

# THE INTERNATIONAL JOURNAL OF HUMANITIES & SOCIAL STUDIES

## Wage Dispersion and the Loss-Wage Model: The Case of Bowbazar Gems and Jewellery Industry in Kolkata

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### **Abstract:**

*The wage determination in the formal set up and fixation of wages in the mainstream mechanism does not appear with informal production of the Gems and Jewellery industry. In absence of effective machinery for settlement of disputes for wage determination, the industry has introduced an informal mode of operation, i.e. the loss-wage model. The application of the model has improved industrial relations and phenomena improvement in industrial dispute mostly over wages leading to substantial gain in production. This paper is an attempt to study how the process of wage determination and forms of wages in case of informal industries may solve such disputes. The study is confined to the empirical analysis of the Gems&Jewelleryindustryof Bowbazarin West Bengal. The analysis attempts to detect intra-location wage variation within the industry and the reason for such spatial wage dispersion with the help of the loss-wage model. Such a wage determination often is outside the conventional institutional frame of the mainstream market, collective bargaining or influences of trade unions Therefore, multiple modes of wage payments are observed as a vital consequence. The Gems and Jewellery industry exhibits a unique mode of wage payment in the form of wage-loss which is the aim of this paper to be explored.*

**Keywords:** Agglomeration, location, core-periphery, increasing returns, labour mobility.

**JEL Classification:** J31, J61, R11, R12, R23.

### **1. Introduction**

The wage determination in the formal set up and fixation of wages in the mainstream mechanism are not very old phenomena in India. There was very little effective machinery until 2nd world war for settlement of disputes for wage determination. After independence, industrial relations become a major issue and there was phenomena increase in industrial dispute mostly over wages, leading to substantial loss of production. Since industrial peace is essential for progress on industrial as well as overall economic point of view, the Central Government convened in 1947, and a tripartite conference consisting of representatives of employers, labour and government. The Government of India formulated industrial policy resolution in 1948 where it has mentioned to items which have bearing on wages statutory fixation of minimum wages promotion of fair wages.

This paper is an attempt to study how the process of wage determination and forms of wages vary across locations in case of informal industries. The study is confined to the empirical analysis of the Gems&Jewelleryindustry in West Bengal. The analysis attempts to detect intra-location wage variation within the industry and the reason for such spatial wage dispersion. The wage determination often is outside the conventional institutional frame of the mainstream market, collective bargaining or influences of trade unions. Several locational factors become apparent here such as labour mobility, skill formation, knowledge spillover<sup>1</sup> and increasing returns, thereby affecting labour productivity and labour market flexibility. Sometimes space-specific characters also influence wage rate determination. Therefore, multiple modes of wage payments are observed as a vital consequence. The Gems and Jewellery industry exhibits a unique mode of wage payment in the form of wage-loss which is the aim of this paper to be explored.

### **2. The Gems and Jewellery Industry in India**

The Gems and Jewellery industry in India encompasses various kinds of jewels, including gold, coloured gemstones, costume jewellery, platinum and diamonds. The sector is expected to register a compound annual growth rate (CAGR) of 13 per cent during 2011-13, according to a report "Indian Gems and Jewellery Market Forecast to 2013", by a research firm RNCOS (Research and Consultancy Solution, 2010). The decade before Globalization in India has reported a CAGR of 5-10 percent, as reported by the GJEPC (Gold & Jewellery Export Promotion Council, 2010). The domestic jewellery market was worth US\$ 16-18 billion during 2010, as these reports convey. As far as exports are concerned, this sector constitutes more than 12 per cent of the total exported

products at present. The estimate is that by the year 2015 the Gems and Jewellery sector in India will earn about US\$ 25-35 billion in form of export revenue.

About 80 per cent of the Gems and Jewellery industry in India is dominated by gold and the rest is controlled by diamond and gemstone industry. In 2007 gold had a market share of US\$ 12.24 billion (Rs. 550 crores), while diamond had a market share of US\$ 2.56 billion (Rs. 115 crores). People now prefer to invest their money in gold as a future recourse to counter tough times. In the year 2008, India had a gold consumption rate of 24 per cent, (RNCOS report). This has made the country a leader among the gold consuming nations with the consumption amounting to about 16,000 tons - the other key markets being Japan, China, Turkey, Italy, USA and UK.

