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Modernization and Female Work Participation

I. Introduction

*THE objective of this paper is to probe the behaviour of female work participation and its relation with several indicators of socio-economic change. This has been accomplished by female activity rates across countries, regions and subregions at various levels of socio-economic development. For this purpose, a few important variables such as income and its distribution, rural-urban distribution, educational levels, cultural factors and demographic variables are chosen and their relation with female participation in work is looked into.

In the next section, a brief review of the literature on the relation between female participation in work and other variables is outlined. Then, the pattern in international data in female labour force participation are presented. This is followed by an analysis of Indian data on female work participation at different levels—village, town and city. Finally, a summary of the main findings has been provided.

II. Some Determinants of Female Work Participation : A Review

Income. The evidence on the relationship between income and labour force participation is rather inadequate and unclear. According to one hypothesis, an increase in income exerts two contrary influences upon the' propensity to be

employed; an "income effect" which is negative because higher family incomes mean that family members can afford to devote less time to labour market activities and more to leisure; and a "substitution effect" which is positive because higher income from employment raises the opportunity cost of leisure. It is argued that in the developed economies income effect is generally dominant in the case of men, but the substitution effect may be stronger in the case of women.[1] While the activity rate of married women in the United States in the prime working ages decreased as their husband's income rose, they are positively associated *with the* income of employed women.[2] In the case of India, Sinha found a negative association between female activity rates **and** male average income in the rural areas .[3]

In many less developed societies, the bottom fifty per cent of families receive between one quarter and two-fifths of average family income.[4] One implication of this situation is that people in the lower strata have no other way but to engage in some sort of work, however meagre their earnings may be in order to survive.[5] In fact, higher work participation rates and lower unemployment rates have been observed among the groups situated in the lowest income brackets of the income distribution in India.*

Rural-Urban Distribution. The observed patterns of labour force participation rates in urban and rural areas are different. With few exceptions, the rural areas are characterized by higher participation rates in each age group. The difference between urban and rural activity rates is much larger in the developing countries than in the developed world. Moreover, greater variations in the levels of female age-specific rates in the rural areas than in the urban

1. United Nations, *The Determinants and Consequences of Population Trends, Population Studies No. 50,* New York, 1973, p. 316.

2. *Ibid.*

3. J. N. Sinha, "Dynamics of Female Labour Force Participation **in** a **Developing Economy",** *Proceeding of the World Population Conference;* Belgrade, 1965, **Vol.** IV, p. 336-337,

4. D. Turnham, and I. Jaegar, *The Employment Problem in Less Developed Countries', A Review of Evidence,* OECD, Paris, 1971, p. 73.

5. G. Myrdal, *Asian Drama : An Enquiry into the Poverty of Nations,* Vol. **II,** Penguin Books, 1968, p. 1072.

6. Pravin M. Visaria, and L. Visaria, "Employment Planning for Weaker Sections in Rural India". *Economic and Political Weekly, Vol. III,* No. 4-6, Annual Number, 1973, pp. 269-276.

areas have been observed.[7] Given these urban-rural differentials, an increase in the level of urbanization in the early stages of development is expected to lead to a decrease in activity rates. But since this urban-rural differential diminishes at advanced stages of development, tending in fact to bring urban and rural levels towards a relatively uniform rate, urbanization would have an attenuated impact on labour force participation.[8]

One of the most important factors accounting for the higher activity rates in rural areas is the prevailing labour force structure in majority of the less developed countries. As pointed out by Boserup, "In countries at low stages of development, where rural women take a very active part in all types of subsistence activities, their migration to urban areas is likely to reduce their participation in economic activities, because they can no longer provide the goods and services in kind, which they provide for family consumption in the village, and because they are not likely to find sufficient employment opportunities in the town to compensate for their reduced work for the family. The non-agricultural sectors are small in the least developed countries and at the early stage they employ mainly men".[9] The occupational structure in the urban areas inhibits the entry of women into the work force as economic activity and child bearing responsibilities become more competitive for women in the urban setting and adaptation to the new environment becomes difficult. Thus, the changing labour force structure, i.e., shifts from agricultural and allied activities to secondary and tertiary activities along with urbanization will tend to reduce female work participation.

