

Discussion Paper Series A No.407

**An Analysis of Labor Quality in the Unorganized Sector:
Does the "Strong Religion" Disturb Labor Management?**

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February 2001

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I Our Analytical Standpoint and the Survey Design

1. The Problem to be Analyzed

We have previously examined one of the conventional hypotheses of the labor market in developing countries, namely that female labor is inferior in quality, marked by weak commitment to work.¹⁾ Based on our own factory survey of workers' job-consciousness, we have statistically proved that female labor is in no way essentially inferior to male labor, particularly in terms of work morale which is regarded as important qualities of labor. This also has cast a strong doubt to the view that the very small share of female workers in the labor market of developing countries can be explained by the supposedly inferior quality of female labor.

By the similar statistical tool, we would like to investigate another conventional hypothesis of the labor market in developing countries, that is related to a fundamental issue of labor management: it is often pointed out that in many developing countries the religion with strict commandments or a strong social value system tends to hamper modernization; when it prevails in factory production, it becomes a negative factor for commitment to work, making it extremely difficult to attain high productivity.²⁾

Especially by joint venture companies, is such tendency pointed out that it is prominently observed in the Muslim community factories where labor management often gets into trouble. For example, labor officers in those companies consider frequent worships(five times a day), fastings(particularly in Ramadan), or the holy Friday system as an obstacle to the labor discipline or a disturbing factor for work morale.

However, we should begin by asking whether this hypothesis is really true or not since it has been adopted as an uncontested assumption without any empirical proof. More specifically we would like to clarify in this paper whether the so-called strong

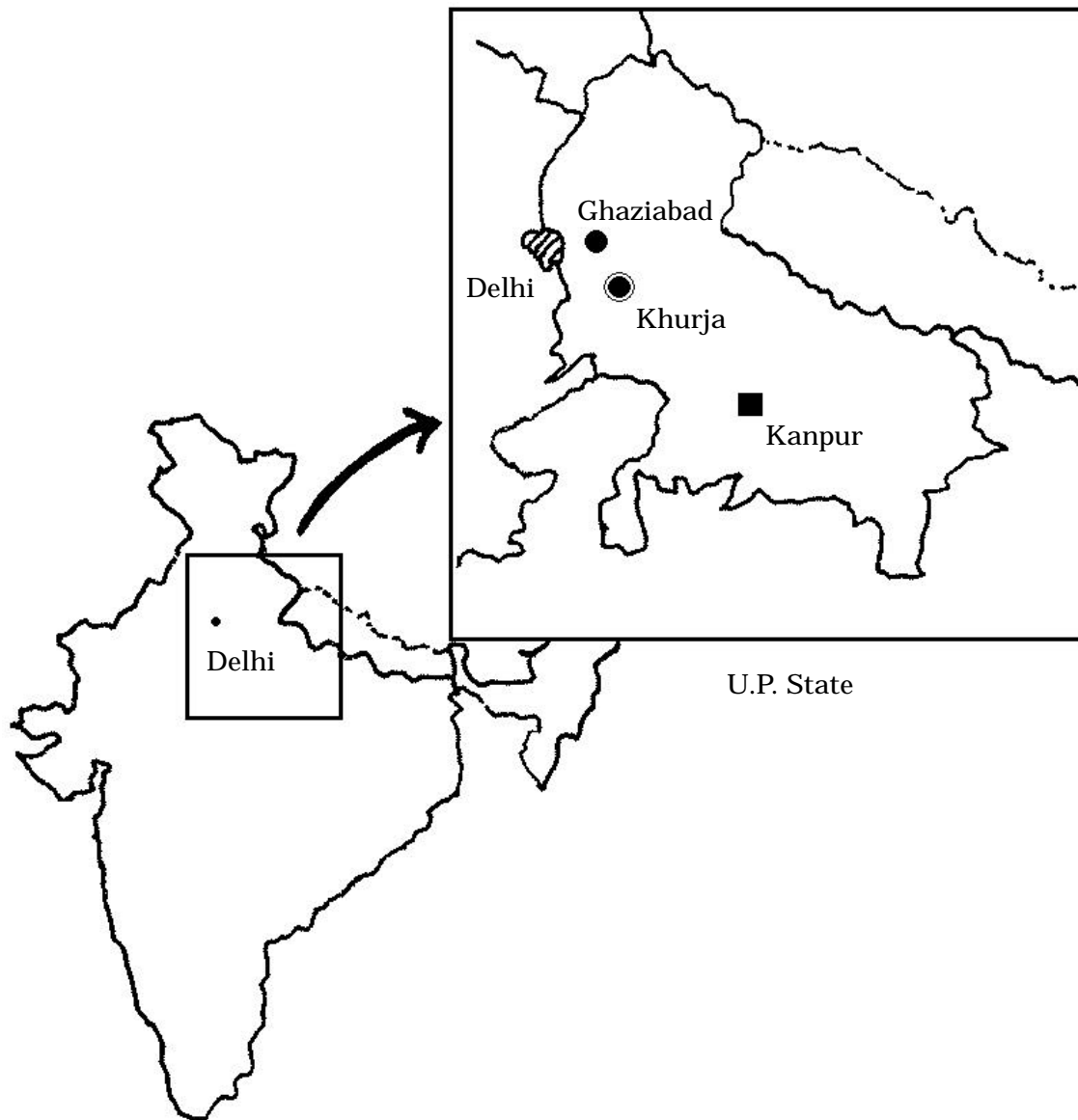
religion(e.g.Islam) can possibly hamper labor management or not, based on the result of our own survey which was designed to confirm the validity of the above hypothesis although the representability of the selected sample has some limitations.