Besides this, India has evolved as a great place for diamond processing also. Presently India is the major polishing and cutting hub for diamonds. India is the third largest consumer of polished diamonds. The high pace of urbanization and rapidly growing middle class income group in India has led Indian consumerism to new heights, particularly in the growth of the diamond jewellery sector. About 91.67 per cent diamonds sold around the world are processed in India regardless of the place they are mined.

### 3. The Gems and Jewellery Industry in West Bengal

The production in the Gems and Jewellery sector in West Bengal is location-based. Cluster-based production is a significant character in case of Gems and Jewellery production in West Bengal. The production is mainly concentrated in Bowbazar and nearby regions of Kolkata, the other locations are centered in the state in different districts, mainly at Domjur in Howrah, Daspurand Ghatalin Midnapore, and Sinthi in North 24 Paraganas. The Kolkata market has appeared as the 'core' and others as the peripheries to the core. The peripheries inherit strong linkage(s) with the core, particularly in terms of supply of raw materials, labour, and skill. The production in the peripheries in distant locations is mainly local demand based. Urbanization and rapid change in socioeconomic conditions for the upper milieu of the society are two significant factors that have contributed towards the growth of the suburban gold ornament markets. Since 2006, the operation in Manikanchan near Rajarhat at Salt Lake (the first Special Economic Zone for production and export in Gems and Jewellery sector in India) has given this sector in West Bengal a new height.

In West Bengal, the production in this trade in India is mainly fragmented as about 96 percent of total business comes from the informal sector. The formal counterpart of the sector constitutes the 'core' in the industry, which bypass its main production activities to the informal peripheral sector. The informal sector makes it possible to produce the product at low cost, thereby increased profitability attracts more investment in this growing sector. The producer reduces the influence of market uncertainties that appear with abrupt increase and decrease in market demand. Another important contribution of the informal sector to its formal counterpart in this industry appears in the form of supply of skill and labour where the skill is acquired in the informal sector. In this way, a strong formal-informal linkage exists in this sector, which supplements high growth of the sector.

The import of raw gold bullion is made from Switzerland and other European countries to Kolkata mainly. Other locations purchase these imported gold from the Kolkata market. The major export appears from Kolkata by P. C. Chandra, B. C. Sen and others. Export is primarily from Kolkata and to the middle-east countries like Dubai through Maharashtra or Mumbai in particular. Recently, the Sinthi market has started its direct export to other states in India, and even to other countries including Nepal. To have a command on the export market for any particular location, quality of labour becomes important. Bengalee workers are highly regarded in the market of other states in India for their skill, innovativeness and efficiency in production of fine ornamental work and Domjur and Ghatal have achieved excellence in the supply of skilled workers to Kolkata market, other states in India, and even to some of the Middle-east Asian countries.

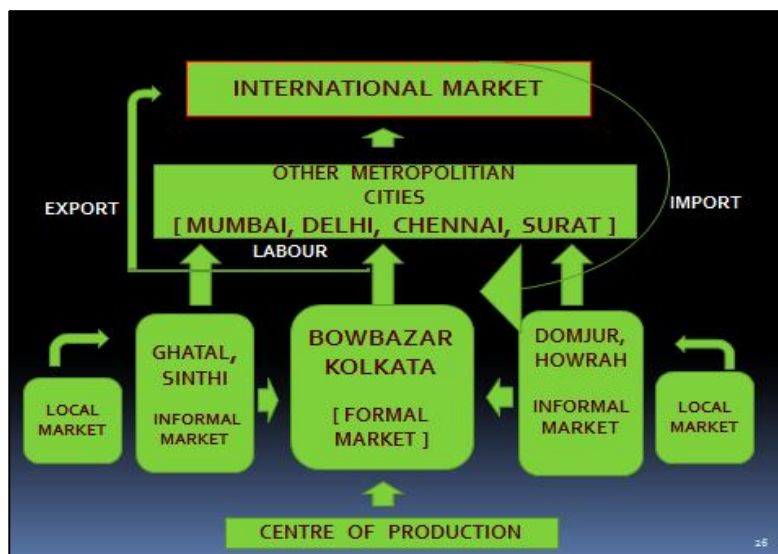


Figure 1

#### 4. Background of the Study

The study is based on primary survey conducted in various clusters of the Gems and Jewellery industry in West Bengal. The survey has been conducted in Bowbazar, Barabazar, Garanhata, Ankurhati, and Bhwanipur in Kolkata. A qualitative sample survey procedure has been approached on the basis of a semi-structured questionnaire with indirect interview method. The survey has been conducted in two parts: household survey and production unit survey. The workers along with their family members, owners and contractors, and community members have been approached. Sometimes an ethnographic study has been continued during the survey process in order to lift out more insightful picture about the area covered under the proposed study.

