

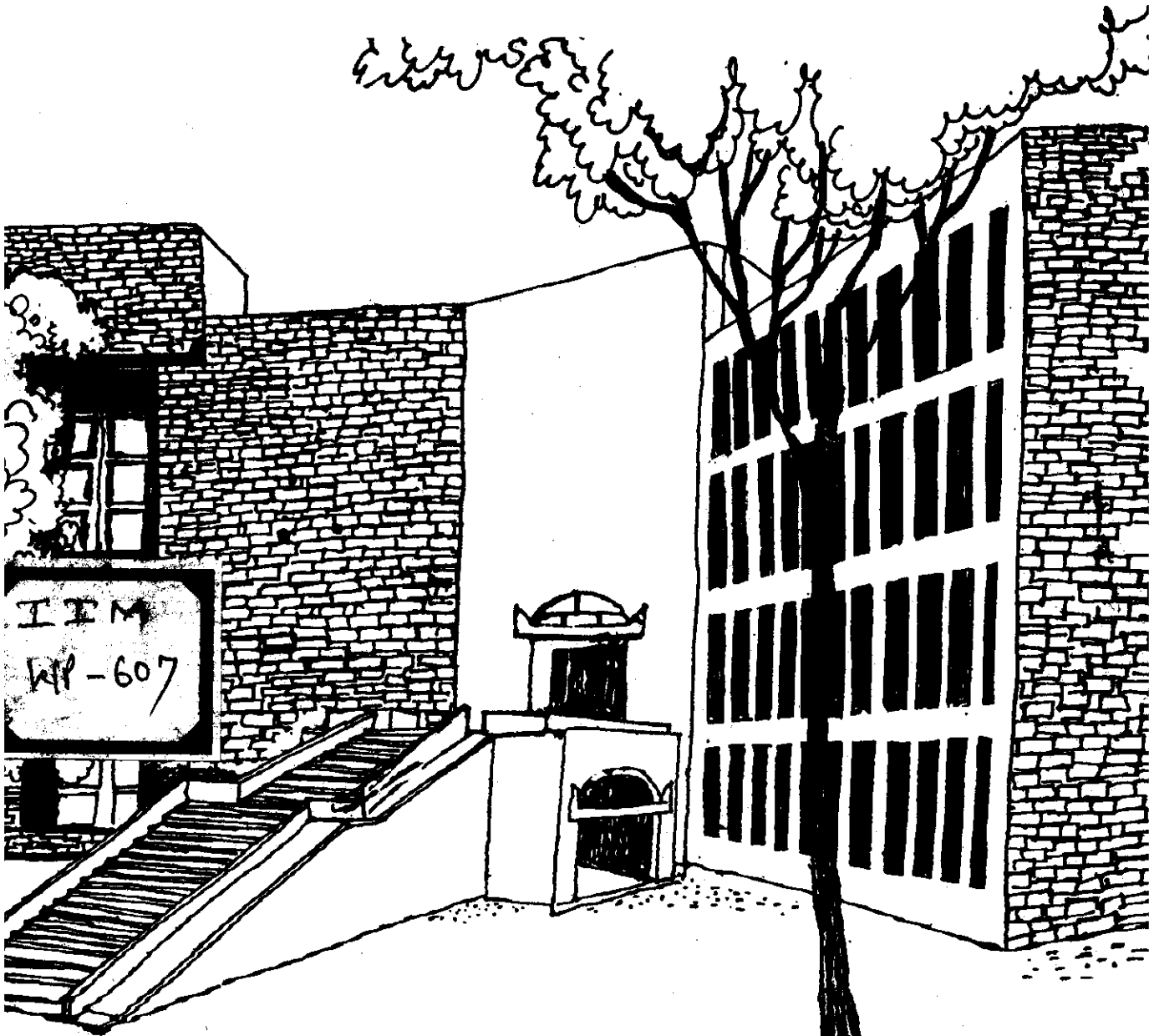


विद्याविलिख्योगादिकानः

IIM
AHMEDABAD

W.P. 607

Working Paper



INTERREGIONAL VARIATION IN THE ACCESS OF FEMALES
TO THE WORKING FORCE IN INDIA, 1981


By

Ravindra H. Dholakia

&

Premji M. Patel

W P No. 607
April 1986

WP607

1986
(607)

The main objective of the working paper series of the IIMA is to help faculty members to test out their research findings at the pre-publication stage.

