

# **Impact of Economic Crisis on Workers in the Unorganised Sector in Rajasthan**

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## *Abstract*

*This article analyses the impact of the global economic meltdown-driven crisis of the late 2007 on workers in the unorganised sector of gem polishing and construction industries in Rajasthan. Based on a field survey, the study analysed the impact of crisis-led fall in employment and wage income of workers in general and of different social groups on their living standards. During the crisis period, workers in general tried to adjust to the wage loss and consequent income fall by spending less on their physical as well as social life. In the initial phase of the crisis, workers tend to trim down spending on their social life, followed by a reduction in expenditure on health and education. As the crisis persisted, the workers were left with little other alternative but cut back expenditure on even necessities absolutely indispensable for their perpetuation and reproduction (food, shelter, clothing, etc). As the crisis continued unabated, they were rather compelled to reduce the very quantity of food intake. Reductions in spending on the necessities of life tantamount to the absolute deterioration of life standard of workers which would leave the younger generation of the labour force crippled costing dear even to the capital and the state. The social life of workers too was relegated as they cut back their spending on cultural life. On top of it is the economic distress driven domestic conflict, violence and depression, the brunt of which fell mostly on women and children. The study found expenditure reduction food, education and health and sale of assets were mostly done by workers in the lower income strata in both industries. Further that the scale and magnitude of unemployment and income fall due to the crisis on the living standard were more severe for labour households of Scheduled Castes and Tribes. For migrant workers, the hardships further severe.*

*Even though the Indian economy is reported to have been gradually recovering from the crisis, children who were withdrawn from schools and colleges, health hazards of those who had cut back their spending on food and medicines, especially children, women and the aged ones are not retrievable to the pre-crisis level implying that the crisis-led destruction endures. The only viable solution to thwart the deterioration in the living standard of workers is their political mobilization and their organized act to exert pressure on the state to increase budgetary allocation for social service and relief package, at least in the short run.*

## **Introduction**

This article analyses the impact of the global economic meltdown-driven crisis of the late 2007 on workers in the unorganised sector of gem polishing and construction industries in Rajasthan. Based on a field survey, the study investigates the impact of crisis-led fall in employment and wage income of workers of different social groups on their living standards. The discussion in the paper is organised in three sections. Section 1 describes the background of the study and data collection design. Extent of the crisis-shock on employment and income in gem polishing and construction industries in the unorganized sector are analysed in section 2 and section 3 discusses different dimensions of the crisis-impact on the *standard of living* of labour households, followed by a conclusion.

### **Section 1**

The study has been perceived in the backdrop of the financial market meltdown in 2007, which eventually developed into a full blown real economy crisis world over. The crisis spread fast into the real sector of the Indian economy by fourth quarter of 2008, destabilizing particularly the external trade and export oriented production, rendering many unemployed. The annual rate of growth in Gross Domestic Product (GDP) at constant prices fell from 9.1 % to 6.7 % between 2007-08 and 2008-09 and further the export growth turned negative from the second quarter of 2009, indicating the heaviness of the global economic crisis on workers in export oriented sector in India, where a major portion of the unskilled and semi-skilled workforce are employed (Government of India 2007; Rakshit 2009). It is worth mentioning in this context that even under a high growth phase in mid 2000s, average income per worker in the unorganized sector in India, which provides the means of self-provision to 92 % of the total workforce of 457 million, was only Rs.20 (Government of India 2007: 1). Adding onto it is the harsh reality that a major chunk of the workforce in the unorganised sector, especially those working in traditional industries like gem polishing, are either stagnant or latent reserve labour, implying that the massive reserve labour force are entangled in their rural moorings and are not equipped to get absorbed in other sectors. (Foley 1986: 65; Standing 1987: 80-95). Although workers in traditional industries and artisans production still do not fall under the purview of the full blown capitalist production relations, integration with the external market through trade make those workers and petty producers susceptible to even mild fluctuations in economic activity in India mainly for two reasons: (i) workers possess little staying capacity to remain unemployed even for a short while; (ii) workers lack skill to get re-employed in other sectors during the crisis period.

The dynamics of capitalist production and its inherent crisis prone characteristic have been adequately theorised and debated from the standpoints of different paradigms. The financial capital market-led crisis in the late 2007 and its spread-effect on the real economy by early 2008 have been explored and debated in the Indian context as well. Although a detailed review of the debate on financial market crisis is uncalled for in the context of the present study, yet a mention is in order on suggested measures to overcome the impasse. In spite of the differences on the perception on the origin, causes, effect of the economic meltdown and the political solution to avert it in the future, social scientists in general agree to the proposal of stepping up state mediation and stringent regulations on actors in the financial market (Chandrasekhar 2009; Onaran 2009). Policy specialists with a left slant perceived the crisis as an inherent and inevitable outcome of the deep seated contradiction of the capitalist system and therefore suggested scaling up of the state expenditure to boost effective demand and prevent the deterioration in the absolute standard of living of workers as opposed to the massive state funded stimulus packages handed out by government world over including India to inject liquidity in to the financial market (Patnaik 2009; Vakulabharanam 2009). The deterioration of the living standard of workers during the crisis period calls for a political solution to avert it in the long run and it rests on the mobilisation of workers and peasants to wrest the state's control. (Vakulabharanam 2009). Contrary to the often suggested remedial measures of increased government spending and regulatory measures on financial institutions prominently by the left particularly in the Indian context, Bean argued that the state mediation to improve the living standard of workers by augmenting government spending, would only help exacerbate the crisis because improving the living conditions of workers would further squeeze the profit of the finance capital (Beams, 2008). This view stems from the fact that the crisis has originated from the over accumulation of the fictitious capital in relation to the surplus extracted. Rescue packages to the financial intermediaries by the governments around the world are, therefore, aimed at, it is argued, would further drive down the living standard of the wage earners (Beams, 2008). In spite of the differences in origin, characterization of the crisis and solutions suggested to it, destruction of the productive forces including labour under capitalist crisis have been well recognised.