Location	Sample size
Bowbazar (Kolkata)	30

*Table 1: Sample Design*

#### 5. Wagedispersion in Bowbazar (Kolkata)

It is almost 150 years ago when the market for Gems and Jewellery was developed in the nearby region of Bowbazar. Roughly 70-80 years ago, the Bowbazar gold market was transformed to an almost oligopolistic market structure with the leadership of B. Sirkar & Sons', followed by a few large companies such as the Chandra & Sons Private Limited, Dutta & Co., Senco Gold Limited, S. Basak Jewellery, The Basak Jewellers etc. At that time, business was mainly based on the preparation of new ornaments, purchase of old ornaments, and mortgage of ornaments (though mortgage business has declined over time and became popular mainly at the suburban gold markets). Other big houses have made their entry later, like Dey's Gini House, P. C. Chandra & Sons India Private Limited, and a few others. Market leadership has been transferred to P. C. Chandra & Sons India Private Limited. The very recent major entries are by Anjali Jewellers Private Limited, Tanishq (Tata Group) and Khadims.

In Kolkata, the Bengalee traders hold about 90-95 per cent of the business, the rest of 5-10 per cent by non-Bengalee community, mostly clustered at Park Street region. The major operators are: Tanishq, The Parekh group, R. R. Agarwal Jewellers Private Limited etc. They supply mainly coloured and stone-based heavy ornaments of gold, diamond and platinum in contrast to the demands of gold ornaments produced by the Bengalee companies of Bowbazar in Kolkata. To capture the non-Bengalee market of Kolkata, recently P. C. Chandra and Tanishq have taken up the product differentiation policy to supply heavy and diamond-based ornaments.

There is an export market from long years back. The major exporters are P. C. Chandra, B. C. Sen and others. Export is primarily to middle-east countries like Dubai through Maharashtra or Mumbai in particular. To have a command on the export market, quality of labour becomes important. Bengalee workers are highly regarded in the market for their skill, innovativeness and efficiency in production of fine ornamental work.

The labour market of Kolkata encompasses both formal and informal counterpart. The large operators in the market (like P. C. Chandra, Tanishq, Anjali Jewellers etc.) provide regular monthly formal wage including social security benefits to their skilled personnel including accountants, salesmen and saleswomen in the showrooms etc. However, they usually carry out a large part of their production from the informal labour market of Barabazar, Bowbazar, Ankurhati, and even from Domjur of Howrah where no formal wage is paid to these informal sector labourers. Wage here is determined from within the informal labour market outside the formal mainstream wage determination processes. Formal collective bargaining system has no impact on market wage rates. Since institutional Trade union or Labour union(s) is absent, it has no significant influence on wage formation. The informal wage is determined from within the informal labour market set up. The existing wages are explained by the informal characteristics of the market.

Skill differentiates the labour market into skilled, semi-skilled and unskilled labour market, and also influences the wages. The wage rate is positively related with skill. Therefore, wage is high in the skilled labour market and lowest in the unskilled labour market. The demand and supply forces have some influences on the wage rate determination and fluctuations. Since supply of skilled labour is comparatively high low and demand for such skilled labourers is much higher – wage of skilled labour is high (usually above Rs. 6,000-8,000). Since the supply of unskilled labour is high, it is reflected in the low (Rs. 4,000-5,000) and declining wage rate. The supply of unskilled labour is also increasing due to migration from neighboring districts because of lack of alternative occupations. This increasing supply and absence of trade unions are being reflected on the declining tendency of the real wages of semi-skilled and unskilled workers.