Education. Compulsory education of children in the school-going ages tends to compete with employment particularly among the weaker sections of the population. Indeed, the low level of economic activity rates observed in the age group 10-19 in the developed countries is mainly attributed to nearly universal education, and a trend in this direction has begun recently in many developing countries as well. The effect is observed significantly in the age group 10-14 and to a lesser extent in the age group 15-19 and 20-24.

7. *E* Denti "'Sex-Age Patterns of Labour Force Participation by Urban and Rural Populations", *International Labour Review*, Vol. 98, No. 6, {December, 1968), pp. **525-550.**

8. John D. Durand, *The Labour Force in Economic Development : A Comparison of International Census Data, 1946-1966*, Princeton University Press, Princeton, 1975, p. 105, 120.

9. Ester Boserup, "Employment of Women in Developing Countries", IUSSP, **Leige** 1973, Vol. I, pp. 381-390.

On the other hand, the relation between labour force participation and educational attainment is rather mixed. In India, urban activity rates were found to be lower for literate than for illiterate women, though within literate groups advanced education appeared to favour increased labour force participation. In Puerto Rico, strong positive association was observed between economic activity rates and levels of education of women.[10] These findings led to the speculation that a positive association between educational level and economic activity can be expected only when the educational attainment of the population reaches a certain minimal threshold.[11]

Cultural Factor, Cultural and institutional factors have been emphasized in explaining work participation or non-participation of females. Some of these factors are religious beliefs, caste hierarchy and attitude towards female participation in work outside home, etc.

Among all the countries in the world, females in Muslim countries have the lowest reported work participation rates. While the average male participation rates for 10 Latin American countries and 8 Middle Eastern countries are almost identical, only 3.7 per cent females were reported as economically active in the Middle Eastern countries as against 19.2 per cent in Latin American countries (in non-agricultural occupations). The criteria related to family standing and to male honour in the community are considered as powerful instruments reducing work participation of women outside agriculture.[12] Similarly in India, highest work participation rates are observed among the scheduled castes and scheduled tribes. Among these disadvantaged sections of the population which also rank low in the caste hierarchy, the differences in labour force participation are greater among females than males. Between these two groups, scheduled tribes have much higher rates than scheduled castes."

10. United Nations, *The Determinants and Consequences of Population Trends, op. cit.,* p. 317.

11. See J. N. Sinha, "Dynamics of Female Labour Force Participation in a Developing Economy", *Proceedings of the World Population Conference, op. cit.,* pp. 336-337.

12. Nadia Yousseff, "Social Structure and the Female Labour Force : the Case of Women Workers in Muslim Middle Eastern Countries", *Demography,* Vol. 8, No. 4, November, 1971, pp. 427-439.

13. J. P. Aries, "The Economic and Social Promotion of Scheduled Castes and Scheduled Tribes", *International Labour Review,* Vol. 103, No. 2, January 1971, pp. 29-64.

Myrdal has laid great emphasis on attitudinal and institutional factors in "his discussion of the problem of labour utilization in South East Asia. In varying degrees, a negative attitude towards work has affected all members of the rural population.[1]* As pointed out by Thorner, "the primary aim of all classes in the agrarian structure has not been to increase their income by adopting more efficient methods but to rise in social prestige by abstaining in so far as possible from physical labour".[15]

Fertility and Family Size. Marital status and the number of children and their age are related with the extent to which women can participate in work Outside home. Both in the developed and the developing areas, the labour force participation of married women is much lower than those who are single, Widowed, divorced or separated. This difference, however, between married and single women appears to be smaller in the agricultural societies than in the industrialized countries.[16]