In the discussion on capitalist crisis, Marx restricts the remark on the impact of the crisis on workers to wage cuts and massive unemployment. However, consequences of unemployment, wage cuts and other nefarious measures adopted to exploit the vulnerable environment in the labour market are discussed in greater detail in volume one of *Capital*. As in the fledgling phase of capitalist growth, the income and assets of the rich grow much faster, relegating constantly the living standard of the working class even under a

crisis phase. The absolute decline in the average standard of life of workers comes about during the crisis phase due to unemployment, cut in wages and other benefits to workers. The standard of living is comprised of: (i) a physical component and; (ii) a historically evolved and socially determined cultural content. To put in Marx's words :

*“His natural wants, such as food, clothing, fuel, and housing, vary according to the climatic and other physical conditions of his country. On the other hand, the number and extent of his so-called necessary wants, as also the modes of satisfying them, are themselves the product of historical development, and depend therefore to a great extent on the degree of civilization of a country, more particularly on the conditions under which, and consequently on the habits and degree of comfort in which, the class of free labourers has been formed.”* (Marx 1984: 165).

The absolute deterioration of the living standard of the working class take place when workers are paid below the value of labour power. The value of labour power is the value of necessities required for its reproduction and maintenance, and the value of necessities is determined by the amount of labour expended for its production (Marx 1984: 167). The physical component in wages is the value of indispensable necessities required for the labouring poor to exist, to reproduce, perpetuate and maintain the labour power. For any reason, if the received wage rate is inadequate to meet the physical requirements of the labour, the labouring population would grow crippled leaving profound impact on their productiveness. The social component of wage is the social cost of reproduction of labour, which a slave does not need to incur and further the reproduction cost is influenced primarily by state of development of the labour market, the customs and traditions in a society and its scale and magnitude. It varies with the time and space causing national or regional differences in wages (Marx 1984: 524-528). As employment and wage income fall during the crisis phase, workers tend to curtail first expenditure on their social cost of reproduction or the social component of wage. In the initial phase of an income fall for the labour, he tends to cut the expenditure on health and education. As crisis aggravated, workers were rather forced to compromise on wages and other allowances to remain in their vocation, which in turn make them cut their spending on necessities indispensable for perpetuation or in other words, the quality of food, clothing, shelter and other basic necessities of life. Alongside, the state too would also be cutting down its spending on social sector as the apparatus face credit crunch due to crisis and this is particularly so under the neo-liberal regime. The impact of the crisis on workers explicitly in the unorganised sector is therefore, many dimensional. However, on theorising the impact of economic crisis, Marx perceived labour as a homogenous and composite entity implying

that the crisis impacts labourers uniformly across different social groups, sectors and gender. Moreover, labour households' of different social groups and workers in different sub-sectors' response to the economic crisis in the Indian context assume special significance to understand its spread effect- impact on the living conditions of workers of different social groups and types thereof particularly of the unlegislated sector of the economy. In this setting, the study hypothesise that the economic crisis has deteriorated the relative and absolute life standard of workers and further the extent of deterioration is more severe for workers of vulnerable Social groups.

### **Sample size and study area**

The sample size for the study comprises 350 labour households in the unorganised segment evenly distributed between gem polishing and construction industries in Rajasthan. The selection of gem polishing and construction industries for the study is guided by following factors: (i) gem polishing is a traditional industry with high labour intensity while construction sector exhibit characteristic, to an extent, of any modern industrial activity; (ii) construction industry is highly sensitive to income change whereas the demand for gem and jewellery is less income elastic; (iii) construction industry engages a sizable number of female workers, while gem polishing is primarily a male worker dominated one.

Although a systematic stratified random sampling could be more appropriate for the present study, data constraints for stratification compelled to go for simple random sampling. Samples for gem polishing industry were selected from Jaipur city, the place historically known as the hot-bed of jewels and diamonds in India. Considering the spread-out nature of the construction industry, geographical location for the selection of samples were selected from four adjacent districts, viz., Jaipur, Tonk, Udaipur and Dungarpur. The primary survey was commenced in June 2009 and completed within 60 days. In the study area, Focus Group Discussion (FGD) were held to supplement the quantitative information elicited through direct personal interviews. For the analysis of crisis-impact on the life standard of workers, information was elicited by dividing the reference period into two: (i) before the crisis period-prior to November, 2008 and, (ii) after the crisis period - unto the survey date.

