milk yield per animal.
- Although the cross-bred animal is more economical and more efficient in milk producing, a composite package of breed improvement, fodder production, health cover, milk marketing, credit and insurance is essential for an optimum exploitation.
- The wide variations in the milk production costs are attributed to differences in breeds, management practices, regions, seasons and farm sizes and also the cost concepts employed.

- Crop-livestock integration exhibits substantial potential for increasing employment and income, especially on small farms.
- A development approach based on milk animals is likely to distribute the benefits of agricultural development in a more equitable way, and will help secure the participation and involvement of even those who are landless or have a very small piece of land.

Results from selected papers are summarized in footnote 55.

Inland Fisheries: Production from inland waters has been steadily increasing largely due to better stocking practices. Fifty Fish Farmers Development Agencies (FFDA) were set up during the Fifth Plan period to promote intensive aquaculture in selected districts. The main emphasis during Sixth Plan is on production of fish seed. The performance of FFDA's was reviewed by the National Council of Applied Economic Research (NCAER), which found that the FFDA's had generally achieved their objectives for which they were set up.

Small Farmers Development Agency Program (SFDA): SFDA projects initiated in 87 project areas during Fourth Plan continued to operate during the Fifth Plan, the number of projects rising to 168 covering 1,818 blocks. Effective October 1980, SFDA has been merged with IRDP (reviewed in section III A). From its inception until August 1980, agencies reported identification of 16.9 million participants, of which 7.3 million enrolled as members of cooperatives. Excepting improved agriculture and minor irrigation sectors, dairy development program participants were the largest group (0.6 million)

followed by other animal husbandry programs (0.3 million). A cumulative subsidy amounting to Rs. 2.40 billion (\$ 300 million) was utilized.

Special Live Stock Program: The special livestock production program initiated in the year 1975-76 and continued thereafter aims at providing greater employment opportunities to small and marginal farmers and the landless. The centrally-sponsored scheme for cross-bred calf rearing, in operation in 99 districts, provides feed subsidy at the rate of 50 percent to small and marginal farmers and $66 \frac{2}{3}$ percent to agricultural laborers. Under the central sector scheme for the establishment of poultry, piggery and sheep production units, in operation in 169 districts, the subsidy given is 25 percent for small farmers, $33 \frac{1}{3}$ percent for marginal farmers and agricultural laborers, and 50 percent for members of "scheduled tribes". It was proposed to merge these program with IRDP as of April 1981. However, due to operational difficulties, these programs continue as a separate entity during 1981-82 but with no extension to any new areas.

Desert Development Program: This program covers 18 districts in the hot arid zones of Rajasthan, Haryana and Gujarat defined as desert areas in the report on Desert Development by the National Commission on Agriculture. Also, the cold arid zones of Ladakh in Jammu and Kashmir and Spiti Region of Lahaul and Spiti districts in Himachal Pradesh are covered under this program. The main

components of the program are afforestation, grass land development, sand dune stabilization, ground water development and utilisation and construction of water conservation structures.

56/

C. Rural Works

India has a long history of rural works programs that have had objectives such as famine relief, employment generation and training as well as creation of physical assets. Each of the development plans beginning with the Third Five Year Plan included rural works programs as part of a strategy for increasing employment and raising rural incomes. Some of these programs are listed in the table below:

Table 15

Centrally Assisted Rural Employment Schemes

<u>Scheme</u>	<u>Period</u>	<u>Reported Expenditure Rupees, millions</u>	<u>Employment Generated Mandays millions</u>	<u>Employment Generated per Rs. 100 Expenditure Mandays</u>
Rural Manpower Program	1960/61-1967/68	317	127	4-
Crash Scheme for Rural Employment	1971/72-1973/74	1254	315	25
Pilot Intensive Rural Employment Program	1973-1976	45	11	25
Drought Prone Areas Program	1970/71-1973/74	912	150	16
+Food for Work Program	1977/1978-1980			
*National Rural Employment Program	1980/81-			

* NREP proposed in Sixth Five Year Plan 1980-85

+ Food for Work Program merged into NREP

The various programs are briefly described in the paragraphs that follow. The descriptions indicate some of the strong and weak points of special rural works programs in India.

The Rural Manpower Program began on a pilot basis in 1960/61 in 32 community development blocks; by 1964/65 it had been implemented in approximately 1,000 of the 5,026 community development blocks in India. The program's objective was to provide employment to agricultural workers during the slack season through the execution of small community works. By the end of the third plan 2.5 million persons were to be provided employment for at least 100 days per year. An outlay of Rs. 1,500 million was envisaged. The program exerted a far smaller claim on resources with an expenditure of Rs. 193.3 million resulting in mandays of employment equal to no more than 15% of the target number. Though centrally assisted, this scheme relied on state administrative and technical supervision. Serious difficulties in the implementation of the scheme due to insufficient coordination between the various agencies involved as well as low planning priority were responsible for its slow progress.

The Crash Scheme for Rural Employment (CSRE) was launched for three years from April 1971. During each year the scheme was designed to generate employment for 1,000 persons in each of the 350 districts of India. Under this scheme the immediate employment objectives were achieved with the generation of 315.4 million mandays

of employment, 120 percent of the target. Expenditure reached 84 percent of the anticipated outlay. This shortfall was indicative of the emphasis under the CSRE on scarcity relief operations during the drought years of 1971/72 and 1972/73. Numerous administrative problems resulted in the creation of few durable, productive assets in spite of the considerable mandays of employment invested. In particular political pressures for employment during drought conditions led to reallocations from more difficult to easier operations in terms of organization and administration. Roadworks claimed a large proportion of expenditure but inadequate maintenance provisions were made. Decisions on location of land development and minor irrigation work succumbed in most areas to pressures from the important local landowners. These factors reduced the confidence placed in widespread public works programs and led to relatively more emphasis on general development schemes for specific, vulnerable target groups. The change to a highly dispersed approach meant that virtually no effect on local labor markets or local development in general could be observed.

An effort to overcome some of these difficulties the Pilot Intensive Rural Employment Program (PIREP) was inaugurated in 1972/73. The objectives of this program were (a) to provide in 15 selected community development blocks employment opportunities for all those unskilled workers requiring employment as revealed by

by employment surveys (b) to create durable, productive assets which could form part of an area development program and (c) provide some training or skill-upgrading. Projects from some of the blocks were evaluated and the findings brought together under the auspices of a national review committee. The report of this committee is a comprehensive treatment of the difficulties faced in the execution of labor-intensive rural works programs.^{57/} Among its most important points were the following:

- i) Registration under the project was regarded as a precautionary move by many individuals so that the employment surveys did not provide realistic information on the pool of available manpower. Furthermore immigration of "outside" labor to the block apparently was a regular feature.
- ii) There was considerable discrepancy between the projects sanctioned and those actually undertaken. In addition to local political pressures, the level of technical competence at the block level again led to the selection of projects which were technically least complex and administratively easiest. Furthermore, most blocks could not spend the funds allotted to them mainly because there was no backlog of projects ready to be implemented.
- iii) The committee concluded that there had been little success in creating assets which could provide continuing employment.

One important reason was the insufficient provision for subsequent maintenance of the assets.

- iv) Few successful training activities were reported. The lack of effective coordination at the block level made dual objectives - training and employment - particularly difficult to achieve.

During the Fifth Plan period, the emphasis moved away from rural works programs to special target-oriented schemes. The Draft Fifth Plan envisaged that such employment gaps as still remained (after industrial and agricultural development as foreseen in the plan) could be made good through special schemes for drought-prone areas, small and marginal farmers, expansion of institutional credit facilities, regional development, and the dispersal of economic activity to the more backward districts. The Drought Prone Areas Program undertook activities that were primarily physical infrastructure construction.

Table 16
Percentage Distribution of Expenditure on
Drought Prone Areas Program
1970/71 to 1973/74

<u>Activity</u>	<u>Expenditure</u>	<u>Percentage</u>
Irrigation	492.5	54%
Roads	237.1	26%
Afforestation	68.4	7.5%
Soil Conservation	59.3	6.5%
Other	36.5	4.0%

These activities generated 154 million mandays of employment over the four year period. Though small in aggregate terms this activity was located in particularly needy areas. During the succeeding years the emphasis has shifted away from employment generation to the development of a better ecological balance in drought prone areas. This shift reduced the annual employment generation in the DPAP by more than 20%. The small and marginal farmers program also included land development and irrigation components but supplemented these with horticulture and subsidiary activities such as dairy, poultry, livestock and fisheries. From the inception of the program through 1976/77 approximately 500,000 such farmers had benefitted from irrigation and fewer than 400,000 under the various subsidiary occupation schemes - dairying being far the most important.

With comfortable food stocks available in 1977 the Central Government launched the Food for Work Programme as a part of the strategy for a direct attack on the problem of rural unemployment and poverty. The main objectives were (a) to generate additional jobs for the rural unemployed and underemployed thereby increasing income and nutrition, (b) creation of durable assets to strengthen community infrastructure and (c) better utilization of surplus foodgrains.

A quick evaluation of the Food for Work Programme, which was undertaken in 1979, showed a mixed though generally positive

impact of the program. Mandays of employment per selected household in the sample villages varied from 3 mandays to 167 mandays. The average increase in mandays of employment for selected households was 10.4%. Similarly additional income generated from the programme varied from 1.4% to 97% for selected households; the average increase, was 17.7%.

A few specific cases were found where selection of projects was given inadequate attention and also non durable assets, mainly roads and huts, were constructed. The evaluation also listed a variety of "misuses and malpractices," such as inflation of muster roles; sale of foodgrain for cash by a few States and misallocation of funds received; appropriation of workers share of foodgrains by contractors; and malpractices in weighing foodgrain by ration shop owners. However, the overall impression conveyed by the report was that these types of abuses and other weaknesses of the program were minor and could be corrected within the existing program structure.

In the Sixth Five Year Plan 1980-85, the Food for Work Program has been merged into a new rural works program, the National Rural Employment Program (NREP) which is modelled to some degree upon the Maharashtra Employment Guarantee Scheme (EGS). The NREP will have as objectives (a) providing employment, especially for landless labor; (b) planned utilization of rural labor

for economic development and (c) development of an efficient distribution system for essential commodities.

The key features of the program as outlined in the Sixth Plan are much closer integration of employment with development planning; built in flexibility to adjust to changes in the labor market situation, a 50:50 division of funding between the Center and the States; special taxation measures by the States to raise funds for the program; and mobile fair price shops selling goods such as salt, cloth and vegetable oil at the site where works are in progress.

The NREP is a direct tribute to the EGS which has grown rapidly both in size and reputation in the past few years. The progress of the scheme since 1974-75 is indicated below.