To consider the income profile of the workers, if we consider the age-wise distribution of the workforce, about 63 per cent of the workers belong to the 18-55 age-group. About 33 per cent of them are middle-aged. This simply conveys the preference of the recruiters at the time of recruitment towards middle-aged people since they possess some training and experiences, which is reflected to their innovativeness and productivity. 23 per cent of the workers are below 18 years who are unskilled and are in the process to acquire the training necessary to enter in the semi-skilled and skilled labour market. The younger generation prefers to enter into the sector due to its high wage potentiality. Age and wages usually reflect a positive correlation since age of the worker and his skill are positively related and higher skill means higher bargaining power and higher wages in the informal labour market.

AGE INCOME (Rs.)	< 12	12-14	14-18	18-35	35-55	55+	TOTAL
< 4000	01	01	02	-	-	-	04 (13.3%)
4000-6000	-	-	02	01	-	-	03 (10.0%)
6000-8000	-	-	01	04	03	-	08 (26.67%)
8000-15000	-	-	-	04	04	01	09 (30.0%)
15000 +	-	-	-	01	02	03	06 (20.0%)
TOTAL	01 (3.3%)	01 (3.3%)	05 (16.7%)	10 (33.3%)	09 (30.0%)	04 (13.3%)	30 (100%)

Table 2: Age-Wage Distribution, Bowbazar (Without Loss Wage)

Source: Field Survey.

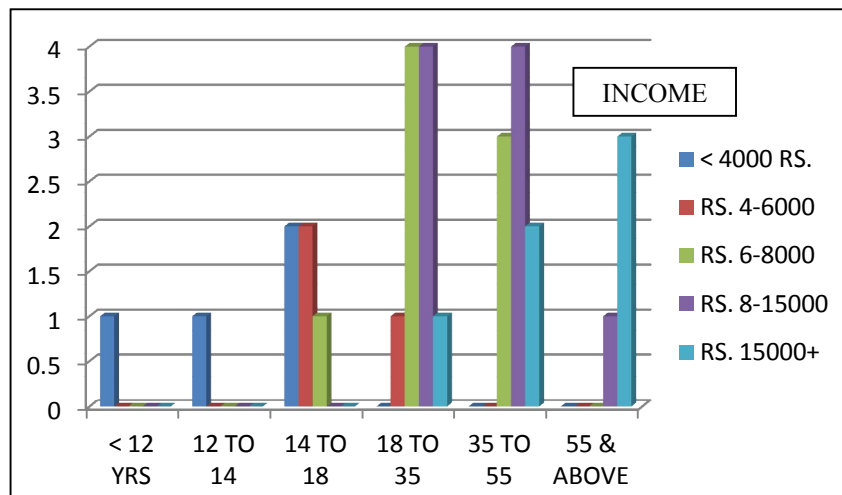


Figure 2

A few of the senior workers (above 55 age-groups) become owner of small showrooms. They work with 3-4 hired workers and sometimes become small individual entrepreneurs (about 13 per cent). This clearly refers a vertical mobility of labourers –from unskilled labourers to semi-skilled and skilled workers. A few of the skilled workers even appear as independent entrepreneurs. In this way, skill, along with experiences and risk-bearing capacity influence the wage-profit share of the market in favour of capital.

### 6. A Special Form of Wage: The loss-Wage

A typical form of wage payment in the Bowbazar location appears in the form of wage-loss (or loss-wage). While working in gold jewellery there is always a natural loss of the metal. Ornaments are carved out of gold in hands with the help of simple tools. This causes loss of gold particles (or gold dust) which amounts to roughly 4-8 per cent of the raw material. The gold particles are mostly collected by the workers who claim a natural right over it. This loss cannot be prevented. Every producer has to accept and bear this cost. When this cost is passed on to the labourer, as it is in Bowbazar, it takes the form of wage. This wage is not declared or announced, assuming that the loss of gold for the producer is gain for the labourer. Here the wage-loss (or loss-wage) is provided to the worker on the finished product.

The producer pays this wage-loss to the worker at 4-8 per cent of the product (locally called 'unit'). The rate varies from producer to producer and is fixed through a pre-assigned contract between the worker and the producer. The contract is finalized after a tough negotiation between the two parties. Such a bargaining appears in this market beyond the mainstream demand-supply interaction. Skill, social capital possession and personal contacts of the labourer become vital in the negotiation process here. These variables are positively correlated with the rate of wage-loss. However, it often becomes tough even for a skilled worker to extract a wage-loss above 6 per cent rate. Here the worker becomes a strategic player in the labour market to achieve a higher rate of wage-loss, whereas the producer's strategic behavior is to pay the labour a lower rate of wage-loss. Since the actual rate rarely cross 6 per cent level in reality, the producer holds a comparative command in this bilateral bargaining mechanism. The producer's strategy is to pay a lower wage-loss to the worker.