## Section II

### Gem polishing industry in Jaipur: A brief profile

Gem polishing is a job name given to a set of activities ranging from sorting of gem stones to its marking, cutting and polishing. The gem and jewellery is US\$ 45 billion worth an industry in India. Jaipur<sup>1</sup> in Rajasthan and Surat in Gujarat are two major hubs of gem stone manufacture and export markets in India. Although the domestic market for gems is fairly large, it is primarily an export oriented industry depending heavily on external markets as more than 60 % of the products find its customers abroad. Important items of exports from India include diamonds (64%), jewellery (34%), coloured gemstones and pearls (1.30%) (Economic Intelligence Service 2009). Major markets for Indian gems before the onset of recession were: United States of America (30%), Hongkong (22%) and United Arab Emirates (21%) in 2007-08 (Economic Intelligence Service 2009). Other export destinations of less importance include Belgium, Israel, Japan and Britain. Exports of gem and jewellery from India valued US\$ 27749 million, which accounted for 15 % of the total value of export from India in 2008-09. Even before the crisis in 2008, relative share of the United States of America in the value of exports from Indian gems and jewels had started falling. For instance, sales volume from United States of America declined from 37 % in 2002 to 16 % in 2009. In absolute terms, exports of gems and jewellery to United States of America fell by (-) 10% in the recession year of 2008-09 as compared to 2007-08. On the contrary, import price of gem stones from Belgium (56%),<sup>2</sup> Britain (24%), Israel, Hong Kong and United Arab Emirates (18%) remained stable. The domestic production of rough diamonds and gems stones in India is negligible. Exporters and traders meet more than 95 % of their raw gem stones requirement through import (Burra 1988).

For the marking and cutting jobs, skilled workers with amassing agility acquired through longer years of service are essential. Skilled workers<sup>3</sup> in gem polishing industry in Jaipur are known world over for their dexterity and nimbleness. Like any other traditional industry, most part of the gem polishing work is performed manually with traditional artisan tools. For the artisans, raw gem stones are available on credit from brokers and traders, who would buy back the finished product on a pre-fixed price. Production is organised mostly in small units and 60 % of such units function with family labour. Small scale and household production units sell their products mostly to the local traders.

Global economic meltdown impacted on gem polishing industry in myriad ways. Primary information elicited from 40 gem polishing units of different size and scale revealed that volume of sales had declined for more than 80 % while 20 % could retain the sales

volume by cutting down their price. Manufacturers of gem polishing industry is comprised of different size as 67 % of the units employ less than 10 workers and 58 % of the total units have less than five workers. As the crisis aggravated, manufacturers of different scale and type kept their units running only to retain the work place, brand name and a few skilled workers, hoping that the production could be resumed full-fledged within a short while. Only a little more than 5 % of the units of small size reported to have pull their shutters down as they found their job earning too little to survive, while 55 % of units retained their workers to ensure that skilled workers like markers and cutters did not abandon the employer.

Response of gem polishing industry to the crisis varied by type of their activities too. As the demand for gem stones fell, family-labour based gem polishing units withdrew from their traditional occupation (gem polishing) and engaged in other avenues of livelihood. The small scale units which clubbed family labour with hired labour replaced their hired labour with family members or down sized their scale of operation to save wage component. Daily wage rate in the gem polishing industry varied from Rs 100 to Rs 300 per worker depending on the type of work performed. As crisis aggravated, the relative share of gem polishing units with less than five skilled workers increased from 58 % to 79 % in the total sample units while the share of large units employing more than 10 skilled workers registered a fall from 40 % to 10 % during the crisis period as compared to pre-crisis period.

### **Construction industry: A profile**

Construction industry has two important characteristics: (i) women workers are not allowed by tradition to assume main mason's status and therefore they remain as mason's helper irrespective of their experience and physical capability; (ii) male workers in the industry get graduated to mason's status within 12-24 months of continuous work and further to main mason's status after a few years; (iii) for carpentry work, the entry to the labour market is, to a great extent, restricted by caste while women are forbidden from undertaking carpentry work.

Labour market for construction workers, especially for mason and mason's helpers function differently as compared to the market for gem polishing workers. The workers in urban localities assemble at particular places in the town between 6 and 6.30 am except on Sundays. The master mason selects his team of junior masons and mason's helpers before proceeding to the work site. Little regional difference, therefore, could be observed in the daily wage rate for construction workers within a district in urban area as

the workers meet and discuss their work site issues during their brief interaction at the common place in the morning. The daily wage rate of mason and carpenter in Jaipur city was Rs 250 while a mason's male helper received Rs 150 and his female counterpart had to be contended with Rs 130 (June, 2009). As the construction activity slowed down, master male helpers were preferred to female workers as the daily wage rate for male fell to Rs. 130. Often builders and contractors, irrespective of their scale of operation, contract out the plumbing, electrical work, flooring and carpentry to the sub-contractors to get rid off with managerial issues pertaining particularly to labourers. Sub-contractors keep a pool of reserve workers of different type in the construction sector to ensure uninterrupted labour supply to the work site. About 5 to 10 % of the wage is deducted from workers and distributed to the array of middle man from sub-contractors to master mason. When the labour market is dull, commission rate too goes up. Even a mild change in the domestic economy would leave its immediate reflection on the construction industry because the dependence of the construction sector on financial capital is highly pronounced. There exist another set of masons and carpenters too who take up orders from individuals and carry out the work without agents' help. They often do not get continuous work and the daily wage rate for them is 10 to 20 % less than wage rates offered by builders. However, the wage rate for mason and carpenters in general are set and revised from time to time by those working with large builders under the contractors ( they need to complete the work on time) and the mason and carpenters in village area usually follow the wage set in urban centers.