Table 17

The Maharashtra Employment Guarantee Scheme

<u>Year</u>	<u>Expenditure (Rs. Millions)</u>	<u>Mandays of employ- ment (millions)</u>	<u>Expenditure per Manday (Rs./day)</u>
1974/75	137.2	48.1	2.85
1975/76	344.5	109.5	3.14
1976/77	485.4	133.0	3.65
1977/78		117.3	3.50
1978/79	720.0	163.5	4.40
Trend annual growth rate	44.5%	28.6%	

Some of the features of EGS that have contributed to its national prominence are described below:

Under EGS as implemented through 1978/79 the Maharashtra government undertook to employ as unskilled manual labor any individual over 18 years of age registered with the village panchayat within 15 days of that individual presenting himself for work. There is no choice of work either with respect to type or location within the district although normally work is to be provided within the block. Only work on "productive" assets is to be authorized under the scheme; however, productivity is defined in terms of either direct or indirect contributions to output increases so that relatively wide latitude is given the Block Development officers and District Collectors.

Wages are paid on a piece work basis calculated such that seven hours of "diligent" work should yield the agricultural minimum wage of Rs. 4/-. It is intended that agricultural operations not be affected and collectors may suspend EGS works if they are convinced that agricultural labor is not forthcoming at the minimum wage.

A major objective of the EGS is the creation of productive assets in the rural areas that will themselves lead to permanent employment increases. Approximately 49% of the works in 1978/79 involved irrigation (e.g. canal excavation, percolation tanks): 25% soil conservation and land development and 23% roads. In some locales there has been a drift towards projects such as roads which

are relatively easier to organize and implement, but are less productive than alternatives.

Arrangements made for the effective administration of the EGS have greatly facilitated its progress. At the state level the officer in charge is the Secretary of the Planning Department. With this arrangement the usual dichotomy between plan formulation and execution may possibly be bridged.

The primary administrative responsibility for implementing the scheme lies with the district collector who allocates work to the implementing agencies. The latter include both state departments (such as Soil Conservation, Irrigation and Power, Forest) and local government bodies (district and taluka panchayats). No separate engineering staff has been authorized for implementing the works, but skilled workers and clerical staff may be charged to the EGS budget. Approximately 60-70% of the administrative work load is borne by the panchayats. The preparation of "works blueprints" is undertaken by taluka or block development officers in conjunction with local committees. Village panchayats are responsible for the preparation and up-dating of lists of individuals offering themselves for work. Finally the collector of each district is to have established a performance audit unit to monitor the implementation of the scheme. These arrangements clearly place

the burden of effective implementation on the District Collector. Concentrating responsibility and authority in one officer has no doubt contributed to the progress of the scheme.

Expenditures to implement the employment guarantee derive half from special taxation and half from the normal state budget (consolidated fund). Special taxation measures were enacted by the state's legislature in 1974 and include the following:

- (1) Taxes on professional and other salaried or earned income
- (2) Tax surcharges on motor vehicles
- (3) Tax surcharges on the sales tax
- (4) Special irrigation assessments
- (5) Land revenue assessments
- (6) Tax surcharges on non-residential urban lands and buildings

Approximately 70% of the EGS special tax revenue is generated by the tax on professional income. All special tax proceeds and an equal amount from the state's consolidated funds are credited to an Employment Guarantee Fund. Allocations from this fund are made to each district on a pragmatic basis with roughly half the funds committed to support district plans for EGS and the remainder retained by the State to allocate as needs develop over the year.

Concluding Comments: The experience of the Indian Government with special works programs has not been unmitigated success.

Each of the programs provided work and income to rural poor; they also in varying degree were subject to waste due to planning and implementation failures as well as misuse of resources and malpractices. Taking into account these deficiencies, the programs remain the most effective, and perhaps the only means in the short term of providing jobs and income to large number of rural poor.

The NREP proposed for the Sixth Five Year Plan 1980-85 attempts to build on the experiences of previous programs. In particular, the program will attempt to tackle the most persistently negative feature of special rural works programs - the failure as often as not to construct and maintain durable physical assets that contribute to the development of the community. While based on experience with these programs, individuals may harbor doubts about capacity to correct this failure, the fact is that the Indian development community came to the conclusion long ago that there is little choice but to continue with these programs and at the same time try to improve them.

D. Village and Small Industries

1. Description

Village and small industries divide into two sub-sectors. One consists of traditional village industries such as match or soap making, weaving, handicrafts and sericulture; the other modern small scale industries. The latter may compete directly with the traditional cottage industries and in addition include enterprises in activities such as chemical products, transport equipment and electrical machinery and appliances. Small scale industries are distinguished from large and medium scale units by investment in plant and equipment of below Rs. 2 million (or Rs. 2.5 million in the case of "ancilliary" units). "Tiny" industries, which include the majority of enterprises engaged in traditional industries, are defined by investment in plant and equipment up to Rs. 200,000.^{58/}

Analysis of trends in growth of production and employment in village and small industries is severely hampered by the partial and sporadic efforts to collect data on the unorganized sector, which includes most village enterprises and small enterprises. Data is collected regularly on manufacturing establishments (part of the organized sector) registered under the Factories Act 1948, but there is no regular collection of dependable

statistics on non-factory units (part of the unorganized sector), i.e., units using power and employing less than 10 persons or those not using power and employing less than 20 persons. In 1977 the Central Statistical Office (CSO) undertook an economic census of non-agricultural establishments (the first of its kind) to help remedy the lack of data on the unorganized sector. However, to date only an All India summary at a very high level of aggregation has been released (see Table 18). Other data from the census including breakdown by region and industrial sector should become available over the next two years.

Table 18
ALL - INDIA SUMMARY

	Rural		Urban		Total number
	number	%	number	%	
	(1)	(2)	(3)	(4)	(5)
I. Non-agricultural establishments					
Total	1,742,117 (100.0)	54.8	1,436,235 (100.0)	45.2	3,178,352 (100.0)
(i) operating from resident households.	197,898 (11.4)	49.7	200,580 (14.0)	50.3	398,178 (12.5)
(ii) operating without permits	73,421 (4.2)	65.7	38,317 (2.7)	34.3	111,738 (3.5)
(iii) others	1,470,798 (84.4)	55.1	1,197,338 (83.3)	44.9	2,668,136 (84.0)
II. Persons usually working in establishments					
Total	10,806,266 (100.0)	39.9	16,388,466 (100.0)	60.1	27,254,732 (100.0)
Hired workers	9,670,800 (89.0)	39.9	14,567,719 (88.9)	60.1	24,238,519 (88.9)

Note: Figures in brackets in cols (1), (3) & (5) give percentage to the total number.

Source: GOI, Central Statistical Office

The CSO data show 27 million persons employed in non-agricultural establishments, or roughly ten percent of the labor force. An establishment was defined as a unit engaged in non-agricultural activities that employs at least one hired worker on a fairly regular basis. The addition to the above of units or households engaged in non-agricultural activity without hired labor, based on estimates from the early 1970s, would at least double the number of persons working in non-agricultural establishments. With the addition of units without hired labor, it may be that as much as 20 percent of the labor force is employed in the small scale and unorganized non-agricultural sector at the present time.

In the absence of a reliable and comprehensive set of statistics on village and small industry, data compiled by other from a variety of sources were drawn upon. These data were only of very limited help in trying to develop a picture of village and small industries as they exist at present and even less helpful in trying to develop a picture of changes in these industries. For the near future, insights into the nature and direction of change in village and small industries will have to be based on such micro studies as are presently available and interviews with persons in the public and private sector who are engaged in these industries or in studying them.

Table 19, which is from a draft document, presents data that is more than a decade old and hence applicability of the percentage break-downs to the present day situation is uncertain.^{59/} This said, the most important rural industries using broad product classification, appear to be food processing, cotton and other textile products, wood products and furniture, and non metallic minerals. At a significant but less important level are metal products, leather, and beverages and tobacco.

Table 20 estimates capital/output ratios by sub-sector.^{60/} The publication from which this table was drawn notes that the data set (based on registered firms) is skewed and that the capital/output ratio is not a measure of labor intensity or efficiency of production (although it may provide some clues). Also widespread and widely fluctuating capacity underutilization at all size levels may leave any inferences about capital labor mix or efficiency of different size firms by industry beyond the specific point in time when the data were collected on shaky grounds.

Table 21 suggests a decided shift in employment toward smaller enterprises.^{61/} These data, it should be noted, present only a very partial picture based on registered firms. In the match industry, for example, the table shows 1.5% of total match industry employment in small scale firms. A recent publication estimated 65% of match

manufacturing activity, and one can assume an even a larger proportion of the industry employment, is accounted for by the small scale sector (unorganized as well as organized).

Finally, Table 22 provides some information on percentage of women employed in selected industries. ^{62/}

Table 19

PERCENTAGE DISTRIBUTION OF EMPLOYMENT IN
DIFFERENT INDUSTRIES IN HOUSEHOLD UNITS FOR RURAL AND URBAN AREAS

Industry	Rural	Urban
Food	20.4	17.0
Beverages & Tobacco	2.5	1.9
Cotton Textiles	24.7	36.0
Wool and Synthetic Textiles	1.4	1.4
Jute, Hemp and	0.5	0.5
Other Textile Products	8.4	12.9
Wood and Furniture	11.1	5.6
Paper Products	0.1	1.0
Leather and Fur	4.2	5.4
Rubber, Plastic and Coal	0.0	0.3
Chemicals	0.2	0.8
Non-metallic Minerals	14.0	5.5
Basic Metal	0.0	0.5
Metal Products	6.3	3.6
Machinery and Parts	0.8	0.5
Electrical Machinery	0.0	0.1
Transport Equipment	0.3	0.2
Repairs	1.7	3.6
Others	3.2	5.4
Total	100.0	100.0

Table 20

CAPITAL-OUTPUT RATIOS FOR SELECTED REGISTERED INDUSTRIES
1975/76

<u>Industry</u>	<u>Tiny Sector</u>	<u>Small-scale ^{a/} Sector (excl. Tiny sector)</u>	<u>Large Scale Sector</u>	<u>Total Factory Sector</u>
Edible Oils & Fats (excl. hydro- genated oils) ^{a/}	0.41	0.57	1.25	0.60
Matches	0.24	0.93	0.51	0.45
Utensils & Cutlery ^{a/}	0.51	0.99	0.51	0.68
Hand Tools & General Hardware ^{a/}	0.68	1.09	0.80	0.85
Textiles, Garments, Wearing Apparels, etc.	0.29	0.73	0.72	0.62
Electrical Apparatus, Appliances & Parts ^{a/}	0.79	0.96	1.57	1.39
Knitting Mills	0.30	0.62	0.72	0.51
Bakery Products	0.39	1.79	0.54	0.59
Rubber Products (excl. footwear tires and tubes)	0.67	0.90	0.67	0.74
Soap and other Toilet Preparations (incl. cosmetics, perfumes, toothpaste, shampoos, etc)	0.36	0.65	0.49	0.51
Bicycles, Cycles, Rickshaws & Parts	0.82	1.35	0.78	0.91
Footwear (incl. leather, rubber and plastic)	0.49	1.81	0.33	0.51
Medical, Surgical and Scientific Equipment	0.60	1.04	1.33	1.19
Radio, Television, Transmitting and Receiving sets (incl. allied electronics equipment)	0.65	1.02	0.74	0.75
Stationery Articles	0.63	1.51	0.90	0.97
Watches and Clocks	1.11	1.01	1.24	1.21

Note: For the purpose of this table the capital-output ratio is defined as fixed capital divided by value added by manufacture.