For this purpose, we started out first by searching for an appropriate sample that contained both Muslim and non-Muslim (e.g.Hindu) people working the factories (establishments) in the same industry, which were located in the same region. We did so because, if different work attitudes or labor productivities were to be observed among two groups of workers with their own religion or value system respectively, living in far different societies (for instance, India and Pakistan), it would be almost impossible to discern whether or not that difference was truly due to the factors related to religion or the value system. In other words, only by fully and strictly controlling factors other than religion (the social value system), can one correctly see the relation between religion and labor discipline or work attitude.

It is also preferable, if possible, that our sample contains a large number of Muslim female workers so that we can compare and contrast the results with our previous analysis of the work attitude for Hindu female workers. However, it is extremely difficult to find such a sample in one country (particularly in India) that meets the above conditions, because there are not so many cases where people with different religions are employed as main workers in the same industry within one region. If we add the condition that female workers should be employed there, our choice is even more limited.

Thus, after the feasibility study for various industries, our target sample was finally selected to be the pottery industry in Khurja, which was a small city in Uttar Pradesh in India (Figure 1). Khurja is a typical small city in a rural area, which takes about three hours by car or train from Delhi with a population of approximately seventy thousand, evenly split between the Muslims and the Hindus. As the major industry, the cottage industry of pottery is predominant, centering on the manufacture of household tableware, although there are some service industries such as the repairing of farm machinery and a distribution center for village commodities. Concerning the aggregate data, however, even the Khurja Pottery Association does not possess accurate numbers, and therefore, the following is what was reassembled of the fragments of information that we had gathered in the process of our survey.

Figure 1 Location of the Survey Conducted



2. Pottery Industry as the Unorganized Sector

There are about five hundred pottery workshops of various sizes in Khurja, and the pottery industry alone is presumed to be providing employment to approximately twenty-five thousand workers, including the employment in all related industries.³⁾ It is, however, mostly the petty cottage industry using crude production methods, which is quite different from the image one might have for a modern manufacturing sector. In India, the pottery industry has been a typical example of village industry or

rural industry,⁴⁾ and very limited number of establishments have modern technology and managerial organizations of the factory industry.

In our study, for the above reason, although we tried to include larger establishments with factory-type modern production, we ended up with a sample in which more than the half was made of small-scale establishments with about twenty workers. The pottery industry, which is mostly composed of these small and medium scale establishments, is usually classified in the unorganized sector, which is exempt from the factory law and various government regulations in India. Hence, the sector is also called the non-factory sector by this reason, viz. in the statutory sense.

More exactly, the unorganized sector is formally defined as the factories or establishments that (1) do not belong to the registered sector that is composed of factories with motive power and not less than ten people (or factories without power but not less than twenty people); (2) do not belong to the large-scale industry sector that is characterized by the value of invested machinery and equipments in the factory, more than two million rupees; and (3) have employment of twenty-five people or below. However, as these three concepts (the factory law, and the sizes of capital and labor) are not strictly mutually exclusive, the definition is in fact quite ambiguous.