### **Workforce composition**

As mentioned elsewhere, the impact of economic crisis need not be uniform across social groups. Religion and social group wise composition of workers in gem polishing and construction industries presented in Table 1 reveals the following: (i) in gem polishing, 60 % of workers belonged to Hindu religion and 40 % of labour households were Muslims; (ii) *Dalits* ( 3.80%) and *Adivasis* (6.67%) in the total workforce of the gem polishing industry are relatively less; (iii) more than 90 % of workers in construction industry belonged to Hindu community, of which 28.70 % are *Dalits* and 23.70 % are *Adivasis*; (iv) Muslims in the total workforce in construction sector was a little less than 10 %. Family size and earning strength of the labour households are positively correlated (Mohanakumar 2007). The average family size of a labour household in the Muslim community was 6.78 followed by 4.39 members for Hindu labour households. Drawing on the Durheim theory, studies on agrarian crisis related farmers' suicides have highlighted the importance of joint families and social relations in mitigating the hardships of the



affected during the crisis period (Mohanaty 2001). It is found that more than 50 % of labour households of Muslim community in gem polishing industry live in joint families while the corresponding proportion in Hindu religion is 31.42 %. Further, single member labour households in gem polishing constituted 14 % and they were mostly migrants from other districts. The proportion of nuclear families in construction sector is higher as compared to gem polishing which is partly attributed to a relatively larger proportion of migration workers in the industry.

Education and acquired skill enable workers to switch over to alternative employment during crisis period. The proportion of workers reported to have not attended schools was as high as 73 % in gem polishing and 64 % in the construction industry. It is worth mentioning that not even 2 % of the labour households possessed employable qualifications of any type or skill to get reemployed in other industries during the crisis period in construction and gem polishing industries.

**Table 1. Religious Composition of Labour Households in Gem Polishing and Construction Industry. (% share)**

| Religion       | Gem polishing | Construction |
|----------------|---------------|--------------|
| Hindu          | 60.00         | 90.60        |
| <i>Dalits</i>  | 3.80          | 28.70        |
| <i>Advasis</i> | 6.67          | 23.70        |
| <i>Others*</i> | 89.53         | 38.20        |
| Muslim         | 40.00         | 9.40         |
| Total          | 100.00        | 100.00       |

\* Include OBC and general

Source: Primary survey.

### **Impact on employment and Income**

It is widely an accepted practice that employers lockout the production units during the crisis period only to shed off the brunt of the economic turmoil onto the workers. In a fragile labour market, workers have little option but be subservient to employers' conditional ties. The crisis impact on labour market could be captured by comparing days employed, type of work, working hours, other allowances to workers during pre-crisis period (before November 2008) in relation to the crisis period-(after November 2008).

Table 2 compares the response of employers in gem polishing and construction industries to the crisis situation. Important observations from Table 2 are: (i) workers were not thrown out of employment from medium and large scale units of gem polishing and construction industries on any significant scale during the crisis period; On the contrary, workers were subjected to different forms of intensification as evident from the fact that 16 % of workers in the gem polishing and 2.30 % of workers in the construction sector reported that they were forced to put in more hours of work during the crisis phase. Further, compromising on the terms and conditions in favour of the employer, 9 % in the gem polishing and 14 % of workers in the construction sector could remain in their previous job. Other measures resorted to by employers included delayed as well as part payment of wage; (ii) 34 % of workers in the gem polishing industry and 70 % in the construction sector reported a decline in employment days during the crisis period.

| <b>Impact index</b>                                 | <b>Gem polishing<br/>% share</b> | <b>Construction<br/>% share</b> |
|---|----------------------------------|---------------------------------|
| Lost Job but not yet reemployed                     | 1.70                             | 0.60                            |
| Job is the same but conditions / terms have changed | 9.10                             | 14.30                           |
| Working hours extended                              | 16.00                            | 2.30                            |
| Employment days reduced                             | 33.71                            | 69.50                           |
| Other impacts <sup>1</sup>                          | 13.79                            | 1.10                            |
| Workers not affected                                | 25.70                            | 12.20                           |
| Total   | 100.00                           | 100.00                          |

Source: Primary survey

Table 3 supplements the qualitative response presented in Table 2. Average number of workers employed in gem polishing unit was reduced by (-) 61.01 % and by (-) 9.28 % in construction industries in May 2009 compared to October 2008. Fall in employment days was more or less the same for both industries as it is not feasible to extent working hours beyond its physical limit. Daily wage rates of workers in gem polishing industry were reduced by (-) 35.57 % during six months period between December 2008 and May 2009. To an extent, wage reduction was effected by degrading workers' status by substituting semi-skilled workers with skilled workers and unskilled workers with semi-skilled workers. While the nature of work is kept unchanged, the status change is manifested mainly in wage rates. Wage rate of female workers in the construction industry was less by Rs 20-30 compared to their male counterpart. It is rather common that the less able

bodied for physical work would lose the job first in a fragile labour work. In construction industry, as male helpers were available in plenty at a reduced wage rate, female workers were competed out. Average monthly earning per labour household in both gem polishing and construction sector recorded a fall to the tune of (-) 40.87 % and (-) 25 % during the crisis period. Average household income refers to the total income of all working members engaged in both primary and secondary occupations. Even for the name sake, no social protection measures exists for workers in the gem polishing industry while an abysmally small proportion of workers in the construction sector employed with large builders avail certain benefits, but they constituted only 2 % of total workers in the industry in the study area.

