# SEGREGATED AND INTEGRATED OCCUPATIONS: INDIA AFTER TWO DACEDES OF LIBRATISATION 

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During the past few decades, women have entered the labour market in large numbers' this is as it should be. Women ought to be provided free space to take equal part in development fully. This is also pre-condition for the advancement of the country. However, there is still wide gender segregation in education, and work participation, employment and occupational pattern all over the world.

Women are suffering two-fold. As women in developing countries move into the work force, their domestic responsibilities are not narrowed. Women have to do two full time jobs. One in a paid labour market, where they are paid lesser than men for equal work, the second is in the home where they are unpaid.

The greatest difference in work situation between the sexes is the difference in their distribution into occupational categories. The objective of this paper is to document and analyze the trend of occupational sex segregation in India on many different levels: on the level of whole labour force, rural and urban labour force, Pre- liberalization and after two decades of liberalization. The study is important because there is drastic change in economy, labour market, working conditions and women work participation after reforms.

Results indicate that development and liberalization process resulted to significant decrease in level of occupational sex segregation in urban as well as in rural India. In India, the literacy level and life expectancy of women improved a lot but female work participation is still less than male work participation. Sex segregation in labour market still exist in India. Females are more into traditionally lower paying occupations and bound into their traditional image of home maker. So, majority of the women's contribution to economic productivity of the nation is low.

It is hypothesized that:

1. Female labour force participation increases with increase in trade openness. The Heckscher-Ohlin theory of trade also hypothesizes that free trade causes an increase in demand for (goods produced by and hence) the abundant factor of production in each
country. In developing countries (like India), less skilled labor is the abundant factor and i.e. women.
2. Female labour force concentrated in fields that suit to her traditional image of homemaker.
3. Despite a downward trend, there is still a great deal of sex segregation in paid jobs.
4. Level of sex segregation is much higher in urban areas than in rural areas. Because Segregation declines with economic development.
5. Women are largely underrepresented in senior management positions (KHAN 1993).
6. Women would rationally choose occupations with relatively high starting pay, relatively low returns to experience, and relatively low penalties for temporary withdrawal from the labour force - including occupations which are flexible in terms of entry and working hours (POLACHEK 1981; JONSSON 1999; BELLER 1982).
7. Occupational concentration is much higher among women than men and Some occupations are clearly female dominated and other are clearly male dominated (LEINIO 1988)
8. Gender segregation can; be manifested in many complex and multi-level ways on the labour market. Horizontal segregation describes the difference between women's and men's jobs, occupations and industries, and in the division between the public and private sectors. Vertical segregation describes the difference between women's and men's hierarchical positions career advancement and remuneration. Gender segregation, then, very closely relates to the discussion about gender inequality.

## CONCEPTUAL FRAME WORK AND METHODOLOGY

The analysis is based on secondary data obtained from Census of India and NSSO. For measuring sex segregation concentration, dissimilarity, and association indices are used. For a comprehensive analysis top ten occupations for total workers, male workers and female workers are identified.

Measurement of level of segregation by sex is still a matter of great controversy. Many researchers have stated that no single summary index can capture all relevant aspects of levels of segregation in the labour market or that no index is right for all proposes (HAKIM 1993a; 1993B; 1992; JACOBS 1993; JACOBS 1989; WATTS 1993, 1998; CHARLES AND

GRUSKY 1998; 1995; ABRAHAMSON AND SIGELMAN 1987) The most significant theories applied to the question of gender inequality in the labour market are either actionoriented theories such as the human capital theory or theories with a more structural approach. These frameworks are mainly concerned with people's choice of occupation or with barriers, which limit women's opportunities to choose an occupation in a society (NERMO 2000).

Underneath we present the methodology used to measure occupational sex segregation.