Moreover, the actual application of the factory law itself is rather complicated. For instance, we visited some large establishments where more than fifty people worked there and the motive power for wheels was installed. Nevertheless none of them were treated as the registered factory, probably because many workers were employed informally, such as seasonal or casual employment. The pottery industry can thus be regarded as a typical part of the unorganized manufacturing sector.

In other words, most of pottery factories are not the factory in the statutory sense. But the term “factory” is also used to mean simply the organic system for production, irrespective of whether it satisfies or not the conditions in the factory law. Although the rigorous definition of the factory system is of significance, we use hereafter the term “factory” in the broad and non-statutory sense, including the so-called establishment.

Intuitively speaking, it is reasonable to say that the unorganized sector is the small-scale industry that produces traditional goods by using conventional skill and organizations; and actually in the case of pottery manufacture, too, it can be said that it is by and large the extended form of the production method using these conventional skills and organizations. In this sense, it should be noted that our survey is designed in such a way that we can compare and contrast with our previous study of workers' attitude and job-consciousness at factories belonging to the organized sector.

Pottery is generally characterized by small-scale production, as it was commonly so in pre-war Japan. However, in the case of Japan, its very small scale pottery production was supported by the system of subcontracting and division of work at various stages,⁵⁾ from kneading porcelain clay, over-glaze painting and sometimes under-glaze painting, glazing, to firing in the glost kilns; in contrast, in Khurja such division of work is not necessarily fully developed. Their characteristic is rather that each pottery factory is equipped with full-scale coal-fired kilns for glost firing suited for the size of each vertical production.

This should be closely related to the technological level of the pottery industry in Khurja; the mainstay chinaware produced in this region are tableware, flower vases, and low-pressure insulators that are made of clay-colored, opaque stoneware with water-imperviousness, and as they are coarse stoneware that are fired at the temperature as low as around 1,100 – 1,200 °C, their quality is inevitably quite low. In terms of thermal efficiency, currently used down-draft kilns by coal are uneconomical and costly, especially in India where it is not easy to obtain coals; this inefficient production makes their market narrower.⁶⁾

However, as far as we can see, the biggest problem lies, not in the low quality of raw materials or equipment itself, but in extreme coarseness seen at the stage of wheel-shaping and china-painting. As there are not even craftsmen specializing in shaping or painting, it goes without saying that there are no skilled workers for place-in or firing products in kilns. To put it differently, the small scaleness generally seen in the pottery industry in Khurja or India is a characteristic, arising from the result of neglecting the quality control, and also arising from the underdevelopment of specialization in skills and technology.

This is also true in the composition of workers. In general, it is said that the ratio of full-time workers by formal contracts to all workers is extremely small at pottery factories in India. This means that production is mostly dependent on seasonally-hired, casual workers.⁷⁾ This is so in Khurja, where full-time employees are limited to a few skilled workers and supervisors, while most of workers are unskilled, seasonal workers hired under ad hoc contracts with the high turnover.

This is partly because the production of earthen ware halts in rainy seasons by physical reasons, and because domestic demand weakens, bringing down the annual average firing rate for kilns in Khurja to as low as 10-20%. On the other hand, however, as our survey reveals, although the labor turnover is very high, the shortness is the point of view at the factories currently employing such casual workers, and in most cases, workers themselves are engaged in pottery manufacture for a long term.

Therefore, it is conjectured that this employment policy reflects the low wage policy by the management side, and that it is also a maneuver to circumvent the application of the factory law. As a result, it is often witnessed that children are accompanied by their mothers in workshops to serve as assistants, and all this should be interpreted as the reflection of the low standard of labor management in the Khurja pottery industry. It goes without saying that such labor management is inseparable with the level of technology, centering on the production of low-quality, low-price crockery for the low-income group in this country.

3. Survey Design and Sample Attributes

Out of the workers with the above-mentioned characteristics, we have sampled workers and supervisors, both male and female, and Muslim and Hindu, to conduct interviews regarding their job-consciousness for work attitudes. The interviews were conducted in December 1994, which took about one week. Although the total number of samples was only one hundred, it took more time than we had expected, because we had no prior information on the size of each factory, the composition of male and female workers, or the religions of workers.