One potential deterrent to the participation of women in work outside their home is the fertility experience of women. This influence however, differs from culture to culture. Stycos and Weller have hypothesized that where the roles of mother and worker are entirely compatible, we should expect little relation between labour force status and fertility. However, as employment shifts to less compatible positions and the system of child care via the extended family becomes attenuated in the urban setting, we can anticipate a close relationship between fertility and employment.[17] Gendell found that in cultures where wives are permitted to take employment outside the home and where birth control is widely practised, economic activity rates are considerably influenced by family building activities. In developing countries, the direct evidence is too meagre to provide a clear indication of the influence of family building activities on work participation. However, the indirect evidence suggests little or no influence in at least the traditional sections of the society.[18]

14. G. Myrdal, *Asian Drama, op- cit.,* pp. 1070-1071.

15. **Daniel** Thorner, *The Agrarian* ***Prospect*** *in India,* **Delhi University Press, 1956, p. 12.**

16. **United** Nations, *The* ***Determinants*** *and Consequences of Population* ***Trends, op. cit.,*** **pp, 305-306.**

17. J. M. Stycos and R. H. Weller, "Female Working Roles and Fertility", *Demography,* Vol. 4, No. 1, 1967, pp. 210-217.

18. **M. Gendell, "The Influence of Family Building** Activities **on Women'3 Rate of Economic Activity",** ***Proceedings of*** *the World* ***Population*** *Conference, op cit.,* **Vol. IV, pp.** 283-287.

III. Empirical Evidence

A. Patterns in International and Interregional Data. Attempts have been made to study the impact of several indicators of modernization on female work participation. Different authors have outlined the influence of different factors in their analysis. Sinha has presented data on female economic activity rates in countries grouped by levels of per capita income. These data were obtained for 49 countries and for the period around 1950. These data are shown in Table 1. He observed that both the crude activity rate and the rate in the peak age group (20-24) of economic activity first decline with economic development and then rise only at levels above $ 500, the maximum in either case being attained at the lowest income level.[19]

TABLE 1—ECONOMIC ACTIVITY RATES IN COUNTRIES GROUPED BY LEVELS OF PER CAPITA INCOME

Levels of Per Capita Income[a] *(In dollars)*		*Percentage engaged in Agriculture*	*Activity Rates*	
			All Females	*Females aged 20-24*
Under — 100	(8)	76.8	35.4	59.2
100 — 249	(12)	58.6	24.0	39.0
250 — 499	(13)	42.4	17.0	36.2
500 — 749	(6)	30.6	25.2	53.5
750 and above	(10)	28.1	23.2	53.5

a : Figures in parentheses indicate the number of countries.

SOURCE : J. N. Sinha, 'Dynamics of Female Participation in Economic Activity in a Developing Economy', Proceedings of the World Population Conference, (Belgrade 1965). Reprinted in Office of the Registrar General, *Papers Contributed by Indian Authors to the World Population Conference*, New Delhi, 1965, p. 258, Table 1.

Durand has presented data for countries arranged by relative levels of development. Two indicators viz., energy consumption per capita and per cent share of non-agricultural sector in total employment were used to rank the countries and then the countries were grouped into five levels. His female

19. J. N. Sinha, "Dynamics of Female Participation in Economic Activity in a Developing Economy", *op cit.*, p. 253.

activity rates in countries at each level of development are shown in Table 2. Level I corresponds to the lowest level of development and level V to the highest. He observed that whether development brings an increase or a decrease of opportunities for women to be employed depends to a great extent on the relative proportions of female workers employed in the fields that expand and in those that contract in the process of development. The total increase or decline in female activity rates depends on the one hand on the shrinkage of opportunities in areas such as unpaid family work and domestics and on the other hand on growing opportunities in other fields.[20]

TABLE 2—LEVELS OF FEMALE ACTIVITY RATES IN COUNTRIES AT DIFFERENT LEVELS OF DEVELOPMENT

Levels			*All status categories*	*Unpaid family workers*	*Others*
Level	I	(10)	49.4	31.7	17.7
Level	II	(17)	24.6	9.4	15.2
Level	III	(17)	19.6	6.0	13.6
Level	IV	(17)	31.9	8.0	23.9
Level	V	(17)	34.2	2.9	31.3

SOURCE : J. D. Durand, *The Labour Force in Economic Development : A Comparison of Census Data, 1946-1966*, Princeton University Press, 1975, p. 126, Table 6B.