^{a/} Data relates to the year 1974/75

Table 21

PERCENTAGE DISTRIBUTION OF EMPLOYMENT: 1950s vs. 1970s.

	<10	10 - 19	20 - 49	50 - 99	100 - 499	500 +	employed
Iron & Steel							
1956	-	.09	2.0	2.6	6.3	89.1	90.5
1977	-	0.8	5.7	5.4	12.8	75.3	181.2
Cement							
1956	-	.015	-	-	10.3	90.2	27.4
1977	.1	1.0	4.1	3.6	16.9	74.2	35.1
Ceramics							
1956	-	.06	1.64	3.8	34.1	60.3	23.4
1977	0.3	3.3	16.7	31.4	31.9	16.5	78.4
Matches							
1956	-	.08	1.1	2.2	29.5	71.4	15.9
1977	.1	1.4	9.5	14.5	40.4	34.0	30.0
Woollen Textiles							
1956	-	.37	1.8	3.3	30.1	64.6	16.7
1977	.2	1.9	8.0	8.9	25.9	55.1	33.1
Gur ^{1/}							
1956	-	7.2	70.5	12.3	10.0	-	6.6
1977	.3	1.9	7.6	16.5	58.9	14.8	127.4
Biscuit Making							
1956	-	4.8	24.4	9.7	46.9	14.3	5.6
1977	2.5	10.6	14.7	5.2	26.4	40.6	14.1
Jute							
1956	-	-	-	-	.32	99.7	259.4
1977	-	0.1	0.2	-	1.2	98.5	219.9

^{1/} In the latest classification Gur is a part of a more comprehensive category comprising of indigenous sugar, boora, khandsari etc. from sugar cane and palm juice.

	<10	10 - 19	20 - 49	50 - 99	100 - 499	500 +	employed
Bicycles							
1956	-	1.2	8.1	9.2	9.3	81.7	11.2
1977	2.7	10.1	16.3	12.5	26.6	31.8	19.2
Distilleries & Breweries							
1956	-	.8	8.4	2.7	69.1		5.2
1977	-	0.6	3.6	12.6	55.3	28.0	14.0
Cotton Textiles							
1956	-	0.2	.27	.4	8.5	89.5	760.5
1977	0.2	1.1	4.1	5.1	16.7	72.7	912.5
Grain Mill products							
1956	-	6.7	42.1	42.0	14.8	-	64.0
1977	5.4	16.8	38.3	26.3	12.2	1.0	84.9
Chemicals							
1956	-	0.3	6.8	9.1	32.45	52.5	60.3
1977	0.2	2.6	8.2	6.0	48.5	34.4	206.0
Veg. Oil							
1956	-	4.9	33.7	31.7	27.3	1.8	43.0
1977	1.8	15.9	40.0	21.4	19.0	1.7	51.3
Aluminum, Brass & Copper							
1956	-	1.8	13.7	10.9	28.4	47.9	24.1
1977	1.1	7.2	9.0	6.3	15.3	61.1	25.5
Soap ^{2/}							
1956	-	.58	8.25	4.0	16.7	70.8	5.9
1977	.8	3.4	13.7	11.0	21.4	49.7	18.5

^{2/} Soap is now a part of a larger category comprising of perfumes, cosmetics and other toilet preparations.

	<10	10 - 19	20 - 49	50 - 99	100 - 499	500 +	employed
Paints & Varnishes							
1956	-	0.9	10.6	14.4	43.1	36.5	5.8
1977	.8	4.9	14.8	11.5	38.7	29.3	16.4
Tanning							
1956	-	1.2	15.2	25.6	52.0	6.4	10.0
1977	1.2	4.1	20.7	16.2	35.1	22.7	23.0
Glass & Glassware							
1956	-	.12	1.5	2.5	51.7	44.4	25.7
1977	.2	.9	3.2	7.2	55.2	33.3	46.4
Sugar							
1956	-	.1	.3	.3	3.8	96.0	136.3
1977	-	-	-	-	1.0	99.0	253.1
Plywood ^{3/} & Teacheats							
1956	-	.4	8.4	14.6	58.0	18.8	7.0
1977	0.2	2.6	10.2	7.5	47.8	31.7	17.8
Edible Oil							
1956	-	-	0.9	2.1	71.1	27.3	8.3
1977	-	0.2	1.4	3.6	66.5	28.3	12.2
Starch							
1956	-	5.2	3.8	-	66.1	28.5	1.9
1977	1.2	15.4	29.4	1.9	25.4	26.7	4.8
Paper Products							
1956	-	.05	1.0	2.3	9.2	87.5	33
1977	0.5	3.9	10.1	6.1	17.5	61.9	80.2
Fruit & Veg.							
1956	-	1.6	19.2	46.5	38.4	-	1.7
1977	0.6	3.1	14.4	22.2	51.8	7.8	5.9

^{3/} Plywood now forms a part of larger category comprising of veneer, plywood and their products.

Table 22

	Share of Woman Workers	NIC-1970 Code No.	Description of the Sector		
(0)	(1)	(2)	(3)		
1.	40% to 50%	011	Coffee Plantation		
		121	Manganese ore mining		
		211	Manufacture of other edible oils and fats, eg. mustard oil, groundnut oil, til oil		
		213	Coffee curing, roasting and grinding		
		226	Manufacture of bidi		
		230	Cotton ginning, cleaning and baling		
		261	Manufacture of all types of threads, cordage, ropes, nets		
		262	Embroidery and making of crepes, laces, fringes		
		960X	Domestic service and miscellaneous personal services		
		969X			
		961	Laundry services, cleaning and dyeing plants		
2.	50% to 60%	010	Tea Plantations		
		023	Rearing of pigs and other animals		
		024	Rearing of ducks, hens and other birds and production of eggs		
		025	Rearing of bees, production of honey and wax		
		204	Manufacture of grain mill products		
		235	Weaving and finishing of cotton textiles in handloom other than khadi		
		241	Wool Spinning, weaving and finishing in mills		
		910	Sanitation and similar services		
		3.	60% to 70%	018	Production of Ganja, Cinchona, opium etc.
				201	Manufacture of dairy products
225X	Tobacco stemming, redrying and all other operations connected with raw leaf tobacco manufacturing and				
229X	manufacture of tobacco products				
317	Manufacture of matches				
4.	70% to 80%	026	Rearing of silk worm, production of cocoons and raw silk		
		052	Production of fuel by exploitation of forests		
		054	Gathering of uncultivated material, eg. gums, resins, lac, barks, herbs, wild fruits leaves by exploitation of forests		
		242	Wool spinning and weaving other than in mills		
		325	Manufacture of mica products		
5.	80% to 90%	053	Gathering of fodder by exploitation of forests		
		202	Canning and preservation of fruits and vegetables		
		268	Manufacture of coir and coir products		
6.	90% and above	013	Tobacco plantations		
		233	Cotton spinning other than in mills (charka spinning)		
			Total .		

2. Government Policies and Programs

The Sixth Five Year Plan 1980-85 proposes objectives for promotion of village and small industries similar to those in previous plan periods. The principle objective is to enhance employment opportunities in these industries on a large scale. Subsidiary objectives are (a) increased growth, (b) dispersal of economic activity and (c) integration of large, medium and small firms through a "programme of ancillarisation".

Targets for employment growth in the village and small industries sector in the Revised Draft Sixth Five Year Plan 1978-83 were approximately 3.1 million jobs in the Khadi and Village Industries Program, 3.5 million in the handloom industry, 0.8 million in sericulture and 0.6 million in handicrafts. The modern small scale was expected to provide another 3 million jobs.

Plan allocations and actual expenditures can give some notion of priority placed on village and small industries. In the Fifth Five Year Plan, the plan allocation for village and small industries was 1.8% of development outlays; in the Revised Draft Sixth Plan, about 2.0%. In both the Fifth and Sixth Plans roughly 60% of this allocation was intended for Khadi and village industries. Actual expenditures over the Fifth Plan were upto 57% for the first four of the five years of the plan.

In successive Five Year Plans the GOI has given special recognition to the role of village and small industries in providing employment, decentralized development and consumer goods. Accordingly in each plan there were policies, programs, plan allocations and organizational recommendations to promote village and small industries. At present, at both the All India and State level there are a host of programs and policies aimed at promotion of village and small industries. These can be classified into three main areas (1) reservation of spheres of production, (2) programs of assistance ranging from training programs to marketing, and (3) credit programs.

Reservation and other measures: With a view to protecting small industries from competition by large and medium firms, certain spheres of production have been reserved for them. Restrictions have been placed on expansion of capacity of some large firms; differential excise duties have been imposed; rebates have been granted for a few products; and the central government purchasing agency has been directed to purchase certain items exclusively from the small scale sector. The list of products reserved for the small scale sector was at 807 in 1979; the list of items reserved for exclusive purchase by the central government from the small scale sector was 241.

Although we did not find any intensive analyses of the impact of the reservation scheme, the few statements we did come across suggest that the scheme, at least in some product areas, is not working as well as or in quite the way envisaged. The Khadi and Village Industries Commission (KVIC) flatly states that "there being no clear cut reservation of spheres, the organized sectors in the competing industries... continues to erode the base of the KVI sector". A report of a Lok Sabha Committee on Rural Employment suggests that no one has solid evidence on the impact. KVIC, it should be added, has been pressing for government support of reservation of spheres of production for traditional village and household industries from the small industries. As in other areas, the impact on employment, incomes and growth of the reservation and other restrictive schemes is unclear.

Programs of Assistance --KVIC, SIDO & Other agencies: At the national level there are six main government agencies that promote small and village industries. These are the Khadi and Village Industries Commission, (KVIC), Handicrafts Board, Coir Board, Silk Board, Handloom Board and the Small Industry Development Organization (SIDO). The KVIC works in 25 selected labor intensive village industries. The SIDO covers all modern small scale industry not covered by the other agencies. Responsibility for these various

agencies is split among the Ministry for Rural Reconstruction (KVIC), Ministry of Commerce (Handicrafts and Handloom Boards) and Ministry of Industry (SIDO). A co-ordination Committee meets frequently to discuss common problems and try to integrate program activities.

KVIC: The KVIC activities range from procurement of raw materials and their distribution to producers to disposal of finished goods. Other activities include training; manufacture and distribution of tools, equipment and machinery to producers on concessional terms; provision of facilities for technical research; and technical and financial assistance for setting up cooperating Khadi and village industries. The industries under the purview of the KVIC are broadly of three categories. They can be classified as (a) industries processing agricultural products, (b) forest based industries and (c) service industries to agriculturists and village artisans. The policy and programmes for khadi and village industries are generally executed through State Khadi and village industries boards (which are statutory organizations set up under State legislation) and through industrial co-operative societies.

SIDO: The Small Industries Development Organisation (SIDO) acts as a policy formulating, coordinating and monitoring agency for development of small scale industries. It maintains close liaison

with the Central Ministries, Planning Commission, State Governments, financial institutions and other organizations concerned with the development of the small scale industries sector, excluding those which fall within the purview of specialized Boards or agencies. SIDO provides a comprehensive range of consultancy services and technical, managerial, economic and marketing assistance to small scale units through a network of 25 Small Industries Service Institutes, 18 Branch SISIs, 41 Extension Centres, 4 Regional Testing Centres, 1 Product and Process Development Centre, 3 Footwear Training Centres and 5 Production Centres.