In case of the organized sector, statistical information on the number of factories and their workers, albeit somewhat outdated, were usually obtainable via some kinds of channels, but this time, such information on the un-organized sector was not available at all. Especially, the Khurja Pottery Association by and large existed in name only, and it did not possess any systematic statistics, which forced us to revise our sampling design somewhat. In any case, we fully realized the difficulty in conducting a survey of the unorganized sector in India.

Therefore, a musterroll at each factory was not available (although one should expect that a payroll should exist to record the payment of wages), which made random sampling impossible in selecting workers from different strata. In this sense, some degree of reservation is required in calculating sampling errors and in generalizing our conclusion in this paper. Because of such a significant shortage of prior information, our various efforts for scientific sampling ended up in snow-ball sampling.

Another factor that led us to take more time than expected may be due to a little complex sampling design for stratification required to prove the hypotheses that we were examining in this paper; in addition to the religious factor of Hindu and Muslim, we had to introduce some other attribute dimensions, such as the male vs. female distinction and the worker vs. supervisor distinction. To be more specific, as the

allocated sub-sample sizes are shown in Figure 2, we placed the biggest emphasis on the female Muslim workers, and we designed our sampling in such a way that the sum of male workers and supervisors (SV: all males) would not surpass the number of female workers. Thus, as we had to start our sampling with small-scale factories where there is no prior information at all on religious attributes of workers, it took a great deal of time in the final stage of adjustment.

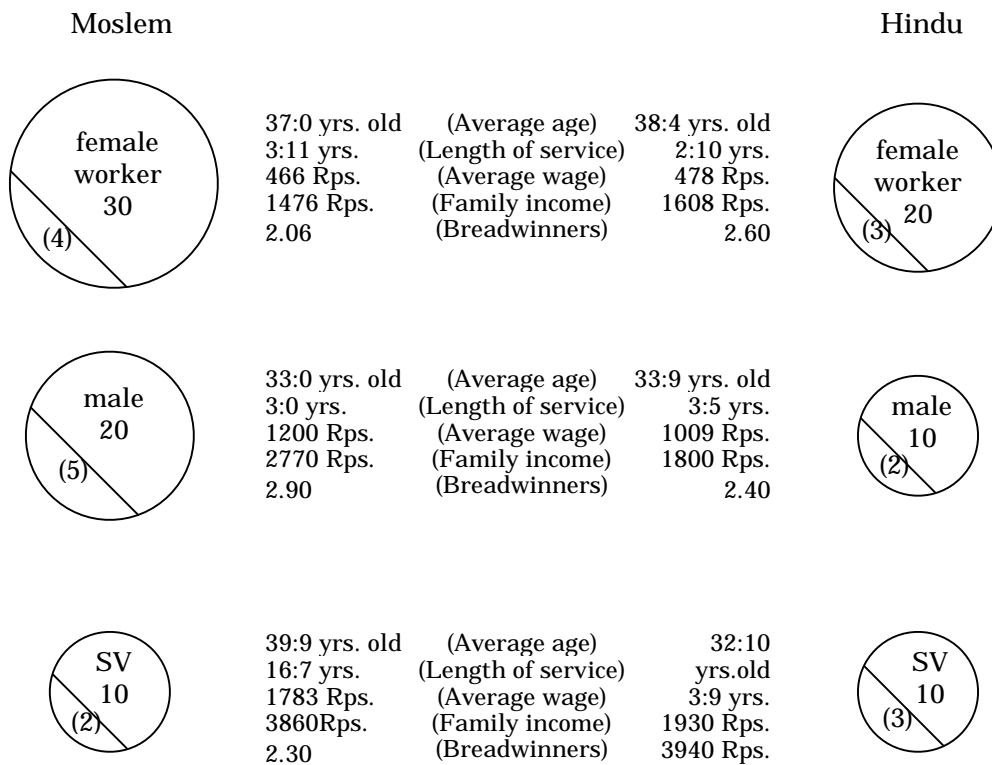
As the result, in order to achieve the sample allocation as shown in Figure 2, we have visited twenty-six factories in total. This was mainly because (1) we had to increase the number of factories to obtain the target sample-sizes for supervisors and female workers, who were not so many, and (2) we limited our interviewees to those whose main job was pottery production even if they were casual workers under an annual contract.⁸⁾ In our sample, the average employment size was 27.7 (median : 22.0) for the selected factories, where 20.4% was occupied by female workers on the average. This share is by far the larger proportion than the alleged average for the overall pottery industry in Khurja, which stands at 10%.