However, the producer has to pay a higher wage to the labourer in case of wage-loss payment than in monthly payment. The producer, therefore, tries to bypass this loss to the consumer through another agreement with the customer in the final product market. This contract is undersigned completely in money terms. The percentage of this money wage-loss varies between roughly 8-15 per cent. Quantity, quality, variety (type of the ornament) and market price of the finished jewellery are the major determinants of the monetary wage-loss. To explain this side of wage loss, let us consider an example. Consider a final consumer gives an order to producer B. The cost of production of the product is worth Rs. 40,000. Let us assume the money wage-loss rate is 12 per cent. Then the producer extracts Rs. 4,800 as labour cost (*mazuri*) from the consumer.

Producer B gives the order to labourC with the contract that B will pay a 5 per cent wage-loss. The wage is counted on the finished product. It is calculated on production unit basis. Let the labour gets 10 units (gm. or ml. gm.). A 5per cent wage-loss means  $(0.05*10) = 0.5$  units (gm. or ml. gm. gold) is received by the labourer. The actual money wage is calculated by multiplying this unit wage by the current market price of gold in the local market. In this way, the wage becomes related with the changes in the market conditions and fluctuations in the market prices.

The producer now pays this wage in monetary form in the hand of the labourer. If we consider market price of gold to be Rs. 35,000, this wage-loss in monetary terms becomes  $(35,000*0.5) = Rs. 17,500$ . Since division of labour exists in the production sector, this Rs. 17,500 is distributed between the labourers engaged in the production activity. The exact percentage of the wage- loss depends on the quality of the worker – whether the labour is skilled, semi-skilled or unskilled, type of work, and the quantity of work done. A skilled labour exhibits larger bargaining power in the labour market and earns higher rate of wage-loss from the producer. The gap between the wage-loss1 (the money wage-loss) and wage-loss2 (the unit wage-loss) is acquired by the producer.

Therefore, the producer wants to pay the labourer a lower rate of wage, thereby achieving a net profit gain. However, it is a net wage loss for the labourer in his wage component. The worker targets to extract a higher wage from the producer through proper bargaining in order to achieve a net wage gain. It is, then, actually a wage-loss profit-gain model. The producer agrees to pay higher wage-loss rate if the worker ensures larger number of orders of production contracts for the producer through his personal contacts in the market. In this way, both of the parties want to compensate their probable loss appearing in the bargaining process.

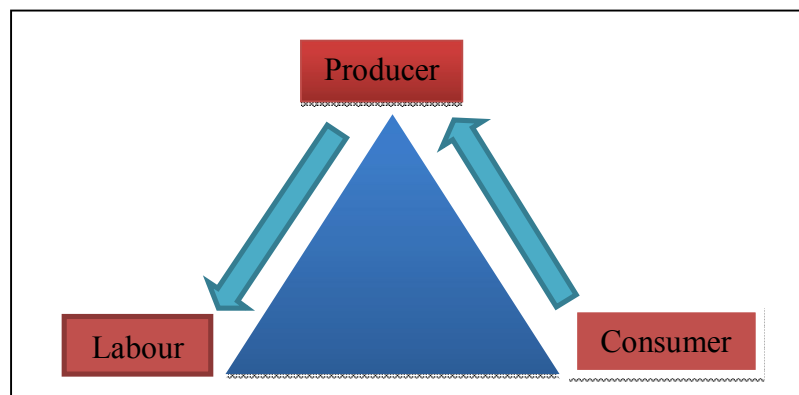


Figure 3

Quantity, quality and variety (type of the ornament) of the finished jewellery are the three major determinants of the wage loss. The amount of wage loss varies in the same direction in relation with the quantity of production – higher is the level of production, higher is the wage loss provided by the producer to the worker. Division of labour exists in the production of jewellery items and such division of labour is reflected in the recruitment of labourers of differentiated skill at various stages of production. However, the percentage of wage loss declines in case of bulk production. If a labourer produces in a large quantity under the same owner, the owner offers a lower rate of wage loss. In this case, the percentage of wage loss declines from 6 per cent to 5.5-5.8 per cent.