INDIAN INSTITUTE OF MANAGEMENT
AHMEDABAD-380015
INDIA

INTERREGIONAL VARIATION IN THE ACCESS OF
FEMALES TO THE WORKING FORCE IN INDIA,
1981

- Revindra H Dholekia
Faculty Member, IIM, Ahmedabad

AND

- Premji M Patel
Research Assistant, SPIESR, Ahmedabad

Abstract

In the present paper, we make an attempt to examine the interstate variation in the proportion of females in the total working force in India during a given bench-mark year 1981. The exercise is expected to provide interesting insights into the nature of labour markets and some structural forces operating in various state economies in India. The main finding of the paper is that sex-discriminating aspects of rural technology in general and in the agricultural sector in particular are the major determinants of interstate variation in the access of females to the working force and hence in their relative contribution to the state domestic product.

INTERREGIONAL VARIATION IN THE ACCESS OF
FEMALES TO THE WORKING FORCE IN INDIA,
1981

Ravindra H. Dholakia*
and
Premji M. Patel**

I. Introduction :

Following the international decade for women (1975-85), there has been a growing consciousness about the status of women in the society vis-a-vis their contribution to the society. Pertinent questions about their access to different markets and resources are raised and analysed at specially designed national and international Conferences and Seminars. Definite hypotheses about sex-discrimination in various spheres have been postulated and attempts at their empirical verification have also been made. Ghosh and Mukhopadhyay (1984) tried to establish that India experienced a pattern of economic development which was based on sex-discriminating technological change. According to them, the technical progress in India over the past years resulted in displacement of females from the working force. Dholakia (1985a) contested their finding on methodological grounds and argued that the nature of structural change in India and the growing literacy in general and among females in particular were more important forces working "against" females in India rather than the nature of technical progress. Both these factors, moreover, are very natural to any growing economy since they are

* Indian Institute of Management, Ahmedabad-380015

** Sardar Patel Institute of Economic & Social Research,
Ahmedabad - 380054

identified as basic symptoms of economic progress itself. It is, therefore, not very surprising that development economists expect the female work force participation rate (FWPR) to fall in the initial stage of economic progress in any economy. The FWPR is, thus, a poor indicator for females' well-being or status in the society. Dholakia (1985b) argues that it is also a poor indicator to measure the extent of females' economic Independence. The proportion of females in the total working force (FW/TW), however, is a very useful indicator which can provide estimates not only for the access of females to the labour market but also for the contribution of females to the national product under certain conditions (See, Dholakia 1985b). In the present paper, we make an attempt to examine the interregional variation in the proportion of females in the total working force in India during a given benchmark year 1981. The exercise carried out here is expected to provide interesting insights into the nature of labour markets and some structural forces operating in various state economies in India. In the next section, we identify some factors which are thought crucial for explaining the interstate variation in (FW/TW). Results of the empirical exercise based on the 1981 Census data (on Main workers) are presented in the third section. The conclusion and main findings are summarised in the final section.

II. The Factors :

Ghosh and Mukhopadhyay (1984) analysed the variation in the FWPR by identifying three broad factors : (i) Sex-ratio, (ii) Employment opportunities in the economy and (iii) Nature of technology relevant for male-female composition of work force. Their basic identify was

$$FW/FP = (TP/FP) \times (TW/TP) \times (FW/TW) \dots\dots\dots (1)$$

The three factors on the R.H.S. are respectively the three factors mentioned above. Dholakia (1985a) commenting on Ghosh & Mukhopadhyay's (1984) paper argued that (FW/TW) incorporates the effects on many more factors than merely the nature of technology. He identified employment structure, literacy proportion and nature of technology relevant for literate and illiterate workers as component factors of FW/TW. While analysing the interstate variation in this crucial ratio in India during 1981, our exercise is constrained by the availability of data. The 1981 Census data based on 5% sample provide estimates of main workers cross-classified by industrial categories and educational levels only at the all India level. As a result, we may have to substitute the factor of literacy by urbanization which could be considered as reasonably good proxy. We may write the identity as follows :

$$FW/TW = \sum_{ii} \left[X_i Y_i + P_i (1-Y_i) \right] R_i \dots\dots\dots (2)$$

Where

(i) $X_i = \frac{UFW_i}{UW_i} =$ Sectoral sex-ratio among urban workers which can be taken to measure the sex-discriminating aspects of the technology relevant for the urban workers.