Other Sub-sector Specific Agencies: The All India Handloom Board provides product designs, market support, credit and training facilities to artisans. Program implementation for this and other boards is done at the State level primarily by State agencies. The All India Handicrafts Board has responsibility for development of handicrafts industries. Two commercial organizations sponsored by the government, the Handicrafts and Handlooms Exports Corporation and the Central Cottage Industries Emporium, also do promotional work. The Central Silk Board activities include research and training. The Board has set up several research stations and training institutes as well as two silk worm seed stations. The Coir Board assists the industry to increase exports and improve the

quality of its products such as yarn, mats, matting rugs, carpets, ropes, etc. State governments' programs are supplemented by Central programs of supply of machinery, extension and consultancy services, special tool and design centres, etc.

Aside from the above agencies that promote small and village industries along sectoral lines, the Integrated Rural Development Program (IRDP) of the Ministry for Rural Reconstruction has a rural industries component that cuts across sectors. The IRDP includes two sub-programs, the Rural Industries Program (RIP) and Rural Artisan Programs (RAP), that aim to assist families living in poverty to earn incomes from rural industry and artisanal activity. The Ministry also is responsible for a program of training in non-agricultural economic activity called Training of Rural Youth for Self Employment (TRYSEM), noted above.

One other program worth mentioning, though it is no longer active, is the District Industries Centers (DICs). The basic idea of the DICs was to establish for each of the 400 districts in India, having an average population of 1 to 2 million persons, a single center for planning and coordination of assistance to industry. More than two hundred of these field organizations were established in the first year of the program which was 1978/1979. However, this program has apparently been abandoned by the present Government.

The preceding barely scratches the surface of agencies at the State and All India level that promote village and small industries. The programs in existence and proposed cover most of the important and potentially important industries and encompass virtually all aspects of assistance from raw material procurement to marketing of final products. While it is an arguable proposition that government rhetoric of the last 25-30 years on small and village industries has not been matched by resource allocations and program and policy implementation, it surely has been matched by the breadth of institutional coverage by the number of proposals to create or strengthen existing ones.

Credit and Capital Market Programs: Credit for the small scale sector is provided primarily by State Financial Cooperations for medium term loans and through commercial banks for working capital. Concessional finance is provided by the financing institutions to the small scale sector. In practice, however, the problem of obtaining finances becomes more difficult as the size of the units become smaller.

At present, the institutional framework for providing risk capital is still comparatively undeveloped. A few Small Industries Corporations and the State Financial Corporations have undertaken schemes for providing equity capital to small entrepreneurs, but in

most cases, such entrepreneurs are obliged to fall back on their own resources for providing equity capital. A proposal to set up a National Equity Fund to provide risk capital to small entrepreneurs is under consideration.

3. Program Possibilities

As small scale industry has become an increasingly important part of employment oriented development strategies around the world, numerous detailed micro economic studies have been undertaken to attempt to settle doubts and concerns about the role of investments in this area in long term development strategies. These studies have attempted to pin down differences in industries by firm size and technology for such factors as profitability, savings, capital labor ratios, direct and indirect employment effects and have tried to sort out effects of factor price distortions on all the preceding. Results have been dependent, of course, on methodologies used and countries and industries studied. While the broad issue of the role of small scale industry in development may remain unsettled, the studies have shown in several industries that small scale enterprises can be profitable, more labor intensive and more productive per unit of capital than their large scale counterparts. From the perspective of program development the challenge is to find such industries.

The unanimous choice as the main constraint to further development of village and small industries, especially village industries, in India was lack of effective demand for their production. This was attributed mainly to limited local purchasing power and to local consumer taste for modern sector goods. The consensus was that the major possibility for village industries growth was in looking toward markets in industrialized countries and urban elites in India.

The view was put forward that programs of assistance aimed at meeting demand in local markets, certainly in village and household industries, were unlikely to result in any net employment or income gain--rather they would be redistributing poverty. Hence, a theme that was repeatedly raised for program and project identification was that one should in principle look for product lines with export potential.

A less limiting view was that village and small industries programs should be developed only in regions with high rates of growth of agriculture; a variant was that programs should be located within a 100 mile radius of large and growing urban areas.

Starting from the view that the most desirable type of program to support is directed toward export markets, types of assistance that were seen as most important were marketing, quality control, product design, production techniques and raw materials procurement. The need for particular types of assistance would of course vary

by industry. For example, for handloom textiles raw materials procurement and marketing was emphasized; in leather products, improved quality of tanned hides; and in handicrafts, product design and marketing.

Two areas mentioned as problems whether production was for export or local markets were raw materials and credit. There are a number of industries such as soap, tanning and matches, for example, that require chemicals whose quantities are at times limited by allocation and whose prices fluctuate widely. In principle, the view was that one should seek out industries to promote where raw materials were available locally or potentially available, i. e., reliance on raw materials procurement assistance could be phased out.

Finance is, of course, always mentioned as a problem for entrepreneurs. Relative to other problems (demand for products in particular) it was not accorded a high priority in the sense that the problem of obtaining finance in India was seen primarily as a bank management problem, not one of availability of funds in the system. Time required to travel to bank offices and complete paperwork as well as resistance of banks to doing business with very small enterprises have kept volume of loans with village and small industries down. In some programs especially designed to provide

loans to village and small industries funds have been underutilized. The general view was that credit for village and small industries was less critical than finding markets for their production and that in overcoming that constraint there were other types of assistance such as product design, quality control, raw materials procurement, etc., that were higher priority. An implication of this view is that programs should be organized by product groups rather than trying to provide assistance to village and small industries across the board.

IV. Comments on Possible AID Assistance Programs

A. Allied Agricultural Activities

The subsector within the "allied agricultural activities" grouping which appears to provide the greatest employment potential is dairying. Although AID has been involved in dairy development in various countries in the past, it is difficult to determine how AID could support dairying in India under its current policies. Large scale processing units would seem to be inappropriate for AID and an extension of the terms of reference of the existing Agricultural Refinance and Development Corporation (ARDC) project also has some problems. The main fixed capital need in dairy development is for cattle purchase, but such credit for a cattle population which is fixed in the short term is likely to increase their price and the transfer of ownership per se is likely at best to be a pure transfer transaction. With respect to working capital, many observers view inadequate access to working capital as a major obstacle to the participation of the very poor. Consequently, if the ARDC terms are broadened to include working capital, dairying could be covered. Also, cross breeding projects in animal husbandry are apparently effective and AID might well consider purchasing American

breeding stock or semen for such programs. Another possibility would be research collaboration on dairy -related problems under the proposed Agricultural Research Project.

It should also be noted that several of the states in which AID is working are arid enough to make crop agriculture difficult, and animal husbandry is thus a critical element in the economy. For example, the Rajasthan Perspective Plan for 1974-1979 reports a projected rise of animal husbandry from 12% to 20% of the state's gross income - one of the highest proportions in the country. Rajasthan has an old and established natural advantage in this area. With 7% of the nation's cattle and 21% of the sheep it accounts for over 10% of the milk and 40% of the wool in the country. Gujarat as well, disproportionately dependent on animal husbandry, has excellent prospects. In Maharashtra and Madhya Pradesh - the former because of the consuming centers of Bombay and Poona, and the mountainous Ghat areas, the latter because of its aridness considerable resources and attention are being devoted to dairying and sheep and the results appear encouraging.

B. Rural Works

AID has funded and continues to fund rural works programs through PL 480 Food for Work Programs as shown in Table 23 below:

Table 23

PL 480 Title II Food for Work - FY 1982

<u>Voluntary Agency</u>	<u>\$ Value (000)</u>
Catholic Relief Services (CRS)	25,120
Church World Service (CWS)	2,416
Lutheran World Relief (LWR)	<u>1,605</u>
Total:	<u>\$29,241</u>

The AID development assistance program also supports employment in rural works through projects such as Gujarat Medium Irrigation and Rajasthan Medium Irrigation which involve civil construction done by labor based methods. Thus in the area of rural works (in contrast to the two major areas of off farm employment--small industry and allied agricultural activities) the Mission has been quite active and will continue to be so in the near future. Also important is the fact that by virtue of funding a variety of labor based construction programs the Mission has experienced and knowledgeable staff in rural works program problems, development

and implementation. Given the strength of Mission staff in the area of rural works programs and the consideration the Mission has already given to programs in this area, the most useful function of this section of the paper is very to briefly reiterate the importance of rural works programs in employment planning in India.

Virtually all documents we reviewed that addressed the global employment problem in India concluded that expanded rural works programs are a vital and necessary part of Indian employment strategy. The reason is not so much faith in the efficiency of these programs as the simple fact that in the near term there is no feasible alternative to augmenting incomes of many landless casual laborers and marginal farmers. Rural works programs can serve a variety of purposes, from easing the structural transformation from agricultural to non-agricultural economic activity to building productive physical infrastructure to provision of emergency relief. The overriding purpose or objective of the programs in India is provision of work and income to persons who will not otherwise find employment. These are for the most part under-employed and unemployed casual laborers who are among the least privileged and most malnourished in Indian society.

The inefficiencies of rural works programs, whether as a means for building productive infrastructure or income transfer,

are well known. In the previous chapter some of the problems that have arisen with different programs were cited. In the Indian context these were not reasons for abandoning rural works programs. Past experiences were used to try to improve them. For example, the decision by the Central Government to promulgate the Maharashtra Employment Guarantee Scheme or variants of it in other states is an outgrowth of evaluation of that program and of continuing attempts to improve the efficiency of all rural works programs both as means for creating productive physical infrastructure and jobs and income for the poor. Rural works programs are and will continue to be an important element of employment planning in India.

C. Small Industry

Working in the area of small industry in India may not be an easy matter for a donor agency. The World Bank has been actively trying to develop projects over the past five years with limited success. One major project, a sericulture project, has been started in the State of Karnataka. Two other projects, one in the leather sector and the other in handloom textiles, have been stalled for several years. In the leather sector the Bank proposed undertaking a project to upgrade shoe production of small entrepreneurs in one state and the government countered with a proposal to improve a public sector leather enterprise in another

state. The overlap between and among State and All-India agencies with responsibility for village and small industries may create problems. Also complicating the picture is the competitive threat large and medium scale enterprises may perceive from programs to raise production and productivity of village and small industries.

Another important consideration in deciding whether to work in the village and small industries area is the effectiveness of government organizations which AID would have to look to for project implementation. We did not do a systematic survey of views on these organizations or evaluations of them; a few of the persons interviewed were asked about programs of assistance to village and small enterprise. The views on KVIC's effectiveness were generally negative. Statements were made to the effect that the target group and the village and small industries organizations intended to serve them did not work together as much or as well as might be expected.

Given the difficulties, why try to develop a program in the village and small industries sector? The main reason is that expansion of the sector is an important element of the country's employment strategy. Second, many of the small and village industries reach not only the poor by providing direct wage

employment and tightening of local labor markets, but also provide significant numbers of employment opportunities for women. Third, apparent weaknesses of major existing programs in delivery of capital and technical assistance suggest that alternatives could be profitably explored. Fourth, AID because it can fund small and experimental projects that may lead to viable program alternatives has a special role to play.