**Table 3. Impact of Economic Crisis on Workers.** (N=350)

| Impact index                                      | Gem polishing |               |          | Construction |               |          |
|---|---------------|---------------|----------|--------------|---------------|----------|
|   | Pre-crisis    | Crisis period | % change | Pre-crisis   | Crisis period | % change |
| Average size of unit                              | 7.97          | 4.95          | -61.01   | 18.64        | 16.91         | -9.28    |
| Working hours                                     | 8.36          | 8.67          | 3.58     | 8.36         | 8.67          | 3.71     |
| Monthly working days                              | 26            | 24            | -8.33    | 22           | 18            | -18.18   |
| Daily wage for male (Rs)                          | 202           | 149           | -35.57   | 140          | 140*          | 0        |
| Average monthly earning per Labour Household (Rs) | 5801          | 4118          | -40.87   | 12000        | 9000          | -25.00   |

Source: Primary survey

Family income rather than the individual income of households could be a better index of income as joint family constituted a higher proportion of households particularly in gem polishing industry. Table 4 compares the distribution of households by average monthly family income during the crisis period with pre-crisis period. A significant proportion of labour households in gem polishing industry were pushed down to the lower income strata within a short span of six months during the crisis period. For instance, labour households in gem polishing industry in the lower family income strata of below Rs 3000 per month increased from 18.3 % to 28 % during the crisis period. In the construction industry, labour households in the lowest income strata swelled up from 17.20 % to 32.43 % between the pre-crisis and crisis periods. A proportionate fall could be observed in the relative share of households in the higher income groups in both industries. The observation is in conformity with the theoretical postulate that the crisis widens differences in income distribution or it causes relative deterioration of life standard of workers.

**Table 4. Average Monthly Earning of Labour Households during the Pre-Crisis and Crisis Period (N=350)**

| Income (Rs) | Pre-crisis period<br>Gem polishing |         | Crisis period<br>Construction |         |
|-------------|------------------------------------|---------|-------------------------------|---------|
|             | Pre-crisis                         | Crisis  | Pre-crisis                    | Crisis  |
|             | % share                            | % share | % share                       | % share |
| < =3000     | 18.30                              | 28.00   | 17.2                          | 32.43   |
| 3001-6000   | 29.10                              | 33.10   | 42.0                          | 38.15   |
| 6001-9000   | 20.00                              | 16.60   | 18.4                          | 15.00   |
| 9001-12000  | 7.40                               | 6.90    | 6.3                           | 7.51    |
| 12001-15000 | 8.00                               | 4.60    | 5.2                           | 3.47    |
| 15001-18000 | 1.70                               | 3.40    | 3.4                           | 0.58    |
| 18001-21000 | 4.00                               | 1.70    | 0                             | 0.00    |
| 21001-24000 | 2.90                               | 0.60    | 0                             | 0.00    |
| >=24001     | 8.60                               | 5.10    | 7.5                           | 5.78    |
| Total       | 100.00                             | 100.00  | 100.00                        | 100.00  |

Source: Primary survey

### Section 3

In this section, impacts of economic crisis on the living standard of workers in gem polishing and construction industry are analysed. During the crisis phase wage is curtailed or workers were retrenched in the unorganised sector. Income fall leaves its immediate effect on the expenditure pattern of labour households. Table 5 summarises workers' response to the income fall and its effect on their living standards during the crisis phase. Important observations from Table 5 are:(i) more than half of the labour households in the gem polishing and the construction sectors reported to have reduced their food expenditure in following ways: (a) stopped / reduced eating non-vegetarian food and eating out; (b) skipping breakfast; (c) stopped/ reduced eating vegetables/ milk consumption. Other measures resorted to adjust to the fall in income included; (ii) shifting to low cost residence (6.28% in gem polishing; 8.6% in construction); (iii) stopped treatment to prolonged illness like diabetics, blood sugar and arthritis (46% in gem polishing, 63.80% in construction), reduced health expenditure by shifting treatment from private to government hospital, ignoring pains and other diseases in the initial phase, stopped consultations at doctors' residence and shifted to low cost medicines (28% in gem polishing and 66.8% in construction sectors); (iv) women and children were pushed

into the labour market to compensate the fall in family income (6.28% in gem polishing and 25.90% in construction). On expenditure reduction on education, labour households resorted to: (i) stopped attending school/college, shifted from private to government school. In the gem polishing industry, 15.40 % of labour households reported to have reduced expenditure on education and the corresponding proportion in construction sector was 26 %. It is important to note that expenditure reduction on girl children were found to be more pronounced. There is yet another sociological dimension too to the crisis. More than 40 % of the labour households in gem polishing and 64.40 % in construction industry reported to have been undergoing economic stress driven psychological disorder, and resorted to excessive drinking and smoking. Further, 26.28 % of labour households in gem polishing, 55 % in construction sector reported escalation of domestic violence during the crisis period, the brunt of which falls mostly on women and children. Crisis appear to be more severe in construction sector, which is attributable mainly to two factors: (i) a higher share of socially vulnerable groups (*Dalits* and *Adivasis*) in the workforce; (ii) compared to gem polishing workers, construction workers live in nuclear or single member households.