(ii) $P_i = \frac{RFW_i}{RW_i} =$ Sectoral sex-ratio among rural workers which can be taken to measure the sex-discriminating aspects of the technology relevant for the rural workers.

- (iii) $Y_i = \frac{UW_i}{TW_i} =$ Extent of urbanization among the sectoral working force which measures the technology-mix relevant for the urban and the rural workers.
- (iv) $R_i = \frac{TW_i}{TW}$ Industrial structure measured in terms of the working force.
- (v) $i = 1$ to 4 Represents the reported four industrial categories of main workers in 1981, viz. cultivators, agricultural labourers, household industries and other workers.
- (vi) Data on all these variables by the four industrial categories for 21 states, Union Territories and All India in 1981 are presented below in Appendix Table ii.

In order to find the exact (average) contribution of each of the above-mentioned factors in the observed interstate variation in FW/TW, we first generate what is known as partial contribution and the total contribution of each factor. On the basis of these contributions, then, it is possible to generate average contribution of each factor such that the problem of residual (interactions) is resolved. (See Dholakia, 1985 Ch.2)

III. The Results :

The average contributions of all the factors by industrial categories are presented below in Table 1. Column (18) in the table represents the deviation of the

observed value of the ratio FW/TW in a given state from the all India figure, for the ratio (0.20211). Column (6), (11) and (16) respectively represent the sums of columns (2) to (5), columns (7) to (10), and columns (12) to (15). From the sectoral aggregate contributions of factors X, Y and P and the overall contribution of R, classification of states to indicate favourable or unfavourable levels of these factors in relation to the national average is presented in Table 2. It is clear from the table that in as many as four states, viz. Andhra Pradesh, Himachal Pradesh, Kerala and Madhya Pradesh, all the factors are favourable from the point of view of the proportion of females in the working force. Whereas in Gujarat, Punjab and Uttar Pradesh, all the four factors are unfavourable for FW/TW. Moreover, looking to the list of states where the industrial structure (R) turns out to be unfavourable to females' participation in the working force, one gets the feeling that the generalization about declining share of females in employment with increasing level of economic development in the early stages of growth appears to hold good in India.

It is also interesting to find that barring a few exceptions like Haryana & West Bengal, the technology mix relevant for urban and rural workers (Y) also turns out to be unfavourable to females precisely in relatively more developed states. Similarly, the sex-discriminating aspects of technology relevant for rural workers (P) also turn out to be unfavourable to females on the whole in relatively more developed states. However, the sex-discriminating aspects of technology relevant for the urban workers (X) shows no definite pattern of favouring or not favouring females in the economically more developed states in India. The urban technology which is

more closely akin to the popular notions of technology and technical progress is not sex-discriminating per se on account of economic progress and development. The fact that rural technology appears to be more sex-discriminating (against females) in relatively more developed states only reflects the occurrence of certain well-defined structural and institutional changes in the course of economic development. Such changes are almost regarded as characteristics of economic progress. With economic development in the rural areas, if the family labour is gradually withdrawn and, as a result, if proportion of reported female workers in the total rural workers falls, it reflects more on the inappropriateness of our measure of working force based on the concept of 'a worker' which fails to consider the dynamics of FWPR in early stages of economic development.

Finally, we may be interested in examining the extent of interstate variation in FW/TW. In terms of the standard measure of coefficient of variation (c.v.), it turns out to be 52.03% - a high figure indeed. Table 3 presents the c.v. for expected FW/TW series generated for calculating the partial and the total contributions of different factors. The c.v. of the expected FW/TW based on partial approach would show the extent of variation in the series introduced only on account of differing level of the factor under consideration. It can be seen from the table that P_1 , P_2 and R vary substantially across the states. X_4 , P_3 and P_4 are of secondary importance. The variations in all other factors hardly matter. On the other hand, the c.v. of expected FW/TW based on total approach would show the extent of variation in the series reduced or increased on account of lack of variation in only the factor under consider-

ation. Column (4) in Table 3 is, therefore, comparable to column (2) in the table. Variation in P_1 and P_2 again turn out to be important even under total approach. Moreover, their contribution is positive implying that the variation in P_1 and P_2 tend to increase the variation in FW/TW . Variation in R (industrial structure) turns out to be of secondary importance at the margin. X_4 , P_3 and P_4 also add marginally to the variation in FW/TW . Thus, the major explanatory factors for interstate variation in FW/TW are the proportion of female workers among rural workers in the categories of cultivators and agricultural labourers. In other words, the sex-discriminating aspects of the technology relevant for rural cultivators and agricultural labourers determine the extent of interstate variation in female participation in the total working force in India. However, as discussed earlier, this type of sex-discrimination is inherent in ^{the}very process of economic development in underdeveloped regions.