If the Mission should decide to move ahead with program development there were two principles that came through strongly in our meetings: one was to start small; the other, to work primarily with state level agencies and as a first preference, with private sector organizations if possible. Other suggestions for project guidelines, such as working along industry or product lines, emphasising those products with export potential, and working with programs located in areas with high rates of agricultural growth, should be considered. If there is a constraint to moving forward in this area, it is that the Mission will eventually need to assign a person to work on program development. Without commitment of a person --staff or consultant--based in India it is difficult to envisage a program developing.

What might a next step be? One possibility is a reconnaissance mission to explore program possibilities. The proposal is to field

two teams with at least one AID person or U.S. consultant and one Indian consultant. The teams would be composed of persons with prior knowledge of village and small industry in India either as businessmen, program administrators or researchers.

The terms of reference for the team would be to come up with at least one village and small industries program concept and the outlines of a small project to be used as a vehicle to test the program concept. On completion of the work by the teams the Mission could then undertake an intensive review of the concepts and make a determination on whether to proceed to preparation of a Project Identification Document (PID).

List of Persons Interviewed

G. L. Bailur, Joint Secretary, GOI Ministry of Rural Reconstruction, New Delhi.

George Beier, World Bank, New Delhi

G.S. Bhalla, Chief, Technology and Employment Branch, ILO, Geneva

Kamla Chowdhury, Ford Foundation, New Delhi

Gunvant Desai, Economist, International Food Policy Research Institute, Washington

D. P. Gnai, Chief, Rural Employment Branch, ILO Geneva

Roger Grawe, World Bank, New Delhi

Devendra B. Gupta, Institute of Economic Growth, Delhi.

Deyaki Jain, Institute for Social Studies, New Delhi

Laxmi Jain, Industrial Development Services, New Delhi

Raj Krishna, Professor, Delhi School of Economics, Delhi

O. Matson, International Labor Organization, New Delhi

Jean Movly, Chief, Basic Needs and Employment, ILO, Geneva

Dr. N. C. B. Nath, Chairman, Foundation to Aid Industrial Recovery (FAIR), New Delhi

S. Ramanathan Iyer, Officer on Special Duty, National Sample Survey Organization (NSSO), New Delhi

Vijay G. Pande, Ford Foundation, New Delhi

S. V. Sethuraman, Economist, Technology and Employment Branch, ILO, Geneva.

B.K. Sharma, Joint Secretary, GOI Ministry of Rural Reconstruction, New Delhi

Inderjit Singh, Economist, Development Economics Department,
World Bank, Washington, D. C.

Dr. J. N. Sinha, Institute of Economic Growth, Delhi

Dr. K. C. Seal, Director, GOI Central Statistical Organization,
New Delhi

Dr. J. D. Varma, Director, GOI Development Commissioner,
Small Scale Industries, New Delhi

M. C. Verma, Chief, Employment and Manpower Division, GOI
Planning Commission, New Delhi.

FOOTNOTES

1/ The following are the Sixth Plan objectives as stated in Sixth Five Year Plan, 1980-85, Government of India, Planning Commission, (p. 34):

- (i) a significant step up in the rate of growth of the economy, the promotion of efficiency in the use of resources and improved productivity;
- (ii) strengthening the impulses of modernisation for the achievement of economic and technological self-reliance;
- (iii) a progressive reduction in the incidence of poverty and unemployment;
- (iv) a speedy development of indigenous sources of energy, with proper emphasis on conservation and efficiency in energy use;
- (v) improving the quality of life of the people in general with special reference to the economically and socially handicapped population, through a minimum needs programme whose coverage is so designed as to ensure that all parts of the country attain within a prescribed period nationally accepted standards;
- (vi) strengthening the redistributive bias of public policies and services in favour of the poor contributing to a reduction in inequalities of income and wealth.
- (vii) a progressive reduction in regional inequalities in the pace of development and in the diffusion of technological benefits;
- (viii) promoting policies for controlling the growth of population through voluntary acceptance of the small family norm;
- (ix) bringing about harmony between the short and the long term goals of development by promoting the protection and improvement of ecological and environmental assets; and

- (x) promoting the active involvement of all sections of the people in the process of development through appropriate education communication and institutional strategies.

The "unorganized" sector is made up of activities which are not in the public sector and do not employ 10 or more workers in a registered enterprise. The unorganized sector covers most agricultural activities as well as small-scale industrial, commercial, and service activities in both rural and urban areas. As of 1977-78, it accounted for about 90% of total employment.

- 2/ Registrar General and Census Commissioner for India: "Census of India 1981, Series 1, Paper 1 of 1981, Provisional Population Totals". The Plan document assumes that India's population as of March 1, 1981 is 672.0 million while the provisional Census total count showed it at 683.8 million without any adjustment for under-enumeration.
- 3/ GOI Planning Commission is examining the impact of provisional population totals on various plan chapters.
- 4/ NSS organization is governed by a council comprising of 15 members, 10 GOI officials and 5 non-officials including the council chairman. For each NSS Round, a Working Group is appointed which examines and determines the scope of the subjects to be covered and finalises the questionnaire schedules together with related concepts and definitions. A number of officials and non-officials are invited to work on these Working Groups so as to ensure widest possible consultation.
- 5/ The various activity categories used in the 32nd Round for classification of the population were as follows:

<u>Code</u>	<u>Description</u>
01-04	Working with an employer under obligation but work not specifically compensated by any wage/salary
11	worked (self employed) in household enterprises
21	worked as helper in household enterprises
31	worked as regular salaried/wage employee
41	worked as casual wage labor in public works

<u>Code</u>	<u>Description</u>
51	worked as casual wage labor in other types of work
61	did not work though there was work in household enterprise
71	did not work but had regular salaries/wage employment (Activities 01-71 were considered as gainful activities and reflected employment)
81	sought work
82	did not seek but was available for work (Activities 81 and 82 reflected unemployment)
91	attended educational institutions
92	attended domestic duties only
93	attended domestic duties and was also engaged in free collection of goods (vegetables, roots, fire-wood, cattle feed, etc.), sewing, tailoring, weaving, etc., for household use
94	too young to work/to attend school/to seek employment
95	old and disabled
96	rentiers, pensioners, remittance recipients, etc.
97	beggars, prostitutes, etc.
98	others
99	did not work due to temporary sickness (for casual workers only). The activities under the category codes 91-99 were considered non-gainful activities and reflected 'not in labor force' category.

6/ Sixth Plan, op. cit., p. 22, table 2.6.

7/ The LFPRs of 32nd Round are yet to be made final and will be published over the next year. See Annex, table 5 for LFPR estimates.

- 8/ Census of India 1971, Series 1, Paper 1 of 1979; Report of the Expert Committee on Population Projections.
- 9/ Census of India, 1981, op. cit.
- 10/ Press Note regarding Paper 2 of 1981 (paper under print), Registrar General of India.
- 11/ See Annex 3, table 7 & 11
- 12/ The estimated 680.1 million population includes an upward adjustments of 1.7% for under-enumeration, without which corresponding population estimate for 1980 would be 668.7 million persons. Comparable Planning Commission estimate is 659.4 million. (Sixth Plan, op. cit., p.20, table 2.4). Without making adjustment, USAID labor force estimate for 1980 amounted to 267.4 million, marginally lower than the GOI estimate of 268 million (Sixth Plan, op. cit., p.22). The reason for this phenomenon can be traced to the fact that most of the excess of census provisional figures over Expert Committee projections is allocable to lower age groups and do not contribute to the labor force. J. Krishnamurthy's (JK) estimate of labor force for 1980 is 269.7 million for a population of 680.1 million i. e. including under enumeration adjustments and 265.2 million for unadjusted population of 668.7 million. Differences between USAID and JK estimates are primarily due to varying assumptions of population distribution. Jk assumes 1981 population distribution to be similar to 1971 while USAID made adjustments after examining population totals for states and assuming that Expert Committee projections were off the mark primarily due to higher birth rates and their other assumptions except urbanisation trend continue to be mostly valid. For details about JK estimates see the Economic Times of April 13, 1981; India's Population, Projections and Expectations by J. K. Krishnamurty and K. Sundaram.
- 13/ International Labour Office, Vol. I, Asia (Geneva 1977), p. 95.
- 14/ Computed from labor force projections by age-sex-resident status (table 2.6 on page 22 of GOI Sixth Plan) and comparable derived distribution of projected population as of March 1, 1980 contained in the Expert Committee Report (Annex 3, table 3).
- 15/ Sarvekshana, Journal of the National Sample Survey Organization (NSSO) Vol. II, No. 4, April 1979, p.151, table 1.1.

- 16/ Roger Grawe, et al., *Employment and Employment Policy: A Background Paper*, Washington, D. C.; World Bank, October 1979, Mimeo, p. 4.
- 17/ GOI Ministry of Planning, NSSO, 27th Round, and Sixth Plan, *op. cit.*, Annexure 13.2
- 18/ Pravin Visaria, *Poverty and Unemployment in India: An Analysis of Recent Evidence*, World Bank Staff Working Paper No. 417, Washington, D. C. (October 1980), p. 23.
- 19/ Sixth Plan, *op. cit.*, p. 217, Annexure 13.5
- 20/ See Visaria, *op. cit.*, p. 16. His alternative counted as unemployed persons who were seeking or available for work; the major part of the week or else days of their unemployment exceeded the number of days when they had work.
- 21/ Daily Activity Status (NSS): A person who worked for at least four hours during a day of the reference week was considered as employed for the full day and for half-a-day if he/she worked for at least one hour but less than four hours during the day. A person was considered unemployed for 'half-a-day' and out of labor force for the other half-day if he/she either sought work or was available for work for at least one hour but not more than four hours. A person was considered as unemployed for the full day if he/she was either available for work or sought work for more than four hours during the day. The unit of recording was half-a-day.
- 22/ Sixth Plan, *op. cit.*, p. 217, Annexure 13.5
- 23/ Grawe, *op. cit.*, p. 7
- 24/ National Sample Survey, 27th Round, Report 255/10
- 25/ M. L. Dantwala, "Rural Employment: Facts and Issues", *Economic and Political Weekly*, June 23, 1979, p. 1048
- 26/ Pravin Visaria, *op. cit.*, p. 33
- 27/ Revised Draft Sixth Five Year Plan (1978-83). Annexures 9 & 10 on page 154 and 155. The estimates of earnings in current prices were converted in constant price estimates, using the Consumer Price Index for Agricultural Laborers.