As an interviewer, in consideration of the minority-consciousness of the Muslims people, we employed three male-and three female-Muslim students (including two graduate students) at Meerut University. Also, for our assistants who would arrange interviews and supervise interviewers, we asked a graduate student at Jawaharlal Nehru University and a market research specialist in Delhi to accompany us, whom we left some management tasks, after our training the interviewers.

For our questionnaire, we modified the one used in 1990 to survey the organized sector, by eliminating thirteen questions that were not appropriate for the unorganized sector, and supplementing three questions (See Appendix; but the original is written in Hindustani). Consequently, as in our previous study, it was composed of questions on the instrumental attitude, commitment, and job satisfaction(for 5 constructs), as well as the basic attributes of interviewees. The analysis of such job-consciousness will be discussed in the next section, and we would like to first confirm the basic attributes of our sample.

The summary data of major information are shown in Figure 2. Looking at the average ages, workers are in their thirties for all groups, but the average age of female workers is higher than male workers. There is no large difference between the Hindus and the Muslims except for supervisors. The Muslim supervisors are older in age, which is directly linked with their significantly longer years of service.

Figure 2. Basic Attributes of Sampled Data



The average years of service for most groups are only 3-4 years; however, as we have pointed out above, this does not necessarily mean the shortness of work experience. As most of the workers (83% of the total) are casually hired under ad hoc contracts, it is often the case that they already have sufficient experience in other factories.⁹⁾

As for the wage (salary) levels, they are rather lower than those in the organized sector. This is especially so for female workers, whose earnings are much less than the earning levels in the organized sector as shown in our previous study,¹⁰⁾ and even in comparison with male workers in the same industry, they earn less than the half of their male counterparts. In Khurja, the demarcating wage level between skilled and unskilled workers is generally said to be around 1,500 rupees, and judged from this respect, the status of female workers is nothing more than auxiliary labor.

Such a wage gap is even larger when the average household income for each group is compared; it is clear that there exist distinct social strata in terms of income. This can be conjectured to some degree by examining the information on father's occupations (Question I-G: hereafter similarly given the question number of the

questionnaire in the appendix). For instance, in the cases of supervisors, their fathers are landed farmers, owners or supervisors of pottery factories, or shopkeepers; in contrast, the fathers of female workers are often rickshaw-pullers, street vendors, weavers, or construction workers.

On the other hand, another factor that indirectly creates these social strata is education. The illiteracy rate (I-J) for all workers and supervisors is amazingly at 66%. While there is little difference in illiteracy rates between the Muslims and the Hindus, the illiteracy rate for female workers reaches 92% (53% for male workers; 20% for supervisors). This implies not only the reason for their low wages, but also the coarse level of the Khurja pottery industry. For supplementary information, 41% of male workers were graduated from elementary or secondary schools, while about 40% of supervisors were graduated from high schools. On the background of these basic attributes, let us move on to the analysis of the job-consciousness and its determinants, for workers and supervisors.

II Analysis of the Survey Result

1. Hypothesis: Religion and Occupational Status as the Determinants of Job-consciousness

When the so-called “strong religion” such as Islam prevails among workers, it supposedly exerts negative influence on labor management, which should be in principle ruled by economic rationality and functionalism; the main objective in this paper is to examine whether such presumption is true or not.

For this purpose, we would like to test the hypothesis, not through measuring labor productivity itself, as is usually done, but by grasping job-consciousness - specifically workers’ motivation to work, loyalty to the factory, strong interest in the work, job-first attitude, etc. - which is finally linked to (or at least closely related to in the long-term) labor productivity. In other words, we will represent the job-consciousness general by four specific key concepts(constructs) - commitment and instrumental attitudes, plus family-orientedness and attitudes towards social sex-discrimination (gender consciousness): the latter two, measuring the modernity in social consciousness, are the background factors related to the direct work attitudes, i.e. the former two, and ask what determines these job-consciousness.

To be more specific, is there obvious difference in such job-consciousness depending on the difference in religion? As it is known that differences in

occupational positions in a broader sense,¹¹⁾ such as supervisors or workers, and male or female workers, usually bring about the differences in job-consciousness, we have to ask whether the religious difference creates the greater difference in job-consciousness than the case of occupational difference; if we are to say that religions more strongly dominate job-consciousness, it must be a more dominating factor, going beyond the occupational position factor.