IV. Conclusion :

The exercise carried out in the present paper implies that sex-discriminating aspects of rural technology in general and in the agricultural sector in particular are the major determinants of interstate variation in the access of females to the working force and hence in their relative contribution to the state domestic product. The technology-mix relevant for the rural and urban workers (Y) and sex-discriminating aspects of technology relevant for urban workers (X) are not the major factors determining the interstate variations in FW/TW . Although the industrial structure varies considerably across the states, its net effect on interstate variation in FW/TW is not very significant. Since the rural

technology in agricultural sector in the initial stage of economic development is expected to change against females who constitute marginal categories in the rural working force, it may not be interpreted as sex-discriminating tendencies, but rather as the symptoms of the economic progress and well-being itself.

References

1. Dholakia Ravindra H. (1985) : Regional Disparity in Economic Growth in India, Himalaya Publishing House, Bombay, Delhi, Nagpur.
2. Dholakia Ravindra H. (1985a) : "Role of Literacy and Industrial Structure in Displacement of Female Workers", in Economic & Political Weekly, Vol.xx, No.14, April 6.
3. Dholakia Ravindra H. (1985b) : "On Estimating Women's Contribution to National Product", Presented to the Conference of Indian Association in National Income & Wealth, New Delhi, Nov. 4-6. (Also IIMA Working Paper No.594).
4. Ghosh B. & S.K. Mukhopadhyay (1984) "Displacement of the Females in the Indian Labour Force", in Economic & Political Weekly, Nov. 24.
5. Govt. of India : Census of India 1981, Series 1 : India, Part IIB (i) Primary Census Abstract.

Average Contribution of Factors

States (1)	X ₁ (2)	X ₂ (3)	X ₃ (4)	X ₄ (5)	X (6)
1. Andhra Pradesh	0.0004	0.0020	0.0011	0.0033	0.0068
2. Bihar	-0.0006	-0.0019	-0.0009	-0.0043	-0.0077
3. Gujarat	-0.0001	-0.0002	-0.0004	-0.0040	-0.0047
4. Haryana	-0.0007	-0.0023	-0.0016	-0.0058	-0.0104
5. Himachal Pradesh	0.0012	-0.0014	-0.0008	0.0025	0.0015
6. Jammu and Kashmir	0.0000	-0.0024	-0.0011	-0.0037	-0.0072
7. Karnataka	0.0003	0.0016	0.0015	0.0064	0.0098
8. Kerala	0.0001	0.0003	0.0009	0.0138	0.0151
9. Madhya Pradesh	0.0005	0.0009	0.0004	0.0009	0.0027
10. Maharashtra	0.0006	0.0017	0.0001	0.0033	0.0057
11. Manipur	0.0080	0.0022	0.0113	0.0163	0.0378
12. Meghalaya	0.0022	0.0001	0.0002	0.0187	0.0212
13. Nagaland	0.0036	-0.0011	-0.0001	0.0000	0.0024
14. Orissa	-0.0004	-0.0004	-0.0002	0.0008	-0.0002
15. Punjab	-0.0011	-0.0039	-0.0018	-0.0068	-0.0136
16. Rajasthan	0.0004	-0.0010	-0.0011	-0.0052	-0.0069
17. Sikkim	0.0007	-0.0006	-0.0001	0.0082	0.0082
18. Tamil Nadu	0.0004	0.0015	0.0020	0.0069	0.0108
19. Tripura	-0.0006	-0.0020	-0.0004	0.0084	0.0054
20. Uttar Pradesh	-0.0010	-0.0028	-0.0015	-0.0077	-0.0130
21. West Bengal	-0.0005	-0.0022	-0.0012	-0.0052	-0.0091
22. Union Territories	0.0015	-0.0004	-0.0013	0.0019	0.0017

Contd.....