This form of wage payment in the form of wage loss is becoming popular among the artisans in the Bowbazar region. The labourers now prefer this form of wage since it provides them opportunity to earn higher wages than regular monthly money wage payment. The producers are agreeing to pay wage loss at the time of contract made with the labourer. Otherwise they will face a deficiency of skilled labour at the workplace. Though the workers are not organized and unionized, they are making the contract in the labour market in favour of them since the supply of skilled labour is deficient and the producers are preventing the tendency of physical out-migration of skilled labourers to make the location lucrative for labour employment.<sup>2</sup>

AGE INCOME (Rs.)	< 18	18-25	25-35	35-45	45-55	55+	TOTAL
< 4000	-	-	-	-	-	-	-
4000-6000	-	01	-	-	-	-	01 (04.3%)
6000-8000	-	01	03	02	01	-	07 (30.5%)
8000-15000	-	01	03	02	02	01	09 (39.1%)
15000 +	-	-	01	01	01	03	06 (26.1%)
TOTAL	-	03 (13.0%)	07 (30.5%)	05 (21.7%)	04 (17.4%)	04 (17.4%)	23 (100%)

Table 3: Age-Wage Distribution In Case Of Wage-Loss, Bowbazar  
Source: Field Survey.

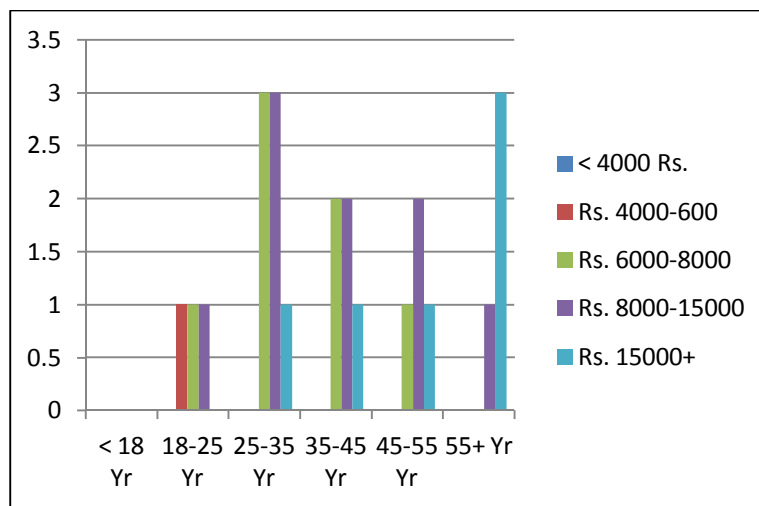


Figure 4

## 7. Conclusion

The wage determination in the formal set up and fixation of wages in the mainstream mechanism does not appear with informal production of the Gems and Jewellery industry. In absence of effective machinery for settlement of disputes for wage determination, the industry has introduced an informal mode of operation, i.e. the loss-wage model. The application of the model has improved industrial relations and phenomena improvement in industrial dispute mostly over wages leading to substantial gain in production. This paper is an attempt to study how the process of wage determination and forms of wages in case of informal industries may solve such disputes. The study is confined to the empirical analysis of the Gems&Jewelleryindustryof Bowbazarin West Bengal. The analysis attempts to detect intra-location wage variation within the industry and the reason for such spatial wage dispersion with the help of the loss-wage model. Such a wage determination often is outside the conventional institutional frame of the mainstream market, collective bargaining or influences of trade unions Therefore, multiple modes of wage payments are observed as a vital consequence.

## 8. End Notes

1. Knowledge spillover appears between firms within the same industry and local monopoly is suited than competition. In case of Porter externality, the preferred market structure asks for local competition. The Jacobs externality considers that the existing spillover is between firms of different industries under local competition. In the dynamic or growth context, the distinction between urbanization and localization externalities is referred to in the distinction between Jacobs externalities and Marshall-Arrow-Romer (MAR) externalities.
2. Another form of wage comes from the '*niharwalas*' who collect the dust of gold after production from the production units. They are comparable with the road *jharudars* (sweepers). They sell the collected dust in the dust market and earn their income. Usually middle-aged women from Bihar and Uttar Pradesh are engaged in this job. Sometimes they only collect the dust and the collected dust is sold in the market by their son(s) of 18-28 age-groups.

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