In Table 3 we present data by countries arranged by level of development based on Harbison's scheme.[21] This scheme places countries into four levels of development based on second and third level school enrolment ratios. Level I corresponds to the lowest stage of development and level IV to the highest.

Data from all the three tables presented earlier clearly show the U-shaped pattern indicating an initial decline in female activity rates at early stages of development and increase at later stages. This pattern held good when the countries were classified either by income, per cent of labour force in non-agri-

20. J. D. Durand, *The Labour Force in Economic Development, op. cit.*, pp. 125-127.

21. F. H. Harbison, *et al.*, Quantitative Analyses of Modernization and Development, Industrial Relation Section, Princeton, University Press; 1970, pp. 58-64 and 178-185.

TABLE 3—ECONOMIC ACTIVITY RATES BY LEVELS OF DEVELOPMENT

Levels	*Percentage of Labour Force in Agriculture*	*Female Activity Rates*
Level I (15)	89.9	29.8
Level II (20)	38.7	16.7
Level III (17)	36.5	17.1
Level IV (19)	16.6	27.0

SOURCE : P. H. Rayappa, and T. J. Espenshade, 'Economic Activity Rates and Socio-economic Development', to be published in a forthcoming issue of *Manpower Journal*, New Delhi.

cultural sectors or by educational levels. However, this U-shaped pattern observed in cross sectional analysis of data is not borne out either by long range historical statistics or by the data on inter-censal changes.[22]

The data presented by regions in Table 4 show a pattern which is mixed—high

TABLE 4—LEVELS OF FEMALE ACTIVITY RATES BY REGIONS

Regions	*Standardized Mean Female Activity Rates*	
	Rural	*Urban*
1. Tropical Africa	59.8	42.7
2. Arab Countries	10.2	9.6
3. Other Muslim Countries	43.1	17.1
4. South and East Asia	32.2	19.0
5. Latin America, Spain and Portugal	10.8	24.7
6. Eastern Europe	64.3	33.7
7. Middle Europe	43.3	34.0
8. North Western Europe, Northern America and Oceania	21.5	32.3

SOURCE : J. D. Durand, *The Labour Force in Economic Development*, *op. cit.*, p. 75, Table 3.7.

22. J. D. Durand, *The Labour Force in Economic Development*, *op. cit.*, p. 150.

and low rates in countries at similar stages of development. The levels of participation are not so consistently related with levels of development. These above figures clearly demonstrate the impact of cultural and institutional factors on female work participation. The extent to which participation is reported in censuses may also be affected by cultural and institutional factors.[23] The lowest rates have been observed in Arab countries and the highest rates in countries in Africa and Eastern Europe.

The combined impact of age, marital status and rural-urban distribution on female labour force participation is given in Table 5, While a central plateau and double peak dominate rural pattern indicating maximum activity in middle ages, in urban areas maximum is reached around age 30 and then declines. Early peak without shoulder (C-1J is the most common in urban areas with maximum rates occurring in the early stages.

Finally, we have summarized the available evidence on the relation between fertility and female work participation. Since different measures of fertility were considered in different studies, the ratios of the fertility performance of the working women with that of the non-working women have been presented. It

TABLE 5—TYPES OF AGE PATTERNS OF FEMALE ACTIVITY RATES IN RURAL AND URBAN POPULATIONS, CROSS-SECTIONAL CENSUSES

	Rural Patterns	*Urban Patterns*
Total No. of countries	36	36
A. Central Peak or Plateau	10	4
B. Late Peak	4	4
C. Early Peak		
C-l Without shoulder	5	15
C-2 Peak and shoulder	5	2
D. Double Peak		
D-l Early peak higher	6	8
P-2 Late peak higher	6	3

SOURCE : John D. Durand, *The Labour Force in Economic Development, op. cit.*, p. 43, Table 2.6.