## DUNCAN AND DUNCAN DISSIMILARITY INDEX (D)

Most research on occupational sex segregation has the index of dissimilarity (D), proposed by DUNCAN \& DUNCAN (1955). It compares male and female along all occupations. This index (D) measures the main dimensions of segregation: the degree to which two groups are dissimilarly distributed over a set of categories i.e. it represents the proportion of women who would have to change occupations if women were to be distributed in the same manner as men. The dissimilarity index is based on comparing the distribution of women and men across all occupations. This index is half a sum of the absolute differences between the proportion of female labour force in a certain occupation and the male labour force in that occupation. D is symmetrical, which means that the same proportion of men would have to change occupations if men were to be distributed in the same manner as women. The value assumed by D varies from 0 to 100 . The value 0 means no differences between occupational distribution of men and women and the value 100 means there is no overlap between the occupational distributions of the two groups. This index can be expressed through equation (i):

$$
\begin{aligned}
& \text { N }
\end{aligned}
$$

$$
\begin{aligned}
& \mathrm{j}=1
\end{aligned}
$$

Where $P_{i j}$ is the percentage of group $i$ in the occupation $j$ and $P_{k j}$ is the percentage of group k in occupation $\mathrm{j}, \mathrm{N}$ is total number of occupations.

There has been a lot of debate on the suitability of this index (e. g. HAKIM 1992; 1993b; CHARLES AND GRUSKY 1995). However, there are some potential limitations in using the dissimilarity index (D) to measure segregation within occupations.

CORTESE, FALK, AND COHEN (1976) explores the mathematical properties of Duncan and Duncan's index which lead to difficulties of interpretation. The major objections of the index of dissimilarity follow:

1. The expectation of 'evenness' as the opposite of segregation is not as useful in most cases as the concept of 'randomness'
2. $D$ is affected by the difference in the proportion of the minority in the population, thus preventing intercity comparisons.
3. D is affected by the size of the area unit of analysis.
4. The present interpretation of $D$ is misleading, since it does not include the concept of replacement.

CORTESE, FALK, AND COHEN (1976) feel that the objections to D, which have been voiced, are not minor in their effect on the use of the index.

One another well-documented shortcoming of the index of dissimilarity is that it does not produce a consistent level and trend of segregation among different regions during the same period. It is not entirely margin free, which is of interest when we want to measure differences in segregation between different regions. The same is true for comparison over time. Through the dissimilarity index is invariant for multiplicative shifts in the sex composition of the labour markets, but not for similar shifts in the occupational structure (NERMO 2000). For instance, if many workers are in the occupations containing relatively few individuals, may be biased upward simply because of the small numbers involved (CORTESE, FRANK, \& COHEN 1976). Many studies of sex segregation try to overcome this weakness by using a size-standardized version of the dissimilarity index (Ds) as a complement (JACOBS AND LIM 1992; JACOBS 1989; CHARLES AND GRUSKY 1995).

## SIZE STANDARD DISSIMILARITY INDEX (DS)

The size standardized dissimilarity index is the absolute measure of segregation that controls the effect of the occupational structure treating all occupations as if they have the same size, calculated over a fixed number of comparable occupational categories (CHARLES, GRUSKY, 1995). The difference between D and Ds is that the latter is not
sensitive to the structural changes; that is changes over time in a large occupation are of the same importance for the level of segregation as changes in a smaller one. This allow us to determine what the level of segregation would have been if the relative size of different occupations had remained constant over time (JACOBS AND LIM 1992; JACOBS 1989;). As D, 0 represents perfect integration and 100 represents perfect segregation. This index can be expressed through equation (iii): -

$$
\begin{aligned}
& \mathrm{N} \\
& \mathbf{D s}=1 / 2 \sum\left(\left[(\mathbf{F j} / \mathbf{P j}) / \sum(\mathbf{F j} / \mathbf{P j})-(\mathbf{M j} / \mathbf{P j}) / \sum(\mathbf{M j} / \mathbf{P j})\right] * \mathbf{1 0 0}\right) \cdots-\cdots(\mathbf{-} \mathbf{( i i i )}) \\
& \mathbf{J}=\mathbf{1}
\end{aligned}
$$

Where Pj refers to the total number of males and females in the $\mathrm{j}^{\text {th }}$ occupation (i.e. Pj $=\mathrm{Fj}+\mathrm{Mj}$ ), Fj is the total number of females in the occupation $\mathrm{j}, \mathrm{Mj}$ is the total number of males in the occupation j and N refers to total number of occupations.

This type of standardization has been applied by PRESSER AND KISHOR 1991; JACOBS 1989; AND JACOBS AND LIM 1992). However, the use of Ds2 is far from costfree since it lacks one quality that the original dissimilarity index possesses, that is, the index of dissimilarity is invariant under multiplicative transformations of the sex ratio but not under multiplicative transforms of the occupational margins. At the same time, the sizestandardized index successfully eliminates the latter dependence, but only at the cost of losing the scale invariance that characterized the original index (CHARLES AND GRUSKY 1995; GRUSKY AND CHARLES 1998; HAKIM 1993; JACOBS 1993; WATTS 1993, 1998; WEEDEN 1998; CHANG 2000).