**Table 5. Impact of Economic Crisis on Labour Households in Gem Polishing**

N=350 (% distribution of households)

| Impact indices                        | Gem polishing |       |                | Construction |       |                |
|---------------------------------------|---------------|-------|----------------|--------------|-------|----------------|
|                                       | Yes           | No    | Not applicable | Yes          | No    | Not applicable |
| Reduced food expenditure              | 51.42         | 22.87 | 25.71          | 54.28        | 34.29 | 11.43          |
| Changed residence                     | 6.28          | 65.14 | 28.57          | 8.60         | 74.70 | 16.70          |
| Stopped sending money home*           | 5.71          | 41.71 | 52.57*         | 10.23        | 24.57 | 63.21*         |
| Stopped treatment                     | 46.00         | 38.28 | 28.57*         | 63.80        | 25.90 | 10.30*         |
| Reduced health expenditure            | 28.00         | 45.14 | 27.42*         | 66.80        | 31.90 | 12.30*         |
| Sent children to work                 | 5.71          | 64.59 | 29.7*          | 13.71        | 44.43 | 42.85*         |
| Reduced education expenditure         | 15.40         | 53.70 | 25.70*         | 26.00        | 45.43 | 29.67*         |
| Women and children pushed to work     | 6.28          | 61.14 | 32.58*         | 25.90        | 61.50 | 12.60*         |
| Domestic violence/conflict            | 26.28         | 42.28 | 29.71          | 55.00        | 13.38 | 31.72*         |
| Excessive drinking                    | 13.14         | 29.71 | 57.45          | 43.40        | 47.20 | 9.40           |
| Income or job loss driven depression? | 40.57         | 28.00 | 31.43          | 64.40        | 18.40 | 17.20          |

Note : 1. \* denotes the proportion of households for whom the questions were not applicable. For instance, stopped sending money home was applicable to those who had migrated leaving their family partly or fully in the village.

2. Stopped treatment indicates stopping medicines or reduced intake of regular medicines for prolonged illness such as diabetes, blood sugar or the diseases of such sort. Reduced medical expenditure means general reduction in consulting doctor, postponing visit to hospitals, administering medicines at home and so on.

Impact of the economic crisis by income group in gem polishing and construction industry is reported in Table 6 and 7 respectively. Important observations emerging from the Table 6 are: (i) about half of the labour households reported to have cut their spending on food during the crisis period, of which 65.51 % of them belonged to the lowest two income groups; (ii) 17.71 % of labour households reported to have reduced expenditure on health, of which more than 60 % were from lowest three income strata; (iii) on education, 15.47 % of the sample households reported a cut, of which more than 60 % were again from the lowest three income groups; (ii) to tide over the crisis situation, 12.57 % of households sold off their assets, among them more than 70 % were from lowest three income groups. Table 7 showed that the proportion of labour households who had reduced expenditure on food and health in construction industries were higher than in gem polishing industry and further the low income groups were found to be worst hit victims in both construction and gem polishing industry.

Table 6. Response to Economic Crisis- Gem Polishing Industry (by Income Group)

| Income Class (Rs.) | % of house holds N=175 | Sold assets N=22 (12.57%) | Changed children educations N=27 (15.47%) | Reduced food expenditure N=87 (49.71%) | Reduced Health expenditure N=31 (17.71%) |
|--------------------|------------------------|---------------------------|---|--|--|
| <=3000             | 18.29                  | 27.27                     | 11.11                                     | 31.03                                  | 6.45                                     |
| 3001-6000          | 29.14                  | 22.73                     | 25.93                                     | 34.48                                  | 29.03                                    |
| 6001-9000          | 20.00                  | 22.73                     | 25.93                                     | 17.24                                  | 25.81                                    |
| 9001-12000         | 7.43                   | 13.64                     | 11.11                                     | 6.90                                   | 16.13                                    |
| 12001-15000        | 8.00                   | 9.09                      | 7.41                                      | 4.60                                   | 12.90                                    |
| 15001-18000        | 1.71                   | 0.00                      | 3.70                                      | 0.00                                   | 3.23                                     |
| 18001-21000        | 4.00                   | 0.00                      | 0.00                                      | 0.00                                   | 0.00                                     |
| 21001-24000        | 2.86                   | 0.00                      | 0.00                                      | 0.00                                   | 6.45                                     |
| >=24001            | 8.57                   | 4.55                      | 14.81                                     | 5.75                                   | 6.45                                     |
| Total              | 100.00                 | 100.00                    | 100.00                                    | 100.00                                 | 100.00                                   |

Note: Figures in the parenthesis indicate the percentage share of labour households who responded to the question. For instance, out of 175 labour households, only 22 households (12.57%) reported to have sold assets. Those 22 households were divided into different income groups.

Source: primary survey.

Table 7. Response to Economic Crisis by Income Group : Construction Sector  
(N=175)

| Income class<br>(Rs.) | House<br>holds<br>N=175 | sold assets<br>N=18<br>(10.29%) | Changed<br>children<br>educations<br>N=19<br>(10.86%) | Reduced<br>food<br>expenditure<br>N=92<br>(52.57%) | Reduced<br>Health<br>expenditure<br>N=111<br>(63.46%) |
|-----------------------|-------------------------|---------------------------------|---|--|---|
| < =3000               | 25.29                   | 16.67                           | 36.84   | 28.26  | 11.71   |
| 3001-6000             | 37.93                   | 38.89                           | 31.58   | 44.57  | 41.44   |
| 6001-9000             | 17.82                   | 22.22                           | 26.32   | 19.57  | 19.82   |
| 9001-12000            | 7.47                    | 11.11                           | 5.26  | 5.43   | 10.81   |
| 12001-15000           | 3.45                    | 5.56                            | 0.00  | 0.00   | 5.41  |
| 15001-18000           | 0.57                    | 0.00                            | 0.00  | 0.00   | 0.00  |
| 18001-21000           | 1.15                    | 0.00                            | 0.00  | 1.09   | 1.80  |
| 21001-24000           | 0.00                    | 0.00                            | 0.00  | 0.00   | 0.00  |
| >=24001               | 6.32                    | 5.56                            | 0.00  | 1.09   | 9.01  |
| Total                 | 100.00                  | 100.00                          | 100.00  | 100.00   | 100.00  |

Note: Figures in the parenthesis indicate the percentage share of labour household in the sample size of the industry

Source: primary survey.