States	Y ₁ (7)	Y ₂ (8)	Y ₃ (9)	Y ₄ (10)	Y (11)
1. Andhra Pradesh	0.0000	0.0000	0.0000	0.0009	0.0009
2. Bihar	0.0001	0.0001	0.0002	0.0006	0.0010
3. Gujarat	-0.0001	-0.0001	0.0000	-0.0008	-0.0010
4. Haryana	-0.0001	0.0000	0.0000	0.0001	0.0000
5. Himachal Pradesh	0.0008	0.0002	0.0001	-0.0007	0.0004
6. Jammu & Kashmir	0.0000	-0.0006	0.0000	0.0002	0.0008
7. Karnataka	-0.0004	-0.0004	-0.0001	-0.0003	-0.0012
8. Kerala	-0.0001	0.0000	0.0006	0.0030	0.0035
9. Madhya Pradesh	0.0002	0.0002	0.0000	-0.0002	0.0002
10. Maharashtra	0.0001	-0.0001	-0.0001	-0.0008	-0.0009
11. Manipur	-0.0037	-0.0019	-0.0001	-0.0001	-0.0058
12. Meghalaya	0.0003	0.0002	0.0001	0.0013	0.0019
13. Nagaland	0.0003	-0.0007	-0.0002	0.0005	-0.0001
14. Orissa	0.0001	0.0002	0.0003	0.0013	0.0019
15. Punjab	-0.0001	-0.0002	0.0000	-0.0001	-0.0004
16. Rajasthan	-0.0001	-0.0002	0.0000	0.0004	0.0001
17. Sikkim	0.0018	0.0002	0.0000	0.0015	0.0035
18. Tamil Nadu	-0.0002	-0.0003	0.0000	-0.0004	-0.0009
19. Tripura	0.0006	0.0008	0.0002	-0.0003	0.0013
20. Uttar Pradesh	0.0000	-0.0003	-0.0001	0.0000	-0.0004
21. West Bengal	0.0001	0.0003	0.0001	-0.0003	0.0002
22. Union Territories	-0.0005	-0.0008	-0.0006	-0.0034	-0.0053

contd...

States	P ₁ (12)	P ₂ (13)	P ₃ (14)	P ₄ (15)	P (16)	R (17)	(FW/TW -0.20211) (18)
1. Andhra Pradesh	0.0248	0.0390	0.0020	0.0067	0.0725	0.0333	0.1136
2. Bihar	-0.0313	-0.0318	-0.0021	-0.0061	-0.0713	0.0237	-0.0544
3. Gujarat	-0.0111	-0.0049	-0.0025	-0.0026	-0.0211	-0.0094	-0.0361
4. Haryana	-0.0322	-0.0529	-0.0047	-0.0117	-0.1015	-0.0132	-0.1251
5. Himachal Pradesh	0.1032	-0.0273	-0.0035	-0.0099	0.0625	0.0021	0.0664
6. Jammu & Kashmir	-0.0290	-0.0421	-0.0025	-0.0110	-0.0846	-0.0181	-0.1104
7. Karnataka	0.0009	0.0234	0.0037	0.0084	0.0364	0.0056	0.0507
8. Kerala	-0.0189	-0.0001	0.0070	0.0193	0.0073	0.0150	0.0409
9. Madhya Pradesh	0.0438	0.0231	0.0012	0.0008	0.0689	0.0081	0.0799
10. Maharashtra	0.0633	0.0343	0.0005	-0.0006	0.0975	-0.0046	0.0975
11. Manipur	0.1295	0.0386	0.0282	0.0039	0.2002	-0.0122	0.2201
12. Meghalaya	0.1330	0.0058	0.0036	0.0194	0.1618	-0.0128	0.1720
13. Nagaland	0.2102	-0.0260	0.0023	-0.0069	0.1796	0.0297	0.2117
14. Orissa	-0.0339	-0.0151	0.0003	-0.0003	-0.0490	0.0069	-0.0403
15. Punjab	-0.0589	-0.0744	-0.0042	-0.0101	-0.1476	-0.0042	-0.1660
16. Rajasthan	-0.0016	-0.0085	-0.0037	-0.0040	-0.0178	-0.0310	-0.0556
17. Sikkim	0.1435	-0.0084	-0.0007	0.0070	0.1414	-0.0165	0.1365
18. Tamil Nadu	0.0203	0.0268	0.0024	0.0049	0.0544	0.0147	0.0790
19. Tripura	-0.0135	-0.0425	-0.0004	-0.0018	-0.0582	-0.0040	-0.0554
20. Uttar Pradesh	-0.0444	-0.0344	-0.0017	-0.0082	-0.0883	-0.0115	-0.1136
21. West Bengal	0.0400	-0.0535	-0.0009	-0.0007	-0.0951	-0.0001	-0.1041
22. Union Territories	0.0689	-0.0036	-0.0005	-0.0009	0.06398	-0.1020	-0.0416