To put it differently, we are measuring the difference in job-consciousness, due to religions in contrast to the difference due to occupational positions, which is regarded as a standard of comparison. Therefore, in the following section, we will measure the differences in job-consciousness due to religious factors and to occupational factors, in terms of the above-mentioned four constructs. In order to apply the discriminant analysis,¹²⁾ as we did in our previous study, we will numerically calibrate by giving the scores to response alternatives for each question, to convert the ordinal scale into the interval scale and measure the discriminatory power of each variate (question) in the discriminant function. The questionnaire is basically composed of close-ended attitudinal questions and to be filled by our staff. We spent about one hour for interviewing one person because of precise explanations of unfamiliar concepts to interviewees, whereas the similar interviews took only thirty to forty minutes in the case of the organized sector.

2. Family-orientedness and Gender Consciousness

First, we tried to identify the degree of family-orientedness of different groups from the answers to the questions III-G, III-H, III-I, III-M, IV-M and IV-P. Here, the “family-orientedness” means the traditional understanding for division of work between males and females, i.e., men should work outside, and women should stay at home for housekeeping and care of children, and also the attitude of putting priority on family life over factory life; we measured the differences in the degree between the Muslim and the Hindu groups, and the supervisor and (male/female) worker groups.¹³⁾

The results are both significantly (at 1% level) identifiable for the former and the latter contrasts, respectively. Now, we show the result of our discriminant analysis for the case of the Muslims vs. the Hindus group. (r is a canonical correlation coefficient, and λ an eigenvalue):

$$F(\quad) = 0.083 - 0.152 \text{ III G} - 0.577 \text{ III H} + 0.503 \text{ III I} \\ + 0.620 \text{ III M} - 0.292 \text{ IV M} + 0.866 \text{ IV P} \dots\dots\dots (1) \\ = 0.432 (\quad = 0.229) \\ F = 3.40 \quad \text{Correct classification rate } 68.8\%$$

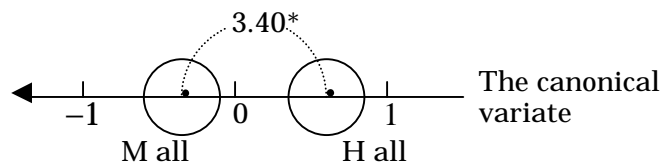
As the above discriminant function shows, the discriminatory power of variates IV-P and III-M is relatively large. For example, as is also shown in Table 1, Muslim people have the stronger notion of traditional division of work between males and females, and they are more family-oriented (Figure 3); however, the result on work-first attitude is rather different (III-M: 38.3% for the Muslims and 25.6% for the Hindus). We consider this is related to the facts that the Muslims earn generally lower income and they find it harder to get a good job since they are minorities.

Table 1 Should Women Do Housework Full-time? (III – H)

	Yes	If possible	Hard to say	Better to work outside	Total
Muslim	26	27	1	3	57
Hindu	13	12	2	9	36
Total	39	39	3	12	93

$$\chi^2 = 9.16 > \chi^2_{0.05} (3)$$

Figure 3 Family-orientedness [H vs. M]



$$F = 3.40 > F_{0.001}(6, 89)$$

Notes 1) ** significant at 1% level, * significant at 5% level

2) M means the Muslims. H means the Hindus.

“all” means the all of male and female workers and supervisors.

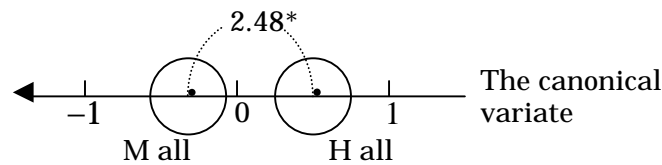
Next, the “gender consciousness ” is considered here to be the concept that men and women have different social roles/functions and different aptitude by born abilities, reflecting the social value system; for this construct, the religious difference and the occupational difference are effective to identify the difference in degrees of the gender consciousness. Although the overall discriminatory power is higher for the latter factor, both significant at the same 5% level, we examine again the case of the different religious groups (Figure 4). The discriminant function is as follows:

$$D () = 0.876 - 1.085 IV A - 0.584 IV C + 0.843 IV G - 0.789 IV K + 0.655 IV L - 0.044 IV R \dots\dots\dots (2)$$

$$= 0.379 \quad (= 0.167)$$

F = 2.48 C orrect classification rate 67.7%

Figure 4 Awareness of Gender Differences [H vs. M]



$$F = 2.48 > F_{0.05} (6, 89)$$

Table 2 Difference in Abilities Between Men and Women (IV - A)