Previous analysis revealed that workers' had responded to the economic crisis driven unemployment, wage loss and income fall by squeezing themselves on food as well as non-food items. However, measures resorted to and the scale of reduction was not uniform across different social groups within income strata. It is, therefore, important to examine statistically whether a *Dalit or Adivasi labour households* as compared to others were affected by the crisis driven income fall in the same scale and magnitude. Underlying theoretical implication of the question posed above is that economic crisis is heavier for workers in low income strata, within which those from socially backward communities turn out to be the worst hit ones. It is also important to note that other worker characteristics such as skill, education, workers' nativity, family type do influence the heaviness of the blow handed down during the crisis phase.

Although the economic crisis impacted on the living conditions of workers in general, the magnitude of the impact in terms of expenditure reduction was more severe for workers was in the socially vulnerable group in the unorganised sector. The hypothesis is tested using Logit model. The logistic distribution function takes the following form:

$$L_1 = \left( \frac{P_1}{1-P} \right) = \beta_1 + \beta_2 X_1 + \beta_3 X_2 + \beta_4 X_3 + U_t$$

Where  $L_1$  is the impact of the economic crisis on worker measured in terms of expenditure on food, health and education;

$\beta_1$  is the intercept and  $\beta_2$  to  $\beta_4$  are partial slope of coefficients of monthly household income (difference in monthly family income between crisis and pre-crisis periods), social origin of labour households and place of residence (migrant or non-migrant) of labour households respectively. The null hypothesis is tested using likelihood ratio statistic, which is equivalent to  $F$  test in OLS<sup>1</sup>.  $\hat{\alpha}$  values in Table 8 gives partial coefficients, which measures the change in the estimated logit for a unit change in the value of the given  $X$  variable. However, a better way of interpreting the slope coefficients in Table 8 is in terms of odds that can be arrived at by taking the *antilog* of the slope coefficients.

$Y$  variable is binary form of expenditure on food and non-food items;

$Y=1$ : if a labour household has made reduction in expenditure on food, health and educations during the crisis period (November 2008 to May 2009).  $Y=0$ , otherwise.

Social group ( $X_1$ ) = 1: If the household belongs to *Dalits* (Scheduled Caste) or *Adivasi* (Scheduled Tribe) and ( $X_1$ ) =0, otherwise.

Income ( $X_2$ ) = Difference in monthly family income from primary and secondary occupations during the crisis period as compared to pre-crisis period.

Migrant ( $X_3$ ) =1: If labour household is a migrant workers from other district or state and ( $X_3$ ) = 0, if the household is a local or a resident within the district (non-migrant)

Table 8. Factors Influencing Crisis Impact on Workers –Logit Model

| Variable                 | Coefficient | Std.error | Odds | Significance Z |             |
|--------------------------|-------------|-----------|------|----------------|-------------|
|                          |             |           |      | statistic      | Probability |
| Social Group ( $X_1$ )   | 1.3380      | 0.324     | 1.00 | 4.126          | 0.043       |
| Income ( $X_2$ )         | 0.000072    | 0.000035  | 3.81 | 2.025          | 0.00        |
| Migrant worker ( $X_3$ ) | 0.3739      | 0.255     | 1.45 | 1.46           | 0.142       |

Cox & Snell  $R^2$  0.073 Nagelkerke  $R^2$  0.105

Note : 1. Odds are the antilog of coefficient. It is used for the ease of interpretation.

2. Dependent variable = Expenditure on food, health and education; Mehtod : Binary Logit



The regression coefficients of logit models are interpreted with respect to the sign of  $\hat{\alpha}$  rather than the value of coefficients. The relationship between the income fall driven reduction in expenditure on standard of living and social origin of labour households are found positive and significant. Table 8 gives the following observations: (i) impact of economic crisis on the living standard is defined in terms of reduction in food, health and education expenditure for *Dalits* and *Adivasis* are about four times (3.81 odds) higher than those in other communities. In other words, the probability of withdrawing a child from school or stop taking medicines and reducing expenditure on health due to income fall is four times higher for *Dalits* and *Adivasis* as compared to others; (ii) migrant worker is put to hardships 1.46 times more than her-counter part residing within the area of work or a non-migrant; (iii) it is worth mentioning that the income bore the expected positive sign and was significant indicating that a unit change in income, even at a smaller extent, exert pressure on workers to reduce their expenditure. Underlying implication of the relationship is that the fall in employment days and subsequent decline in income leads to deterioration in absolute and relative standard of living of workers in general, while the same for labour households from *Dalits* and *Adivasis* and more severe.

### **Economic crisis on indebtedness**

Workers in the unorganised sector often possess a fragile asset base, which is kept as the last resort and disposed only in case of exigencies. Their assets include small savings, a little bit of gold ornaments, household durables, cattle stock, tiny piece of land or the very dwelling place. More than 20 % of labour households in gem polishing industry reported that they had either pledged or sold out whatever little assets possessed within a short span of less than six months of the crisis. An analysis of the pattern of borrowing sources and purpose of borrowing revealed that 48.08 % of labour households had borrowed to meet expenditure on health, marriage and education purpose before the crisis was set in. Conversely, as recession tightened its grip over the workers, they borrowed primarily to meet consumption expenditure (54.21%) and for festivals and other social functions (21.26%). Borrowing for education and health related needs have considerably reduced to 6.38 % of the total borrowing during the crisis period. It is valid for gem polishing and construction industries. More worrisome is the fact that the informal sector figure out to be the major source of borrowing for the workers during the crisis period as compared to the pre-crisis period. Average amount of debt per indebted household declined during the crisis period because the purpose of borrowing during the crisis period was mainly to meet the consumption expenditure and other inevitable social func-

tions like marriages which the labour households used to meet from their small savings from wage income. Moreover, even money lenders refuse to pay to workers during the crisis period as the workers repaying capacity has greatly reduced.