Source : Appendix Table 1. below

Appendix Table : 1. Value of Different Factors by States in India, 1981

	(X ₁)	(Y ₁)	(P ₁)	(R ₁)	(X ₂)	(Y ₂)	(P ₂)	(R ₂)
	Cultivators				Agricultural Labourers			
	$\frac{UFW_i}{UW_i}$	$\frac{UW_i}{TW_i}$	$\frac{RFW_i}{RW_i}$	$\frac{TW_i}{TW}$	$\frac{UFW_i}{UW_i}$	$\frac{UW_i}{TW_i}$	$\frac{RFW_i}{RW_i}$	$\frac{TW_i}{TW}$
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1. Andhra Pradesh	.15148	.02408	.23137	.32736	.44747	.04957	.50991	.36789
2. Bihar	.04414	.01898	.08774	.43570	.18675	.04691	.06678	.35498
3. Gujarat	.09834	.02955	.13409	.37461	.30208	.05550	.35533	.22654
4. Haryana	.04563	.02935	.08609	.44676	.09472	.05088	.10570	.16112
5. Himachal Pradesh	.26414	.00685	.35391	.68084	.11358	.02922	.17030	.02724
6. Jammu & Kashmir	.10218	.02859	.10241	.56852	.04192	.13478	.05986	.03494
7. Karnataka	.12812	.04415	.16523	.38255	.41846	.07550	.47361	.26777
8. Kerala	.11333	.03268	.09134	.13064	.33849	.05104	.37673	.28233
9. Madhya Pradesh	.15486	.02152	.25882	.51964	.40102	.03944	.47544	.24239
10. Maharashtra	.16590	.02335	.33218	.35125	.44244	.05423	.51729	.26627
11. Manipur	.31958	.10476	.43058	.63596	.50508	.22343	.64910	.04991
12. Meghalaya	.41063	.00643	.42155	.62564	.32554	.03544	.41207	.09979
13. Nagaland	.52596	.00933	.53779	.72285	.16312	.14199	.16354	.00809
14. Orissa	.06656	.01636	.08475	.46939	.27849	.03203	.31736	.27758
15. Punjab	.01386	.03951	.00562	.35864	.04195	.07146	.04119	.22165
16. Rajasthan	.13260	.03019	.15959	.61589	.20367	.06774	.32139	.07322

Contd..

1	2	3	4	5	6	7	8	9
17. Sikkim	.21951	.00278	.44870	.60101	.22314	.02476	.31452	.03315
18. Tamil Nadu	.14160	.03451	.22174	.29218	.41238	.06461	.47764	.31733
19. Tripura	.02212	.00738	.13053	.43285	.06993	.01370	.19776	.24005
20. Uttar Pradesh	.02957	.02479	.07186	.58518	.07475	.06488	.19905	.15980
21. West Bengal	.04562	.01453	.04834	.29764	.09255	.02902	.15495	.25230
22. Union Territories	.27074	.04666	.41348	.15870	.27914	.14893	.35008	.03771
23. INDIA	.10589	.02557	.16285	.41580	.31922	.05021	.37710	.24942

contd...