23. J. D. Durand, *The Labour Force in Economic Development, op. cit.*, p. 45.

is needless to say that these data only highlight the association between the two rather than show the causal relationship. From the figures in Table 6, it can be seen that the observed association between fertility and female work participation is inversely related only in the metropolitan areas of the developing countries.[24] In the traditional rural agrarian structure, there appears to be compa-

TABLE 6—COMPARISON OF FERTILITY PERFORMANCE OF WOMEN IN THE LABOUR FORCE WITH THOSE WHO ARE NOT IN THE LABOUR FORCE IN SELECTED COUNTRIES

(Ratios of fertility levels)

	Country (Data)	*Rural*	*Urban*	*Metropolitan*
1.	*Thailand[a] (1960)*	103.7*	98.0*	88.6
		94.7**	98.0**	—
2.	West Malaysia[b] (1966-67)			
	Age 15-24	105.3	93.8	82.4
	Age 25-34	93.5	92.7	73.7
	Age 35-44	111.1	91.8	87.9
3.	Columbia[c] (1963-64)	125.6	81.1	64.1
4.	Mexico[c]	121.6	50.3	66.1
5.	Chile[c] (1963-64, 1959)	99.0	93.2	83.1[d]

* In-agriculture

** Non-agriculture

SOURCE: *a.* S. Goldstein, 'The Influence of Labour Force Participation and Education on Fertility', *Population Studies*, Vol. No. XXVI, No. 1, 1972, p. 426, Table 4.

b. Mercedes B. Concepcion, 'Female Labour Force Participation and Fertility', *International Labour Review* Vol. 109, Nos. 5-6, May-June, 1974, p. 515, Table 6.

c. Carmen A. Miro, and Walters Mertens, 'Influences Affecting Fertility in Urban and Rural Latin America', *Milbank Memorial Fund Quarterly, Current Research on Fertility and Family Planning in Latin America*, Vol. XLVI, No. 3, July 1968, Part II, p. 12, Table 9.

d. For Santiago, Chile see Leon Tabah and Raul Samuel, 'Preliminary Findings of a Survey on Fertility and Attitudes Toward Family Formation in Santiago, Chile', in Clyde V. Kiser (ed.), *Research in Family Planning*, Princeton University Press, 1962, p. 281.

24. This inverse relation between female labour force status and fertility is very strong in economically developed parts of the world. See, R. H. Weller, "Wife's Employment and Cummulative Family Size in the United States, 1970 and 1960", *Demography*, Vol. 14, No. 1, 1977, pp. 43-65.

tibility between the roles of mother and worker. The pattern is rather mixed in the non-metropolitan urban areas.

B. Patterns in Indian Data. This section presents the patterns in female work participation in India on the basis of the data from the census and other sources. To begin with data at the village level have been given followed by rural-urban patterns. Data are given next for some of the cities and then for a metropolis—Greater Bombay.

Data have been gathered for 12 villages in Tamilnadu from the village survey monographs that were covered at the 1961 census operations. Comparative data for all the villages covered are not available from the village survey monographs. These data are presented in Table 7. It is clear that in villages female participation in work is much higher among scheduled groups than among the non-scheduled population and this holds good in all age groups. In these rural areas, more than three-fourths of the female population are illiterate. Therefore, the impact of educational differentials by caste groups tends to be minimal. The other factors that might influence are the level of income and its distribution, fertility experience of woman and cultural factors. The child-woman ratios shown in the table indicate the compatibility between the roles of mother and worker as child-woman ratios are higher among scheduled population than among non-scheduled*. Thus poverty as measured by levels of income and its distribution and the distribution of population by caste groups appear to have major impact on female participation in work.

Next, data have been provided to show the differential in work participation by females in rural and urban areas. They are obtained from the Mysore Population Study which was undertaken in early fifties and presented in Table 8, covering some characteristics of the rural and the urban areas and economic activity, rates for females. Rural areas are characterized by higher fertility levels (measured in terms of crude birth rates and child-woman ratios) and lower levels of literacy than the urban areas (Towns and Bangalore City). Participation in work by females is much lower in towns and city compared to the rural areas. These participation rates are much higher among scheduled and backward sections not only in the rural areas but in the urban areas as well. Within the city, the lowest work participation rates are observed in areas concentrated by Muslim population and the highest rates in areas concentrated by

*The child-woman ratios for these villages, however, appear to be on the lower side.