HAKIM (1992) discovered that values of indices vary with the degree of detail in the occupational classification, the greater the number of occupational classification, and the higher the level of segregation and vice versa. The value of index may also vary according to the base of population selected and the fact weather the index takes into account changes in labour force and occupational structure. Despite the fact that two different regions share the same level of segregation in same specific time, the patterns, content and meaning of segregation might vary strongly between these two regions.

Such summery measures provide convenient snap shots of the distribution of men and women across occupations, at best they leave many interesting issues unanswered, and at
worst they provide misleading portrayals of women's economic status across societies.
(CHANG 2000). The choice among various segregation indices has become the subject of much debate

## ASSOCIATION INDEX UNDER STRUCTURED LOG LINEAR MODEL (A)

In recent years the full potential of log linear modeling has been put forward as an alternative to more traditional ways of studying sex segregation (CHARLES 1992; CHARLES AND GRUSKY 1995, 1998) the advantage of using log linear models instead of various versions of dissimilarity index is that it provides a margin free study of net of variations in the association between sex and occupational structure. The association index is an indicator of occupational sex segregation that intends to control the effects of sex composition and occupation structure of the labour force. The index is derived from saturated log linear models and the interaction terms are used to generate a segregation index not affected by variation of the sex ratio and of the occupational distribution. Three indexes are derived to compute the Association index (A) $\mathrm{Rj}, \mathrm{Vj}$ and R .

The index Rj is the average of the logarithms of the sex ratios among the occupational categories and expressed through equation (iv):

$$
R j=1 / n \sum \log (\mathbf{F j} / \mathbf{M j})-\cdots--\cdots--(i v)
$$

The Vj index is the deviation of the ratio of women on men in occupational group j in relation to the mean ratio of all groups, that is the deviation of the group in relation to the female representation. It can be expressed through equation (v): -

$$
\mathbf{V i}=\left\{\log (\mathbf{F i} / \mathbf{M i})-1 / n \sum \log (\mathbf{F i} / \mathbf{M i})\right\}-\cdots--\cdots---(v)
$$

R is the average of the sum of the deviations of each group in relation to the representation of the sexes. Integration requires $R=0$ and $\exp { }^{\circledR}=1$. $R$ can be expressed through equation (vi): -

$$
R=1 / n \sum\left|\left\{\log (F i / M i)-1 / n \sum \log (F i / M i)\right\}\right|-\cdots--\cdots----(v i)
$$

The index $A$ is a derived from $R$, when the square root of this indicator is exponentialized. $\mathrm{A}=1$ in a perfectly integrated labour market. A can be expressed through equation (vii):

$$
\begin{equation*}
\mathbf{A}=\mathbf{e}^{\left[1 / \mathrm{n} \sum\left\{\log (\mathbf{F j} / \mathbf{M j})-1 / \mathrm{n} \sum \log (\mathbf{F j} / \mathbf{M j})\right\} 2\right] 1 / 2} \tag{vii}
\end{equation*}
$$

Where Fj is the total number of females in the occupation $\mathrm{j}, \mathrm{Mj}$ is the total number of males in the occupation j and n refers to total number of occupations.

However, log-linear modeling presents only half of the sex segregation story, since it controls for differences important for variations in the absolute level of sex segregation. For example, a margin measure suggests that a small occupational category has the same weight as larger ones (NERMO 2000).

## TOTAL OCCUPATIONAL CONCENTRATION

As a complement to the dissimilarity index, Concentration index is used to study the distribution of women and men in different occupations in the labour market (LEINIO 1988). The concentration index C is calculated separately for women (FC) and men (MC). It measures the extent, for instance, women's work is concentrated in certain occupations in the labour market. Thus, the index (FC) gives the proportion of women who would have to change the occupation in order for all women to be equally distributed in all occupational categories in the labour market. It can be represented through following equations (viii) and (ix):

Where Fj is the total number of females in the occupation $\mathrm{j}, \mathrm{Mj}$ is the total number of males in the occupation j and M and F are total number of male and female workers respectively,

As revealed by above discussion no single method can capture all relevant aspects of sex segregation in the labour market. All methods have some qualities and some limitations. To capture all features of sex segregation in India all these methods are used by more-or-less.