States	(X ₃)	(Y ₃)	(P ₃)	(R ₃)	(X ₄)	(Y ₄)	(P ₄)	(R ₄)	(Z)
	Household Industries				Other workers				
	$\frac{UPW_i}{UW_i}$	$\frac{UW_i}{TW_i}$	$\frac{RFW_i}{RW_i}$	$\frac{TW_i}{TW}$	$\frac{UPW_i}{UW_i}$	$\frac{UW_i}{TW_i}$	$\frac{RFW_i}{RW_i}$	$\frac{TW_i}{TW}$	$\frac{FW}{TW}$
	10	11	12	13	14	15	16	17	18
1. Andhra Pradesh	.35781	.20510	.34164	.04702	.11637	.51216	.17912	.25773	.31567
2. Bihar	.11498	.14949	.18141	.02386	.06148	.46843	.07169	.18546	.14828
3. Gujarat	.20296	.31398	.15392	.02433	.07600	.65813	.10553	.37452	.16603
4. Haryana	.06818	.28757	.06563	.02806	.06313	.53144	.04718	.36406	.07700
5. Himachal Pradesh	.11492	.08217	.10598	.01836	.11540	.25062	.06602	.27356	.26853
6. Jammu & Kashmir	.16689	.32668	.19241	.05297	.07266	.47205	.05470	.34357	.09168
7. Karnataka	.36648	.34219	.41987	.04100	.13067	.59631	.19294	.30868	.25285
8. Kerala	.36438	.13684	.52561	.03689	.17976	.27435	.19895	.55014	.24297
9. Madhya Pradesh	.29155	.26648	.32259	.03522	.10094	.60023	.13320	.20275	.28201
10. Maharashtra	.25309	.37807	.30001	.02553	.11033	.70326	.12065	.35695	.29966
11. Manipur	.81566	.31360	.90904	.09679	.21217	.46654	.15839	.21734	.42226
12. Meghalaya	.27170	.25586	.51078	.00838	.22033	.46773	.27092	.26619	.37409
13. Nagaland	.22558	.49760	.45368	.00397	.09521	.38920	.07819	.26509	.41382
14. Orissa	.21698	.11943	.28715	.03302	.10110	.39958	.12334	.22001	.16177
15. Punjab	.06546	.36512	.06950	.02581	.06180	.60637	.05388	.39390	.03614
16. Rajasthan	.14383	.31340	.11932	.03258	.06290	.53717	.09489	.27831	.14650

contd..

1	10	11	12	13	14	15	16	17	18
7. Sikkim	.23322	.35687	.23333	.01076	.14746	.38575	.16640	.35508	.33864
8. Tamil Nadu	.38834	.40491	.36918	.04721	.13081	.62138	.16405	.34328	.28115
9. Tripura	.18679	.09004	.25698	.01436	.15716	.29312	.11544	.31274	.14673
10. Uttar Pradesh	.11751	.36311	.20481	.03704	.04410	.58465	.05012	.21798	.08663
11. West Bengal	.12463	.26499	.23923	.03520	.07051	.60133	.12112	.41486	.09799
12. Union territories	.12747	.70170	.24378	.01700	.09923	.85106	.11885	.78659	.16048
13. INDIA	.24699	.29546	.27632	.03465	.09488	.57877	.12591	.30013	.20211

Source : Census of India 1981; Part II B (i) : Primary Census Abstract.

TABLE 2

Classification of States in relation to National average in different factors

	Y (+)		Y (-)	
	X (+)	X (-)	X (+)	X (-)
$\frac{P(+)}{R(+)}$	Andhra Pradesh, Himachal-Pradesh, Kerala, Madhya-Pradesh;		Karnataka, Nagaland Tamil Nadu	
$R(-)$	Meghalaya, Sikkim		Maharashtra, Manipur Union Territories.	
$\frac{P(-)}{R(+)}$		Bihar, Orissa;		
$R(-)$	Tripura	Haryana, Jammu & Kashmir; Rajasthan; West-Bengal.		Gujarat, Punjab Uttar Pradesh

Source: Table 1

TABLE 3
 C.V. for Expected $\frac{(FW)}{(TW)}$ Due ^{to} Variation in Different Factors

(in %)			
Factors	<u>C.V. for Expected FW/TW</u>		
	Partial Approach	Total Approach	52.03-col. 3.
1	2	3	4
X ₁	0.69	51.40	+0.63
X ₂	0.94	51.42	+0.61
X ₃	0.79	51.19	+0.84
X ₄	4.15	50.18	+1.85
Y ₁	0.25	52.15	-0.12
Y ₂	0.35	52.10	-0.07
Y ₃	0.10	52.03	00.00
Y ₄	0.69	51.82	+0.21
P ₁	28.10	32.28	+19.75
P ₂	20.78	42.21	+ 9.82
P ₃	2.27	50.28	+ 1.75
P ₄	3.62	49.84	+ 2.19
R	14.69	48.63	+ 3.40
FW/TW	52.03	52.03	0.00

Source: Appendix Table 1 below.

**VIKRAM SARABHAI LIBRARY
INDIAN INSTITUTE OF MANAGEMENT**

Vastrapur, Ahmedabad-380015.

This book must be returned by the date stamped below

આવકો ધરાવે છે FOR REFERENCE ONLY	આવકો ધરાવે છે NOT TO BE ISSUED