TABLE 7—PER CENT OF POPULATION ILLITERATE, PERCENT OF HOUSEHOLDS INDEBTED, MONTHLY HOUSEHOLD INCOME, AVERAGE HOUSEHOLD SIZE, CHILD-WOMAN RATIO AND WORK PARTICIPATION RATES FOR 12 VILLAGES, TAMILNADU, 1961

Population Group	Per cent illiterate	Per cent of House-holds indebted	Distribution of House-holds by monthly income Rupees			Average House-hold size	Child-Woman Ratio	Work Participation Rate Female Age				
			50 and below	51-100	101 and above			Total	5-14	15-24	25-59	60+
1. Total Population	74.6	75.6	59.4	31.2	9.4	4.6	588	40.1	13.4	62.1	62.1	27.6
2. Total Population (Excluding Scheduled Groups)	67.0	70.9	55.3	32.9	11.8	4.5	555	33.1	9.1	44.0	52.9	20.9
3. Scheduled Castes and Tribes	83.8	81.2	64.4	29.1	6.5	4.6	638	48.5	18.3	73.1	73.6	39.4

The names of villages included here and covered in village survey monographs and their numbers are given below. The corresponding data were not available for all villages surveyed in Tamilnadu which numbered 40. This table is based on data from 12 villages of Tamilnadu collected during 1961 Census. See P. K. Nambiar, Superintendent of Census Operations, *Census of India 1961, Series XI, Madras, Part VI, Village Survey Monographs* : Thenbaranadu (2) Koothumangalam (8), Thadagam (9), Kunnalur (11), Kadambangudi (15), Aladipath (18), Hallimoyar (20), Kilakottai (21), Vilangulam (25), Arkavadi (27), Sirumalai (29) and Aliyur (31).

TABLE 8—PER CENT ILLITERATE, BIRTH RATE, CHILD-WOMAN RATIO AND WORK PARTICIPATION RATES KARNATAKA, 1952 (Females Only)

	Area	Per cent Illiterate (Female 15+)	Birth Rate	Child-Woman Ratio	Work Participation Rate (Female 15+) Total	All Hindu castes	Scheduled castes	Backward castes	Non-backward castes
I	Rural Hills with anti-Malarial Operations	83.2	44.4	721	29.2(11.8)[a]	32.1	45.9	36.6	27.4
II	Rural Hills without anti-Malarial operations	89.4	44.7	706	37.3(22.3)	38.0	47.2	44.9	33.4
III	Rural Plains	95.0	39.9	731	36.7(11.2)	37.3	46.4	41.6	30.5
IV	Towns	65.4	39.8	676	13.9 (7.2)	11.5	34.6	17.5	11.1
V	Bangalore City	61.4	33.0	626	10.1 (8.3)	10.3	16.2	18.4	7.7
	(a) Stratum 1 : (Over 35 per cent Muslims)	55.0	29.9	618	(5.5)				
	(b) Stratum 2 : (Over 30 per cent Christians)	46.0	30.2	558	(10.0)				
	(c) Stratum 3 : (over 35% Scheduled Castes)	78.0	36.3	602	(12.1)				
	(d) Stratum 4 : (other Hindus with male literacy over 60 per cent)	40.0	31.3	606	(6.7)				
	(e) Stratum 5 : (other Hindus with male literacy below 60 per cent)	64.8	33.2	649	(7.7)				

a : Figures in the Parentheses are for Primary activity only.

SOURCE : Abstracted from U.N., The Mysore Population Study, ST/SOA/Series A/34, Department of Economic and Social Affairs, U.N., New York, 1961.

the scheduled groups. Female work participation among Christians is higher than among Muslims or other Hindus (Non-scheduled and backward). Among Hindus, higher literacy is associated with lower participation in work.