## RESULTS

## 1 CONCENTRATION

Concentration index shows the degree of concentration. It is hypothesized that female are much more concentrated in few occupations than men. Male and female occupational concentration (FC and MC respectively) is not very high in India. In case of census data, it can be seen in TABLE 1 that female concentration decreased during 1991-2001 in urban workers. In urban areas, female concentration was lesser than Male concentration in2001 that is after two decades of liberalization otherwise female occupational concentration are always greater than male occupational concentration. The concentration index varies between 4.33 to 6.82 percent in case of female workers and 3.75 to 4.53 percent in case of male workers.

In case of NSSO data 1993-1994, Female Concentration was 4.33 percent and 36.16 percent in urban areas and rural areas respectively. While in $68^{\text {th }}$ round, Female Concentration was 8.17 percent, and 17.97 percent in urban areas and rural areas respectively. A very high decrease in rural female concentration index can be observed. Male Concentration has increased in urban areas. In $50^{\text {th }}$ round Male Concentration was 2.14 percent in urban areas, and 24.58 percent in rural areas. While in $68^{\text {th }}$ round Male Concentration was 11.64 percent in urban areas and 24.98 percent in rural areas.

TABLE 1: OCCUPATIONAL CONCENTRATION / SEGREGATION

| CENSUS DATA |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1991 |  | D | Ds2 | A | FC | MC |
|  | ALL AREAS | 42.11 | 40.84 | 3.18 | 5.36 | 3.92 |
|  | URBAN | 42.09 | 33.84 | 3.12 | 6.54 | 4.24 |
|  | RURAL | 42.11 | 44.87 | 3.41 | 5.75 | 3.84 |
| 2001 | ALL AREAS | 44.33 | 44.74 | 3.33 | 4.81 | 4.03 |
|  | URBAN | 41.96 | 42.29 | 3.19 | 4.33 | 4.53 |
|  | RURAL | 44.93 | 46.27 | 3.69 | 6.82 | 3.75 |


|  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| NSSO DATA |  |  |  |  |  |  |
| $\begin{aligned} & 50^{\text {th }} \text { Round } \\ & (1993-1994) \end{aligned}$ | ALL AREAS | 41.53 | 72.06 | 11.81 | 21.58 | 7.17 |
|  | URBAN | 49.73 | 74.66 | 16.23 | 4.33 | 2.14 |
|  | RURAL | 21.21 | 82.50 | 26.79 | 36.16 | 24.58 |
| $\begin{aligned} & 68^{\text {th }} \\ & \text { Round(2011- } \\ & \text { 2012) } \end{aligned}$ | ALL AREAS | 21.89 | 50.77 | 3.09 | 15.71 | 23.07 |
|  | URBAN | 39.89 | 61.74 | 3.79 | 8.17 | 11.64 |
|  | RURAL | 19.80 | 51.61 | 3.29 | 17.97 | 24.98 |

## 2 LEVEL OF SEGREGATION

It is hypothesized that segregation declines with economic development and liberalization. Duncan's dissimilarity index D tells the intensity or level of segregation calculated for both Census and NSSO data. In case of NSSO data TABLE 1 shows a decrease in occupational sex segregation during 1993-2013 for both urban and rural areas. In case of rural area 21.21 percent (D) of men or women would have to change occupations to achieve perfect integration in 1993, whereas 19.80 percent (D) of men or women would have to change their occupations to achieve the perfect integration in 2013. In case of urban area, in 1993, 49.73 percent (D) men or women would have to change their occupations to be distributed in the same manner, while in 201339.89 percent (D) men or women would have to change their occupations to be distributed in the same manner.
census data not showing any significant change in value of dissimilarity index during 1991-2001. Value of D varies between 42.09 to 44.93 .

The hypothesis is strongly supported in case of NSSO data for rural as well as urban areas of India. Level of segregation is much higher in urban workers than in rural workers.

But comparison over time and place using dissimilarity index is affected by the variations in relative size of occupations. To overcome this inadequacy, size standardized dissimilarity index (Ds2) is used which measures segregation by giving equal weight to all occupations.