## **Conclusion**

Analysis of the impact of economic crisis in the Indian context is largely confined to its causes and likely macro economic consequences. The study analysed the impact of the crisis, based on household level data elicited during the crisis period from labour households in gem polishing and construction industries in Rajasthan. During the crisis period, workers in general tried to adjust to the wage loss and consequent income fall by spending less on their physical as well as social life. In the initial phase of the crisis, workers tend to trim down spending on their social life, followed by a reduction in expenditure on health and education. As the crisis persisted, the workers were left with little other alternative but cut back expenditure on even necessities absolutely indispensable for their perpetuation and reproduction (food, shelter, clothing, etc). As the crisis continued unabated, they were rather compelled to reduce the very quantity of food intake. Reductions in spending on the necessities of life tantamount to the absolute deterioration of life standard of workers which would leave the younger generation of the labour force crippled costing dear even to the capital and the state. The social life of workers too was relegated as they cut back their spending on cultural life. On top of it is the economic distress driven domestic conflict, violence and depression, the brunt of which fell mostly on women and children. The study found expenditure reduction food, education and health and sale of assets were mostly done by workers in the lower income strata in both industries. Further that the scale and magnitude of unemployment and income fall due to the crisis on the living standard were more severe for labour households of Scheduled Castes and Tribes. For migrant workers, the hardships further severe.

Even though the Indian economy is reported to have been gradually recovering from the crisis, children who were withdrawn from schools and colleges, health hazards of those who had cut back their spending on food and medicines, especially children, women and the aged ones are not retrievable to the pre-crisis level implying that the crisis-led destruction endures. The only viable solution to thwart the deterioration in the living standard of workers is their political mobilisation and their organized act to exert pressure on the state to increase budgetary allocation for social service and relief package, at least in the short run.

## Notes

<sup>1</sup> In 1727 A.D., when Jaipur was built, Maharaja Jai Singh invited a number of jewellers from Delhi, Agra and Benaras to start the gem polishing and jewelry industry in Jaipur. Maharaja, as part of his extended patronage to the industry, renamed the principal market in Jaipur as 'Johari Bazaar' meaning the 'market of jewellers'. Israel, West Germany, Thailand, Sri Lanka and Taiwan were other main gem polishing centres in the world. The US is the biggest buyer of gems especially emeralds from India and France, Hong Kong, Italy, Japan, Kuwait, Saudi Arabia, Singapore, Switzerland, UK and West Germany are other important export markets for Indian jewels. Gem polishing industry is the single largest employer in Jaipur city. An estimation way back in the late 1980s showed that 60,000 workers were engaged in the industry. The very structure and production mode in the industry give ample scope for the employment of child labour and it has been estimated that least 10,000 children were employed in the gem polishing industry in 1979 and yet another estimate in the late 1980s has shown that 13,000 children below the age of 14 (or over 20 % of workers) are engaged in the industry (Mathur 1991). If those children between the ages of 15 and 18 are also included in the total workers engaged in the industry, the percentage share of children would add up to 40 %. Child workers in the industry are often engaged in making holes in beads and women workers perform bindai work on precious stone. The demand for workers specialised in the manufacture of a particular product is influenced by its demand in the international market. The great influx of child labour into the industry is relatively a recent phenomenon, for the international demand for gems has risen sharply. (for a detailed account of origin and development of gem polishing industry in Rajasthan, see Burra 1988).

<sup>2</sup> The estimates on the trend, export and import of gem and jewellery are based on the statistics from Centre for Monitoring Indian Economy.

<sup>3</sup> *Other impacts* included primarily the lukewarm attitude of the employer to the worker. Even if a worker of more than five years of experience in production unit does not turn up for a few days, employer does not enquire but replace him with another one, which never used to be case in the past. It was reported to be common for unskilled and semi-skilled workers. In the construction sector, there existed no factory or workshop, but the master mason preferred more able bodied and young male worker to the female and aged workers. Moreover, employers in gem polishing and master mason or contractor in the construction sector misbehave or abuse the worker on trivial issues. The employers' attitude tempted many workers to quit the employer in especially in gem polishing. In the construction sector, it was reported that not turn up for work in common meeting place in the morning by less capable and female workers in the case of construction sector.

<sup>4</sup> As the maximum likelihood method is a large sample method, the standard errors are asymptotic and therefore, Z statistic is used to evaluate the statistical significance. In binary regression models, R<sup>2</sup> or McFadden R<sup>2</sup> productiveness is rather limited as a measure of goodness of fit and therefore R<sup>2</sup> and the values of  $\hat{\alpha}$  have only secondary importance (Gujarati and Sangeetha 2007). What matters is the sign of  $\hat{\alpha}$  and its implicative statistical significance. One way of arriving at a reliable goodness of fit from the obtained R<sup>2</sup> is to calculate count R<sup>2</sup>, which is the ratio of number of correct predictions to n (total observations). The thumb rule says, if slope coefficient is above 0.5, it is taken as 1 and if it falls below 0.5, for prediction, it is equivalent to zero.

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