The female economic activity rates have tended to be inversely related with the population size of the urban localities or cities. This is borne by data both at the national level and at state level as shown in Table 9. The factors that

TABLE 9--FEMALE WORK PARTICIPATION RATES FOR URBAN AREAS CLASSIFIED BY POPULATION SIZE, INDIA AND MAHARASHTRA

Urban size class	*Work Participation rate (Census, 1961)*	*India*		*Maharashtra*	
		Urban size class	*Work participation rate (NSS)[a]*	*Urban size class*	*Work-participation rate (Census, 1961)*
1. Below 50,000	14.73	15,000-50,000	16.83	5,000-9,999	23.2
2. 50,000-100,000	10.69	50,000-100,000	12.28	10,000-19,999	22.1
3. 100,000+	8.00	100,000+	9.78	20,000-49,999	15.7
4. 100,000-500,000	8.77	Cities	6.91	50,000-99,999	13.9
5. 500,000+	7.17			100,000+	7.5

a : 6th and 7th rounds combined.

SOURCES : 1. Same as in Table 1, page 259, Table 2.

2. J. P. Ambannavar, A Demographic Study of Maharashtra State, National Institute of Family Planning, Report Series No. 16, May 1975, New Delhi, p. 203.

have greater significance in urban areas appear to be the industrial and the occupational distribution of work force and the literacy and educational levels of adult population as shown in Table 10.

Sinha found that the percentage of labour force is significantly lower among the literate, being only one-third that among the illiterate. Within the literate class, however, the activity rate rises uniformly with the level of education. The highest activity rates have been observed among technical, degree and diploma holders followed by non-technical graduates.[25] From Table 10, it can be seen

25. J. N. Sinha "Dynamics of Female Labour Force Participation in a Developing Economy" *op. cit.*

TABLE 10—EDUCATION, WORK PARTICIPATION AND DISTRIBUTION OF WORKERS BY INDUSTRIAL CATEGORIES BY SCHEDULED STATUS, FOR ELEVEN CITIES OF MAHARASHTRA, 1961

(Females only)

Population Group	Education				Work participation rate	Distribution of workers by Industrial Categories			Scavenging
	Illiterates	Literates without education	Primary or Junior Basic	Matric and above		Primary sector	Secondary sector	Tertiary sector	
a. Total Population	62.83	15.42	17.97	3.78	12.53	9.95	49.27	40.78	—
b. Total Population Excluding Scheduled Groups	61.49	15.84	18.69	3.98	12.18	9.71	50.92	39.37	—
c. Scheduled Caste Population	85.19	8.44	5.91	0.46	17.77	8.22	33.31	58.46	29.06
d. Scheduled Tribe Population	92.21	4.65	3.08	0.06	27.64	40.51	14.45	45.04	—

This table is based on data from 11 cities (Thana, Ulhasnagar, Nasik, Malegaon, Ahmadnagar, Poona, Kolhapur, Akola, Amravati, Nagpur and Sholapur) of Maharashtra collected during 1961 Census Operations. For details see B. A. Kulkarni, Superintendent of Census Operations, *Census of India, 1961, Series X, Maharashtra, Part X (2-12) Cities of Maharashtra*, Delhi, 1968.

TABLE 11—EDUCATION, WORK PARTICIPATION, DISTRIBUTION BY WORKERS BY INDUSTRIAL CATEGORIES AND UNEMPLOYMENT, GREATER BOMBAY, 1961 (Females only)

Population Group	Illiterates	Literates without education	Primary or Junior Basic	Matric and above	Work Participation Rate	Distribution of Workers by Industrial Categories			Scavenging	Unemployment Rate
						Primary sector	Secondary sector	Tertiary sector		
1. Parsis	9.5	24.3	39.1	27.1	14.3	0.2	29.5	70.3	—	4.4
2. Total Population	51.2	21.6	20.7	6.5	8.8	3.8	30.6	65.6	—	3.4
3. Total Population (Excluding Scheduled Group)	49.9	22.0	21.3	6.8	8.5	3.7	30.2	66.1	—	3.7
4. Scheduled Castes	79.5	13.0	7.1	0.4	15.1	1.0	31.1	67.9	14.4	2.1
5. Scheduled Tribes	94.9	3.2	1.8	0.1	28.5	16.9	50.2	32.9	—	0.5

SOURCE : 1. B. A. Kulkarni, Superintendent of Census Operations, *Census of India, 1961, Vol. X, Maharashtra, Part X (1-E), Greater Bombay Census Tables*, Delhi, 1964.