In 1991, Ds2 is higher in urban areas than in rural areas whichever data is used. For census data in Ds2 was 44.84 percent, and 33.84 percent in urban workers and rural workers respectively and for NSSO 82.50 percent and 74.66 percent in urban workers and rural workers respectively. Thus, difference in level of segregation between urban areas and rural areas was between 8 to 11 percent point. Segregation level seems to be decreasing significantly specially in case of NSSO data rural areas in 2013 as compared to 1993 in both rural as well urban areas. In 2013, Ds2 decreased to 20.76 percent and 12.92 percent in urban areas and rural areas respectively.

In case of Census data, the average annual rate of change in index of segregation shows a gradual decline in level of segregation of 0.13 percent point per year in urban areas and an increase of 0.28 percent point per year in rural areas during 1901-2001.

## TABLE 2 AVERAGE ANNUAL RATE OF CHANGE IN LEVEL OF SEGREGATION.

| CENSUS DATA |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| URBAN |  |  | RURAL |  |
|  | 1991 | 2001 | 1991 | 2001 |
| D | 42.09 | 41.96 | 42.11 | 44.93 |
| DS | 33.84 | 42.29 | 44.87 | 46.24 |
| AVERAGE ANNUAL RATE OF CHANGE |  |  |  |  |
| D |  | -0.013 |  | 0.28 |
| DS |  | . 84 |  | 0.14 |
| NSSO DATA |  |  |  |  |
| URBAN |  |  | RURAL |  |
|  | 1993 | 2013 | 1993 | 2013 |
| D | 49.73 | 39.83 | 21.21 | 19.80 |


| DS | 74.66 | 61.70 | 82.50 | 51.61 |
| :--- | ---: | ---: | ---: | ---: |
| AVERAGE ANNUAL RATE OF CHANGE |  |  |  |  |
| D |  | $-\mathbf{0 . 9 9}$ |  | 0.14 |
| DS |  | -0.13 |  | 0.32 |

In case of NSSO data, average annual rate of change in index of segregation shows decrease of 0.99 percent point per year in urban areas and increase of 0.14 percent point per year in rural areas. As revealed by TABLE 2 mixed effect is negligible during 1993-2013. In urban areas, 0.13 percent point decline and in rural areas 0.32 percent point increase came due to change in sex composition within occupations.

The log-li near index A indicates the factor by which the women are disproportionably represented in the average occupation. If census data is used in 1991, this factor was the highest in rural areas (3.41) followed by urban areas (3.12). In 2001, for rural areas this factor was 3.69 for and urban areas 3.19. If NSSO data is used in 1993, this factor was 16.23 for urban areas and 26.79 for rural areas. In 2013, for urban areas this factor was decreased to 3.79 and for rural areas to 3.29. It should be noted that the more segregated the labour market, the higher the value of A and the possible minimum value of the index A is one.

## 3.TOP TEN MALE OCCUPATIONS RURAL

In 1993 the highest number of male workers in rural areas of India was cultivators (owners) (39.82). About 29.02 percent were agriculture labourers while in 2013, market oriented animal producers and related workers were at first position ( $44.61 \%$ ) followed by manufacturing labourers (15.79\%), mining and constriction labourers (13.77). (Table 3)

## TABLE 3.TOP TEN MALE OCCUPATIONS (RURAL)

| 68th Round NSSO (2013-14) | $\mathrm{Mi} / \mathrm{M}^{*} 100$ | 50th Round (1993-94) | $\mathrm{Mi} / \mathrm{M}^{*} 100$ |
| :--- | ---: | :--- | ---: |
|  |  |  |  |
| Market -Oriented Animal <br> Producers and Related Workers | 44.61 | Cultivators (Owners) | 39.82 |
| Manufacturing Labourers | 15.79 | Agricultural Labourers | 29.02 |
| Mining and Construction <br> Labourers | 13.77 | Merchants and Shopkeepers, <br> Retail Trade | 3.38 |