- 28/ Population Estimate: 680.1 million for March 1, 1980: share of rural sector is 78.19% and percentage of people below the poverty line is 50.8% for 1977-78. In urban areas 48.1% of the population is below the poverty line.
- 29/ Draft Sixth Plan, op. cit., p. 156, Annexure 11.
- 30/ Sixth Plan, op. cit., p. 205, table 13.4, also p. 209 (table 13.5). The backlog excludes seasonal unemployment and part-time under employment prevalent largely in labor-households.
- 31/ The Planning Commission estimated the labor force in 1985 at 302.3 million (Sixth Plan, op. cit., p. 204, table 13.1). The 12 million residual unemployment is 4% of 302 million. USAID estimates the labor force as of March 1, 1985 at 302 million (Annex 3, table 11)
- 32/ Draft Sixth Plan, op. cit., p. 169, Annexure 23.
- 33/ Grawe, op. cit., p. 45-57
- 34/ J. Sinha, "Employment and Agriculture in the Draft Plan, 1978-83", Economic and Political Weekly, September 1979, p. 1510.
- 35/ Sixth Plan, op. cit. p. 32
- 36/ Report of the "Task Force on Projections of Minimum Needs and Effective Consumption Demand" 1979 set up by GOI Planning Commission: quoted from Sixth Plan: page 51 para 3.62.
- 37/ Sixth Plan, op. cit., p. 51
- 38/ Sixth Plan, op. cit., p. 34
- 39/ Sixth Plan, op. cit., page 207
- 40/ Annual Report 1980-81 of GOI Ministry of Rural Reconstruction (MRR), page. 3.
- 41/ Performance Budget 1981-82, GOI Ministry of Rural Reconstruction: The progress made under IRDP since its inception i. e. for 1978-79, 1979-80 and first five months of 1980-81 is as given below:

Progress of IRD Program during 1978-79,
1979-80 and 1980-81 (upto August 1980)

Programme	1978-79	1979-80	1980-81 (upto August)
1. No. of participants identified (in lakhs)	21.11	32.50	10.23
2. No. of beneficiaries under: (in lakhs)			
(i) Agriculture		8.76	3.07
(ii) Irrigation		1.63	0.46
(iii) Forestry & Pasture		0.15	0.04
(iv) Animal Husbandry	6.24	2.40	0.63
(v) Fisheries		0.09	0.04
(vi) Sericulture		0.03	0.02
(vii) Bee-keeping		0.007	0.003
(viii) Village industries		0.43	0.07
(ix) Tertiary sector		0.43	0.16
(x) Others		0.82	0.03
Total	6.24	14.75	4.52
3. Loans disbursed (Rs. in lakhs):			
(a) Through cooperatives			
(i) Short term		1226.69	989.53
(ii) Medium term		1882.92	624.98
(iii) Long-term	5460.11	1365.80	800.23
		4475.41	2414.74
(b) Through Commercial Banks:			
(i) Long-term		447.72	163.28
(ii) Medium Term		4470.26	1641.53
(iii) Long-term		730.99	307.47
		5648.97	2112.28
4. Subsidy released (Rs. in lakhs):	7045.00	5329.98	2609.02 (Upto Dec. 1980)
5. Amount utilised (Rs. in lakhs):	3266.73	6885.62	2102.98

Highlights of JRD program are the following:

- (i) During Sixth Plan period, targetted number of beneficiary families is 15 million @ 600 beneficiary families from bottom deciles in each block in a year, of which 400 are expected to benefit from agriculture and allied activities, 100 from village and cottage industries and 100 from services sector.
- (ii) This is to be financed by loans from cooperative and commercial loans, estimated to be about Rs. 45 billion during the Sixth Plan period (\$ 5,625 million @ \$ 1.00 = Rs. 8.00) and by subsidy of Rs. 15.0 billion (\$ 1875 million) to be shared equally by the central and state governments. Subsidy is likely to be given approximately @ Rs. 500,000 (\$ 62,500) per block in the first year, Rs. 600,000 (\$ 75,000) in second year and Rs. 800,000 (\$100,000) per year in the last three years. Earlier different blocks had different allocations ranging from Rs. 200,000 to Rs. 1 million (25,000 to \$ 125,000).
- (iii) One lead bank for every block instead of every district.
- (iv) At least 30% of the 15 million targetted families are to be from Scheduled Castes/Scheduled Tribes.
- (v) The authority to sanction schemes is delegated to state governments. The block level plans are to be approved by a state level coordination committee (chairman will be either chief secretary or a senior official).
- (vi) Implementing agency will be the District Rural Development Agencies or Societies comprising of the head of district level department (chairman) district officials of various developmental departments, representatives of financing institutions including lead banks, Member of Parliament or Assembly and representatives of scheduled castes and tribes farmers. A planning team consisting of a Credit Planning Officer and Economist/statistician and a Rural Industries officer will also be constituted. The implementing agency is expected to function as coordinator among beneficiaries, credit institutions, development and extension organizations. These agencies are to be organized in all such districts which do not currently have one.
- (vii) Business houses are allowed to debit (for tax purposes) its whole expenditure on rural development subject to some provisions.

- 42/ See Report #IN-1003 of 1/23/81 of Agricultural Counselor, American Embassy; India: Agricultural Situation. Based on the latest available census results of 1972 (latest undertaken is 1977) and the previously released census data, the total number of cattle is estimated at 241 million head in 1980 compared to the 1979 (a drought year) estimate of 242 million. Number of cattle and buffaloes in 1979 were estimated at 180 million and 62 million respectively, of which 57 million cows and 30 million buffaloes, kept for milk production, were estimated to be above three years of age. Cows and buffaloes owned by small farmers account for about 90% of India's milk production.
- 43/ Annual Report 1980-81, GOI Ministry of Agriculture, Department of Agriculture and Cooperation (DOA): page 234; and Sixth Plan: para 9.204 on page 130. India's milk production trend and targets are (in million MT): 1960-61, 20.0; 1973-74, 23.2; 1979-80, 30.0; 1980-81 (estimated), 31.5; 1981-82 (target), 33.0; and 1984-85 (target), 38.0.
- 44/ GOI preliminary figure of 683.8 million as of March 1, 1981, available from 1981 census results, has been adjusted for an under-enumeration officially estimated at 1.7% in the 1971 census and assumes an upward revision of the March 1, 1981 figure to 685 million.
- 45/ Annual Report GOI-DOA, Op.cit, page 102. Operation Flood I was to be completed by 1975. Compared to a total expenditure of Rs. 1,122 million (\$ 140 million) as of end March 1980, this project generated Rs. 1,127 million (\$141 million) through sales of donated commodities.
- 46/ The Economic Times of 5/13/81 (comprehensive article) and of 5/14/1981 (editorial): "There were, in all, 98 liquid milk plants in India in 1980-81. Their present strength is lower than even the Fourth Plan target of 124 units (1973-74) and the Fifth Plan target of 154 units (1978-79). The number of milk product factories (including creameries) at 32 in 1980-81 was higher than the Fourth Plan target of 25, but fewer than the Fifth Plan target of 52. Besides, there were 67 rural dairy centres (including pilot milk schemes) last year, which compare unfavorably with the Plan target of 132. The progress of these three segments of dairy industry has thus fallen behind schedule.
- 47/ The funds for Operation Flood-II are expected to be available from proceeds of dairy commodities to be donated by the European Economic Community (42.4%), loans from World Bank (26.6%) and funds from Operation Flood-I (17.7%). The remaining component of 13.3% is to be covered under another loan from World Bank or other sources.
- 48/ A cluster federation of milk producers' unions is proposed to be set up in each of the 25 milk-shed areas covering 155 districts. Most of the milk districts identified by the National Commission of Agriculture lie within 25 contiguous milkshed areas of potentially high and economic milk production. Each union will be comprised of 200-600 village cooperative societies. In all some 10 million improved milch animals are to be covered.

49/

Performance Budget 1980-81 of GOI-DOA, page 101; the objectives of Operation Flood II are as follows:

- (i) To enable some 10 million rural milk producers' families to build a viable self-sustaining dairy industry by mid 1985.
- (ii) To enable the milk producers' to rear a national milk herd of some 15 million cross-bred cows and upgraded buffaloes by mid 1985.
- (iii) To erect the infrastructure required to support a viable national dairy industry, including a national frozen semen system, vaccine production and delivery system, etc.
- (iv) To erect a National Milk Grid which will link the rural milksheds to the major demand centres with urban populations totaling some 150 million.
- (v) By means of improvements thus achieved in milk production and marketing to enable milk and milk products to form an appropriate part of a suitable and nutritionally adequate national diet."

50/

A brief review of three state dairy development projects.

Karnataka Dairy Development Corporation . The four Milk Producers' Union of Bangalore, Mysore, Hassan and Tumkur have been established in the project area and the Boards of Management of the Unions have assumed Office. A certain minimum percentage of the membership is to be given to members of scheduled castes and tribes.

The Madhya Pradesh State Dairy Development Corporation is an integrated program for improvement of dairy activity and cattle breeding in selected areas comprising of 9 districts of western regions. The project envisages increase in milk production in the project area through 1200 Dairy Cooperative Societies grouped into three Dairy Cooperative Unions at Bhopal, Indore and Ujjain by providing all requisite technical inputs. The basic unit of the project is a Dairy Cooperative Society organised at the village level which collects milk from its area of operation and provides all micro inputs.

The Rajasthan Dairy Development Corporation has been entrusted with the implementation of the IDA-assisted Dairy Development Project for improvement of milk production in six eastern districts of the State (Ajmer, Alwar, Bhilwara, Jaipur, Swaimadhopur and Tonk). In these areas 1900

Dairy Cooperative Societies would be federated into 5 Milk Unions at the District level, each district having a union except Swaimadhopur and Tonk districts, which will have a common union. The objectives are as follows:

- (i) Importation and multiplication of purebred exotic breeding stock and an associated artificial insemination program of cross breeding native village cattle with high producing exotic breeds. Provision of extension programs to encourage production of fodder, mixed farming and improved animal husbandry.
- (ii) Construction of five union dairy plants and Cattle feed mills, the establishment of milk collection routes and milk chilling centres.
- (iii) Establishment of one regional diagnostic laboratory and a plant for production of biological veterinary vaccine (Biological Veterinary Vaccine Institute).

Although the main aim of the projects is to benefit small farm families, most of whom are small/marginal farmers and landless agricultural laborers, no particular section of the Society has been identified for the benefit in this project.

During the year 1979-80, 57,608 producers sold 161,000 tons of milk for Rs. 2.6 billion or over Rs. 45,000 a head (well over the poverty level in Rajasthan). The Economic Times (5/13/81) has estimated the 1979-80 milk production in the state at 3.0 million MT. The total milk cattle population in 1977 was roughly 4.5 million so that the production estimates imply roughly 2 kgs a day per animal with no allowance for dry period. The total labor force in the state is about 6.5 million, so the program is still too new to have any substantial effect on the employment situation.

- 51/ Impact of Dairy Development Program, A Rapid Study of Jaipur Union Area conducted by Rajasthan Cooperative Dairy Federation.
- 52/ Economic Aspects of Kaira District Cooperative Milk Producers Union (Amul Dairy) in rural areas of Kaira District, Gujarat State Institute of Coop. Manufacturers, Ahmedabad 1976.
- 53/ Six research papers in full and abstracts of others are covered in Indian Journal of Agricultural Economics, Conference Number, October-December 1980.
- 54/ Indian Journal of Agricultural Economics. Conference Number (October-December 1980), Rapporteur R.K. Patel's report.

Indian Journal of Agricultural Economics, October-December 1980:
Specific results obtained from selected papers on regional studies.