2. R. B. Chari, Director of Census Operations, *Census of India, 1961, Vol. X, Maharashtra, Part X (1-D), Parsis of Greater Bombay*, Delhi, 1970.

that in, urban areas also, the differentials in educational background are pronounced among scheduled and non-scheduled population. The concentration of workers among scheduled groups can be seen either in primary or tertiary sectors which together account for more than seventy per cent of the total workforce. Notably that about thirty per cent of scheduled caste workers are engaged in scavenging. Thus the educational background and industrial composition of the workers account for some of the observed differentials in female work participation in urban areas.

Finally, the, data for a metropolis in India, Greater Bombay, have been presented in Table 11. In this metropolis the highest proportion of female workers are engaged in non-agricultural pursuits. The highest participation in work is observed among the least educated groups—scheduled castes and scheduled tribes. The literacy and educational levels are the highest among the Parsis which happens to be the elitist group (highly urbanized) in the city. The work participation rate among this group is lower than the scheduled groups but higher than that of non-scheduled population. Similarly, Parsis have the highest unemployment rates; the least unemployment rates are for the scheduled tribes and the scheduled castes. It needs to be noted that the Parsis have the lowest fertility levels in the city compared to other religious groups but enjoy the highest level of income*. The data for Greater Bombay exhibit the U-shaped pattern when analyzed by religious and caste groups.

IV. Summary

The available data on female work participation exhibit greater variations not only across countries but also within sub-groups and sub-regions within a country. No consistent trend in female activity rates emerges along with socio-economic development and modernization. However, from a review of international, inter-regional, national and sub-regional data, some broad patterns are observed.

***In** Greater Bombay, average family size is much lower among Parsis (1 among Parsis compared to 3.07 among other religious groups) and the age at marriage is much higher (24.03 years among Parsis compared to 17.0 among others). On the other hand average monthly family income was highest among Parsis—almost twice that of the general population **(Rs.** 521 among Parsis compared with **Rs.** 268 among the total population. See J, **R. Rele** and Tara Kanitkar, *Fertility and Family Planning in Greater Bombay, Mimeographed,* International Institute for Population Studies, Deonar, Bombay, and D. T. Lakdawala, *et al., Work, Wages, and Being Well in An Indian Metropolis,* Bombay University Press, Bombay, 1963, p. 279.

When countries are classified by levels of development, using either income, per cent share of non-agricultural labour force, or educational variables, female economic activity rates exhibit a U-shaped pattern. However, this pattern is not reflected by inter-censal changes or historical trends. The association between fertility experience of women and their work participation has some broad patterns. While there is lack of an inverse association between fertility performance and work participation in rural and semi-urban areas, the available evidence is clearly indicative of incompatability of the roles of mother and worker in metropolitan areas of the developing areas. When countries are considered in regional groupings, the broad pattern disappears. Cultural and institutional factors are said to be mainly responsible for the variation in female activity rates by regions.

Our analysis of differentials in female work participation by villages, towns and cities for scheduled and non-scheduled groups within India, suggests that some of the differences can be accounted by such variables as rural-urban residence, education and income. Data analyses by subgroups bring forth a more interesting phenomenon into light. Within rural areas, poverty and caste structure determine, to a greater extent, the pattern of labour force participation. Similarly, in towns and cities the educational background and occupational Structure along with income have much impact on labour force participation. In a metropolitan area like Bombay, the same U-shaped pattern can be observed when data are analysed by caste and religious groups. The incompatability between the role of worker and motherhood appears after localities have reached certain size and occupational structure has undergone a change from traditional to modern form. Thus, cultural forces play their role at each level of community life-rural, semi-urban and urban.