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| Metal Moulders, Welders, <br> Sheet Metal Workers, <br> Structural Me |  |  |  |
| :--- | ---: | :--- | ---: |
| Miners, Shot -Firers, Stone <br> Cutters and Carvers | 6.18 | Livestock Farmers | 1.94 |
| Production and Operations <br> Department Managers | 3.56 | Workers Not Reporting any <br> occupation | 1.75 |
| Market- Oriented Crop and <br> Animal Producers | 2.39 | Teachers, Primary | 1.56 |
| Stall and Market Salespersons | 1.36 | Clerks, General | 1.29 |
| Building Finishers and Related <br> Trades Workers | 0.68 | Tram Car and Motor <br> Vehicle Drivers | Construction Workers, <br> N.E.C. |
| Agricultural and Other Mobile <br> Plant Operators | 0.53 | Teachers, Higher Secondary <br> \& Secondary Schools | 0.99 |

## 4. TOP TEN FEMALE OCCUPATIONS RURAL

In rural areas, all most 95 percent female workers were confined with only ten occupations in 1993 as well as in 2013. But NSSO data shows major change in choices of occupation for both males and females during last two decades in 1993 the highest number of female occupies agricultural labourers ( $43.70 \%$ ). Cultivators were at second number among female workers. About 41.07 percent of female workers were confined with this occupation. That is more than 80 percent of female were confined in only two occupations. In 2013 market oriented animal producers and related works holds first position with 32.61 percent of female work force followed by market oriented crop and animal producers (15.33\%), mining and construction labourers (14.96\%), and manufacturing labourers (14.30\%). (Table 4)

TABLE 4: TOP TEN FEMALE OCCUPATIONS (RURAL)

| 68th Round NSSO (2013-14) | Fi/F*100 | 50th Round (1993-94) | Fi/F*100 |
| :--- | ---: | :--- | ---: |
| Market -Oriented Animal <br> Producers and Related Workers | 32.61 | Agricultural Labourers | 43.70 |
| Market- Oriented Crop and <br> Animal Producers | 15.33 | Cultivators (Owners) | 41.07 |
| Mining and Construction <br> Labourers | 14.96 | Cultivators, N.E.C | 3.16 |
| Manufacturing Labourers | 14.30 | Merchants and Shopkeepers, <br> Retail Trade | 1.69 |
| Metal Moulders, Welders, <br> Sheet Metal Workers, <br> Structural Me | 6.72 | Livestock Farmers | 1.42 |

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| Miners, Shot -Firers, Stone <br> Cutters and Carvers | 3.18 | Bidi Makers | 1.09 |
| :--- | ---: | :--- | ---: |
| Pelt, Leather and Shoe Making <br> Trades Workers | 2.72 | Teachers, Primary | 0.80 |
| Wood Treaters, Cabinet <br> Makers and Related Trades | 1.64 | Construction Workers, N.E.C. | 0.75 |
| Production and Operations <br> Department Managers | 1.51 | Dairy Farmers | 0.68 |
| Stall and Market Salespersons | 1.25 | Workers Not Reporting any <br> occupation | 0.58 |

## 5. TOP TEN MALE OCCUPATIONS (URBAN)

In case of urban India, 36.52 percent of working males in 1993 was working in ten occupations (TABLE 5). The highest number of workers was Merchants and Shop Keepers, engaged in Retail Trade ( $8.96 \%$ ). About 4.75 percent were clerks. Working proprietors, directors and managers, electricity gas and water were at third position with 3.81 percent of total male labour force. In 2013, market oriented animal producers and related workers were at first position ( $29.94 \%$ ) followed by productions an operations department managers (9.42 \%), mining and construction labourers (6.34\%), and manufacturing labourers (6.34\%). More than 70 percent male workers were working in top ten occupations

TABLE 5: TOP TEN MALE OCCUPATIONS URBAN

| 68th Round NSSO (2013-14) | $\mathrm{Mi} / \mathrm{M}^{*} 100$ | 50th Round (1993-94) | $\mathrm{Mi} / \mathrm{M}^{*} 100$ |
| :--- | ---: | :--- | ---: |
| Market -Oriented Animal <br> Producers and Related Workers | 29.94 | Merchants and Shopkeepers, <br> Retail Trade | 8.96 |
| Production and Operations <br> Department Managers | 9.42 | Clerks, General | 4.75 |
| Mining and Construction <br> Labourers | 6.34 | Working Proprietors, <br> Directors \& Managers, <br> Electricity, Gas and Water | 3.81 |
| Manufacturing Labourers | 6.34 | Tram Car and Motor Vehicle <br> Drivers | 3.78 |
| Stall and Market Salespersons | 6.29 | Workers Not Reporting any <br> occupation | 3.40 |
| Metal Moulders, Welders, Sheet <br> Metal Workers, Structural Me | 3.48 | Salesmen, Shop Assistants <br> and Demonstrators | 2.91 |
| Market- Oriented Crop and <br> Animal Producers | 2.99 | Weavers and Related <br> Workers | 2.41 |
| Business Services Agents and <br> Trade Brokers | 1.96 | Loaders and Unloaders | 2.22 |
| Miners, Shot -Firers, Stone | 1.96 | Cultivators (Owners) | 2.20 |