- (i) A study of Arid Rajasthan based on 79 randomly selected households distributed over four purposively selected villages in Jodhpur and Pali districts. (K. Anantha Ram): This study concluded that labor is not gainfully employed in milk production in this region and returns were either low or negative. It revealed that, on an average, a milch cow and buffalo generated 62 and 106 mandays per annum respectively and at all levels of production buffaloes generated more employment than cows. The analysis also revealed that the average gross cost of production of milk for a cow and buffalo was Rs. 1.47 and Rs. 1.64 per litre respectively. The cost of feed and labor accounted for 64 and 24 percent for cow milk and 70 and 18 percent for buffalo milk. At all levels of milk production from cows, the returns over costs including family labor were negative except at above 5,000 litre level. These returns ranged from -44 percent to 5 percent. In the case of buffalo milk the returns ranged from -8 percent to 11 percent at different levels of production. On the whole, the average returns were -15 percent for cow milk and 2 percent for buffalo milk.
- (ii) Harpal Singh and R.P. Singh's Study of one Village in Uttar Pradesh. This study revealed a relatively higher labor employment elasticity coefficient of landless households and marginal farmers for milk production implying suitability of this enterprise for the vulnerable rural poor. This study also revealed that family is the overwhelming source of supply of labor for milk production. The collection of grasses and other dry and green fodder, tending and grazing of cattle, milking, cleaning the barns, etc., are all done by family members. Crop production consistently requires more of hired labor than production of milk. The implications are that any shift from crop to milk production would reduce the demand for hired labor but would increase family labor employment on the farm itself thus lowering the incidence of disguised unemployment and under-employment. Further about composition of family labor the study states that 28% of family labor input comes from children and 35% from women. Corresponding figures for crop production are 19 and 12 percent. Women and children who cannot work as much on exacting outdoor chores involved in crop production, can find work suited to their physical and psychological capabilities in tending milch animals, milking, cleaning, sweeping sheds etc.

Another study based on 25 households from another village in Eastern U.P. reported that the major dairy operations attended to by women include dung cleaning and dung cake preparation followed by preparation of milk products and marketing. By and large, women from large farm households are engaged more in indoor activities only, whereas women belonging to smaller households perform both indoor and outdoor dairy operations. It was considered that dairy enterprise, if practised on scientific and commercial lines, could offer gainful employment to rural women. A large number of women, especially in the landless labor households and small and marginal farm families would be able to supplement their income and employment potential through dairy enterprise besides providing better nutrition to their family members. Secondly, a constant and regular flow of income from milk production is an added advantage for the household.

- (iii) An Economic Analysis of Dairy Enterprise in Bangalore District, Karnataka. This study of 72 sample households in Bangalore revealed that labor employment in the maintenance of cross-bred cow per lactation is 106,111 and 92 man-days on small, medium and large farms respectively. The corresponding figures for local buffalos are 89, 72 and 74 man-days and for local cattle only 56,54 and 45 man-days. This reflects that the potential labor employment in dairying increases with the introduction of new technology.
- (iv) Economics and Employment of Dairying in Punjab(S.S. Grewal and P.S. Rangl). In this study more than 90% milch animals were buffalos. Of the total animals 60% were wet and rest dry. The costs and returns give averages for the whole lot. This study inferred that milk production increased entirely due to increase in the number of milch animals and there was no dairying commercialization in rural areas. Dairying is conclusively more labor intensive than crop-farming. The landless class was doing equally well in dairying. This study estimated the average annual labor input per cropped hectare for the general field crops at 138 mandays compared to 457 mandays for dairying. On an average, labor input per animal worked out to 619 man-hours per year or 1.7 hours per animal per day. The estimated gross returns for the year 1978-79 per animal amounted to Rs. 1,716. The paid-out costs formed a little more than 75 percent of the gross returns. Fodders, concentrates and hired labor accounted for 35, 43 and 5 percent respectively of the total cost. Taking into account the total labor cost (family and hired) the proportion of the family labor component was about 72 percent.

- 56/ Much of this section is excerpted directly from a paper prepared by Roger Grawe with the assistance of J. Krishnamurthy and J. Baoh Dwomoh, India, Employment and Employment Policy: A Background Paper, World Bank Background Paper, Revised Version (October 1979).
- 57/ GOI, Ministry of Agriculture and Irrigation, Report of the Review Committee on Pilot Intensive Rural Employment Projects, August 1977.
- 58/ The investment limits for small scale and "tiny" industries were raised to their present levels in July, 1980. From 1975 until July 1980 the definition had been investment of up to Rs. 1 million or 1.5 million for small and ancilliary enterprises and up to Rs. 100,000 for "tiny" industries.
- 59/ World Bank, "A Descriptive Analysis of the Role of Small Scale Enterprises in the Indian Economy", (draft, undated).
- 60/ Ministry of Industry, Office of the Economic Advisor, Basic Information From Annual Survey of Registered Industries, 1975/76 (mimeo); World Bank, Economic Survey.
- 61/ World Bank, " A Descriptive Analysis of the Role Small Scale Enterprises in the Indian Economy" (draft, undated).
- 62/ GOI, Planning Commission, Draft Sixth Plan, op.cit.

Tables on Population and Labor Force Distribution

<u>Table</u>	<u>Title</u>
1.	India's Population Distribution under Various Assumptions.
2.	Labor Force Projections as of March 1, 1980 by Age-Sex-Resident Status According to the Sixth Five Year Plan.
3.	Population Distribution by Age-Sex-Resident Status as of March 1, 1980: Based on Various Official Sources.
4.	Population Distribution Projections by Age-Sex-Resident Status According to the Expert Committee
5.	Estimates of Labor Force Participation Rates by Age-Sex-Resident Status According to the 32nd Round of NSS (1977-78).
6.	USAID Estimate of Population Distribution as of March 1, 1980, with Adjustments for 1981 census Provisional Population Totals and Urbanization Trends
7.	USAID Estimate of Labor Force Distribution as of March 1, 1980 by Age-Sex-Resident Status, with Adjustments for 1981 census results.
8.	USAID Estimate of Population Distribution as of March 1, 1985 by Age-Sex-Resident Status without Adjustments for Urbanization.
9.	USAID Estimate of Population Distribution as of March 1, 1985 by Age-Sex-Resident Status with Adjustments for Urbanization (Percent)
10.	USAID Estimate of Population Distribution as of March 1, 1985 by Age-Sex-Resident Status with Adjustments for Urbanization (million persons)
11.	USAID Estimate of Distribution of Labor Force as of March 1, 1985 by Age-Sex-Resident Status Category.

TABLE I

India's Population Distribution under Various Assumptions*
(Percent)

Age Group	Expert Committee Projections	Adjusted All India Figures ^{1/}	Total of Adjusted Figures for States ^{2/} (USAID Estimates)	Range of State Figures ^{3/}	As of March 1, 1980		
					As of March 1, 1971 (Census)	Plan Projections ^{4/}	USAID Estimates ^{5/}
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
0-4	13.85	14.98	14.76	12.39-16.33	16.17	14.08	14.90
5-14	25.46	25.38	25.51	23.76-27.59	25.96	25.59	25.56
15-59	55.17	54.22	54.28	51.65-57.65	52.72	54.85	54.12
60+	5.52	5.42	5.45	4.74- 5.78	5.15	5.48	5.42
All Ages	100.00	100.00	100.00	Not Relevant	100.00	100.00	100.00

Notes:

* Indian States were grouped into four categories according to types of population growth behaviour during 1961-71 and 1971-81 reflected by 1961, 1971 and 1981 census results. Group 1 comprised of Andhra Pradesh, Bihar, Karnataka, Punjab, Rajasthan; group 2 of Himachal Pradesh, Maharashtra and Delhi; group 3 of Gujarat, Haryana, and Tamilnadu and group 4 of Uttar Pradesh, Kerala, Orissa, West Bengal. Each state of group 4 was treated as a separate sub-group. For each sub-group/group age specific distributions for 1971, 1976 and 1981 contained in Expert Committee Report (ECR) were used to allocate the excess of 1981 census totals over ECR figures to relevant agr groups. The basic premise was that age-specific death rates assumed by Expert Committee continue to be valid.

^{1/} Obtained two estimates firstly by effecting adjustments, as stated above, to distribution of male and female categories for 1971, 1976 and 1981 as contained in ECR and then totaling them and secondly by effecting adjustments directly to the totals across sex. Figures under both the estimates were equal.

^{2/}As stated above under *

3/ 0-4: Kerala (12.39%), U.P. (16.33%)
5-14 Tamil Nadu (23.76%), Haryana (27.59%)
15-59 Haryana (51.65%), Orissa (57.65%)
60+ Haryana (4.74%), Orissa (5.78%)

4/ Sixth Five Year Plan 1980-85, p. 20

5/ Obtained by interpolating between 1971 census figures (col. 6) and our 1981 estimates (col. 4)

6/ Obtained by GOI Planning Commission, 1980-85 Plan, page 20

7/ Obtained by interpolation between column 5 (1971) and column 2 (our estimates of 1981)

Remarks:

The labor force group comprising ages 15-59 years accounts for 54.22 to 54.28 % of total population i.e., various estimates differ by a maximum of by 0.06 percentage points. This implies that at 100% participation rate, labor force estimates will differ by less than half-a-million (for an estimated population of 700 million this figure works out to 0.42 million).

Table 2

Labor Force Projections as of March 1, 1980 by
Age-Sex-Resident Status According to the Sixth
Five Year Plan
(Million Persons)

<u>Age Group/ Resident Status</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
<u>5-14</u>			
Rural	9.02	5.93	14.95
Urban	1.04	0.65	1.69
Total	10.06	6.58	16.64
<u>15-59</u>			
Rural	130.04	58.51	188.55
Urban	39.34	9.06	48.40
Total	169.38	67.57	236.95
<u>60+</u>			
Rural	10.18	2.24	12.42
Urban	1.70	0.34	2.04
Total	11.88	2.58	14.46
<u>5+</u>			
Rural	149.24	66.68	215.92
Urban	42.08	10.05	52.13
Total	191.32	76.73	268.05
<u>15+</u>			
Rural	140.22	60.75	200.97
Urban	41.04	9.40	50.44
Total	181.26	70.15	251.41

Note:

Obtained by subtractions from relevant age-groups contained in
GOI Sixth Five Year Plan, 1980-85, p. 22, table 2.6/ .

Table 3

Population Distribution by Age-Sex-Resident Status as of March 1, 1980:
Based on Various Official Sources.

(Percent)

<u>Resident Status/Age</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
<u>Rural</u>	<u>40.07</u> ^{4/}	<u>38.12</u> ^{4/}	<u>78.19</u> ^{2/}
0-4	5.83 ^{8/}	5.55 ^{9/}	11.38 ^{6/}
5-14	10.48 ^{8/}	9.86 ^{9/}	20.34 ^{6/}
15-59	21.40 ^{8/}	20.59 ^{9/}	41.99 ^{6/}
60+	2.36 ^{8/}	2.12 ^{9/}	4.48 ^{6/}
<u>Urban</u>	<u>11.67</u> ^{4/}	<u>10.14</u> ^{4/}	<u>21.81</u> ^{2/}
0-4	1.39 ^{10/}	1.31 ^{11/}	2.70 ^{7/}
5-14	2.69 ^{10/}	2.56 ^{11/}	5.25 ^{7/}
15-59	7.08 ^{10/}	5.78 ^{11/}	12.86 ^{7/}
60+	0.51 ^{10/}	0.49 ^{11/}	1.00 ^{7/}
<u>Total</u> ^{1/}	<u>51.74</u>	<u>48.26</u>	<u>100.00</u>
0-4	7.22 ^{5/}	6.86 ^{5/}	14.08 ^{3/}
5-14	13.17 ^{5/}	12.42 ^{5/}	25.59 ^{3/}
15-59	28.48 ^{5/}	26.37 ^{5/}	54.85 ^{3/}
60+	2.87 ^{5/}	2.61 ^{5/}	5.48 ^{3/}

Notes

* The population distribution figures were derived in the sequence given below on the basis of figures contained in GOI Sixth Five Year Plan 1980-85 and the Report of the Expert Committee on Population Projections (ECR), which was officially adopted for preparing the Sixth Plan.

1/ Expert Committee Report (ECR), Paper 1 of 1979, Table 6 p. 15

- 2/ Ibid, Table 8, page 17
- 3/ GOI Sixth Five Year Plan 1980-85
- 4/ Interpolated 1980 proportions of males and females for rural and urban categories from 1976 and 1981 proportions contained in ECR.
- 5/ Applied 1980 age specific proportions of males and females which were obtained from respective 1976 and 1981 ECR proportions by interpolation.
- 6/ Applied 1980 age-specific proportions of total rural population which were obtained from respective 1976 and 1981 ECR proportions by interpolation
- 7/ Obtained by subtracting age-specific rural percentage from respective rural-urban total percentages.
- 8/ Applied 1980 age-specific proportions of rural male population which were obtained by interpolation between respective 1976 and 1980 ECR proportions.
- 9/ Obtained by subtraction 6/ - 8/
- 10/ Obtained by subtraction 5/ - 8/
- 11/ Obtained by subtraction 5/ - 9/

Table 4

Distribution of Population Projections by Age-Sex-Resident Status According to the Expert Committee.
(Million Persons)

<u>Resident Status/Age</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
<u>Rural</u>	<u>264.21</u>	<u>251.36</u>	<u>515.57</u>
0-4	38.44	36.60	75.04
5-14	69.10	65.01	134.11
15-59	141.11	135.77	276.88
60+	15.56	13.98	29.54
<u>Urban</u>	<u>76.95</u>	<u>66.86</u>	<u>143.81</u>
0-4	9.16	8.64	17.80
5-14	17.74	16.88	34.62
15-59	46.69	38.11	84.80
60+	3.36	3.23	6.59
<u>Total</u>	<u>341.16</u>	<u>318.22</u>	<u>659.38</u>
0-4	47.60	45.24	92.84
5-14	86.84	81.89	168.73
15-59	187.80	173.88	361.68
60+	18.92	17.21	36.13

Note:

Allocated 1980 Population Projection figure (659.38 million) of the Expert Committee to Age-Sex-Resident Status categories according to percentage distribution of each category derived under Table. 3.

Table 5

Estimates of Labor Force Participation Rates by Age-Sex-Resident Status According to the 32nd Round of NSS (1977-78)

(Percent)

<u>Age</u>	Male		Female	
	Rural	Urban	Rural	Urban
5-14	13.1	5.9	9.1	3.8
15-59	92.2	84.3	43.1	23.8
60+	65.4	50.6	16.0	10.5

Notes:

1. Obtained from Labor Force Projections (Table 2) and Comparable Population Distribution (Table 4)
2. GOI plan used 1977-78 Labor Force Participation Rates while determining Labor Force as of March 1, 1980 (p 203, para 13.4)

Table 6

Estimated Population Distribution as of March 1, 1980
with Adjustments for 1981 Census Provisional Population
Totals and Urbanization Trends.

(Percent)

<u>Rural</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
<u>Rural</u>	39.20 ^{5/}	37.45 ^{5/}	76.65 ^{1/}
0-4	6.08 ^{6/}	5.83 ^{7/}	11.91 ^{8/}
5-14	10.20 ^{6/}	9.66 ^{7/}	19.86 ^{8/}
15-59	20.65 ^{6/}	19.90 ^{7/}	40.55 ^{8/}
60+	2.27 ^{6/}	2.06 ^{7/}	4.33 ^{8/}
<u>Urban</u>	12.47 ^{5/}	10.88 ^{5/}	23.35 ^{1/}
0-4 ^{9/}	1.52	1.47	2.99
5-14 ^{9/}	2.96	2.74	5.70
15-59 ^{9/}	7.42	6.15	13.57
60+ ^{9/}	0.57	0.52	1.09
<u>Total</u>	51.67 ^{1/}	48.83 ^{1/}	100.00
0-4	7.60 ^{3/}	7.30 ^{4/}	14.90 ^{2/}
5-14	13.16 ^{3/}	12.40 ^{4/}	25.56 ^{2/}
15-59	28.07 ^{3/}	26.05 ^{4/}	54.12 ^{2/}
60+	2.84 ^{3/}	2.58 ^{4/}	5.42 ^{2/}

Notes:

- 1/ Obtained by interpolating between provisional results of 1981 and 1971 censuses.
- 2/ USAID estimate (see Table 1)
- 3/ Applied estimates of age specific proportions of males for 1980 (1980 proportions were interpolated between respective age-specific proportions of 1976 and 1981 projections adjusted for 1981 census totals.
- 4/ Obtained by subtraction (2/ - 3/)
- 5/ Obtained initially estimates of sex-specific proportions for 1980 under rural and urban totals (used 1971, 1976, 1981 projections of Expert Committee). These initial figures were then adjusted marginally on

Table 6 , Footnotes (contd.)

- pro-rata basis so as to become consistent with provisional results of 1981 census for totals under rural and urban category and for male-female proportions.
- 6/ Applied estimates of age-specific proportions within rural-male-total proportions. These estimates were obtained on the basis of 1976 and / 1981 projections of Expert-Committee adjusted for 1981 census results.
- 7/ Same as 6/ in respect of female sex
- 8/ Added 6/ & 7/ figures
- 9/ Figures were obtained by relevant subtractions.

Table 7

Distribution of Labor Force as of March 1, 1980
by Age-Sex-Resident Status with Adjustments for
1981 Census Results.

	(Million Persons)		
	<u>Male</u>	<u>Female</u>	<u>Total</u>
<u>Rural</u>	<u>148.68</u>	<u>66.55</u>	<u>215.23</u>
5-14	9.09	5.98	15.07
15-59	129.49	58.33	187.82
60+	10.10	2.24	12.34
<u>Urban</u>	<u>45.69</u>	<u>11.03</u>	<u>56.72</u>
5-14	1.19	0.71	1.90
15-59	42.54	9.95	52.49
60+	1.96	0.37	2.33
<u>Total</u>	<u>194.37</u>	<u>77.58</u>	<u>271.95</u>
5-14	10.28	6.69	16.97
15-59	172.03	68.28	240.31
60+	12.06	2.61	14.67

Note:

Labor Force has been worked out for age-sex-resident specific group by multiplying labor force participation rates (table 5) with percent share of population (table 6) and estimated 680.1 million

Table 8

USAID Estimate of Population Distribution as of March 1, 1985 by Age-Sex-Resident Status without Adjustments for Urbanization.

(Percent)

	<u>Male</u>	<u>Female</u>	<u>Total</u>
<u>Rural</u>			
5-14	10.04	9.48	19.52
15-59	21.19	20.54	41.73
60+	2.42	2.19	4.61
<u>Urban</u>			
5-14	2.75	2.64	5.39
15-59	7.44	6.17	13.61
60+	0.56	0.52	1.08
<u>Total</u>			
5-14	12.79	12.12	24.91
15-59	28.63	26.71	55.34
60+	2.98	2.71	5.69

Note:

Estimated population as of March 1, 1985 = 743.08 million persons. The procedure for obtaining this figure and above mentioned figures was similar to one outlined under table 1.

Table 9

USAID Estimate of Population Distribution as of March 1, 1985 by Age-Sex-Resident Status with Adjustments for Urbanization.

(Percent)

	<u>Male</u>	<u>Female</u>	<u>Total</u>
<u>Rural</u>	<u>38.15</u>	<u>36.55</u>	<u>74.70</u>
0-4	5.56	5.31	10.87
5-14	9.73	9.20	18.93
15-59	20.52	19.92	40.44
60+	2.34	2.12	4.46
<u>Urban</u>	<u>13.46</u>	<u>11.84</u>	<u>25.30</u>
0-4	1.65	1.54	3.19
5-14	3.06	2.92	5.98
15-59	8.11	6.79	14.90
60+	0.64	0.59	1.23
<u>Total</u>	<u>51.61</u>	<u>48.39</u>	<u>100.00</u>
0-4	7.21	6.85	14.06
5-14	12.79	12.12	24.91
15-59	28.63	26.71	55.34
60+	2.98	2.71	5.69

Note:

The procedure for obtaining these figures is similar to one outlined under Table 3.

Table 10

USAID Estimate of Population Distribution as of
March 1, 1985, by Age-Sex-Resident Status

(Million Persons)

	<u>Male</u>	<u>Female</u>	<u>Total</u>
<u>Rural</u>	<u>292.70</u>	<u>279.99</u>	<u>572.69</u>
0-4	42.65	40.65	83.30
5-14	74.61	70.44	145.05
15-59	157.46	152.63	310.09
60+	17.98	16.27	34.25
<u>Urban</u>	<u>90.80</u>	<u>79.59</u>	<u>170.39</u>
0-4	10.92	10.26	21.18
5-14	20.43	19.62	40.05
15-59	55.29	45.85	101.14
60+	4.16	3.86	8.02
<u>Total</u>	<u>383.50</u>	<u>359.58</u>	<u>743.08</u>
0-4	53.57	50.91	104.48
5-14	95.04	90.06	185.10
15-59	212.75	198.48	411.23
60+	22.14	20.13	42.27

Note:

Applied percentage share of each age-sex-resident status category (Table 8) to estimated total population of 743 million persons.

Table 11

USAID Estimate of Distribution of Labor Force as of
March 1, 1985, by Age-Sex-Resident Status.

(Million Persons)

	<u>Male</u>	<u>Female</u>	<u>Total</u>
<u>Rural</u>	<u>161.43</u>	<u>72.54</u>	<u>233.97</u>
5-14	9.47	6.22	15.69
15-59	140.59	63.80	204.39
60+	11.37	2.52	13.89
<u>Urban</u>	<u>54.55</u>	<u>13.29</u>	<u>67.84</u>
5-14	1.34	0.82	2.16
15-59	50.80	12.01	62.81
60+	2.41	0.46	2.87
<u>Total</u>	<u>215.98</u>	<u>85.83</u>	<u>301.81</u>
5-14	10.81	7.04	17.85
15-59	191.39	75.81	267.20
60+	13.78	2.98	16.76

Note:

Applied Labor force participation rates (table 5) to estimated population of respective age-sex-resident category (Table 10).