| Cutters and Carvers |  |  |  |
| :--- | ---: | :--- | ---: |
| Business Professionals | 1.87 | Agricultural Labourers | 2.07 |

## 6. TOP TEN FEMALE OCCUPATIONS URBAN

In urban area more than fifty percent of total female labour force was working in ten occupations in 1993 in 2013 this figure rose to 76.54 percent. In 1993 highest percentage of female were domestic servant ( $11.24 \%$ ) followed by agricultural labourers ( $10.43 \%$ ), clerks ( $6.68 \%$ ) and merchant and shopkeepers retail trade ( $6.50 \%$ ). While in 2013 pelt, leather and shoe making trades workers were at first position followed by market oriented animal producers and related workers (15.13\%), market oriented crop and animal producers ( $10.56 \%$ ) and mining and constriction labourers (7.95\%) (Table 6)

## TABLE 6: TOP TEN FEMALE OCCUPATIONS (URBAN)

| 68th Round NSSO (2013-14) | Fi/F*100 | 50th Round (1993-94) | $\mathrm{Fi} / \mathrm{F}^{*} 100$ |
| :--- | ---: | :--- | ---: |
| Pelt, Leather and Shoe Making <br> Trades Workers | 15.81 | Domestic Servants | 11.24 |
| Market -Oriented Animal <br> Producers and Related Workers | 15.13 | Agricultural Labourers | 10.43 |
| Market- Oriented Crop and <br> Animal Producers | 10.56 | Clerks, General | 6.68 |
| Mining and Construction <br> Labourers | 7.95 | Merchants and Shopkeepers, <br> Retail Trade | 6.50 |
| Production and Operations <br> Department Managers | 7.86 | Teachers, Primary | 4.37 |
| Stall and Market Salespersons | 5.73 | Workers Not Reporting any <br> occupation | 4.37 |
| Building Caretakers, Window <br> and Related Cleaners | 4.10 | Bidi Makers | 3.69 |
| Wood Treaters, Cabinet Makers <br> and Related Trades | 3.85 | Tailors and Dress Makers | 3.12 |
| Business Professionals | 3.16 | Cultivators (Owners) | 2.87 |
| Printing and Related Trades <br> Workers | 2.39 |  <br> Secondary Schools | 2.31 |

## CONCLUSION

1. Women are choosier then men in fix a job.
2. However, occupational concentration is not very much high in India among males as well as females but females are much more concentrated in few occupations than males. As
hypothesised in urban area female as well as male concentration increased significantly during 1993-2013
3. Occupational sex segregation is higher in urban areas where most of the female workers are working in service sector then in rural areas where majority of female workers are working in primary sector like agriculture and animal husbandry. However, it is decreasing during in both rural and urban areas. More disaggregated the classification higher will be the segregation.
4. Most of the change in level of occupational sex segregation is due to change in sex composition within occupations in both rural and urban areas.
5. Women chose some different type of occupations which suits to her image of homemaker e. g. teaching, farm workers, nursing, tailoring, cleaning etc. while boys mostly chose some other type of occupations e.g. protective services, construction workers, transport equipment operators etc.

To make women empowered of making choice, quality higher education and opportunity to get training in skills and professions in demand in market should be provided them. It is found that women are less mobile than men. Parents would not like to send them far from their home for education thus higher education and training of most demanding professions must be assessable to all even in remote areas. New emerging techniques should be recognized and training infrastructure has to be created, educate women in these new fields so that they can get higher paid employment. Parents, teachers and guidance counselor should encourage girls to go for new emerging nontraditional techniques and jobs, which are in demand in market. Planners and policy makers should take measures to break glass-ceiling and absorb more women in better paying top and managerial level jobs.

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