	Men are more capable	The same	Women are more capable	Total
Muslim	46	12	2	60
Hindu	22	16	1	39
Total	68	28	3	99

$$\chi^2 = 5.15 > \chi^2_{0.10} (2)$$

The responses to the question IV - A, which has the highest discriminatory power, are summarized in Table 2. It can be known that, in terms of the gender consciousness, the Muslims generally have a stronger sense of traditional male supremacy than the Hindus. The similar conservative responses to other questions on the gender consciousness are more often observable for the Muslim group.

Judging from the above results, we can conclude that the religious difference as well as the occupational differences gives significant influence on the job-consciousness, such as the gender consciousness or the family-orientedness. At the same time, do such value systems have large influence on the more central aspects of the job-consciousness, such as basic constructs of the commitment and the instrumental attitudes? Let us discuss it in the next section.

3. The Instrumental Attitude and Commitment

It is known that when workers or managers are confronting with a recession or trouble, there is a great difference in their behavior and motivation, depending on whether they find the value of a job in job-content (work itself), or in job-context (the remuneration from a job). Such an attitude of regarding a job as an instrument to obtain remuneration so that one gets satisfaction outside one's job is called the "instrumental attitude," which has been studied mainly in industrial psychology and management science.

Thus, the instrumental attitude is partly overlapping the reverse side of commitment, and when workers have more of such an attitude, they tend to show stronger interest in other working conditions than wages and also their working environment; however, as they do not expect much from a job, the degree of satisfaction tends to be higher.¹⁴⁾ Then, if people have the so-called "strong" religion, will such an instrumental attitude become stronger? In order to confirm this, we apply the same procedure to religiously and occupationally different groups respectively.

Our results show that there is no difference in the instrumental attitude between Muslim and Hindu people. On the other hand, there exists a clear and significant difference (at 1% level), among three different occupational groups (see Figure 5). We have two canonical discriminant functions corresponding to two eigenroots, as there exist three groups.

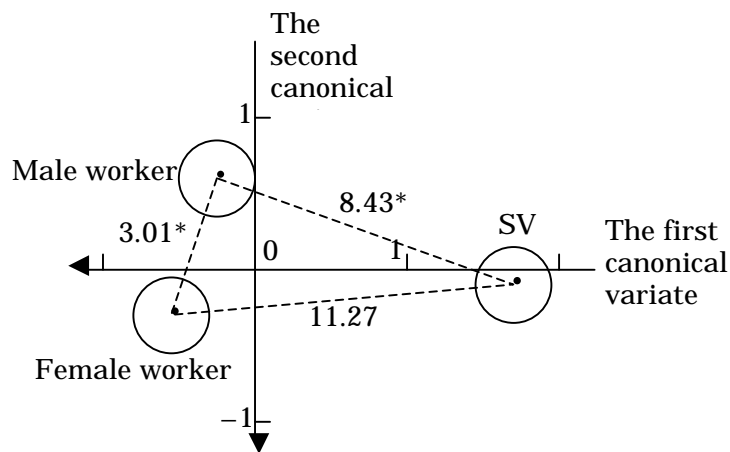
$$I(\lambda_1) = 1.377 + 0.455 \text{ II G} - 1.292 \text{ II I} - 0.271 \text{ II U} \\ - 0.040 \text{ III Q} - 0.001 \text{ III R} + 0.283 \text{ IV J} \dots\dots\dots (3a) \\ \lambda_1 = 0.661 \quad (\lambda_1 = 0.777)$$

$$I(\lambda_2) = 0.954 - 1.193 \text{ II G} + 0.437 \text{ II I} - 0.295 \text{ II U} \\ - 0.699 \text{ III Q} - 0.536 \text{ III R} - 0.085 \text{ IV J} \dots\dots\dots (3b) \\ \lambda_2 = 0.402 \quad (\lambda_2 = 0.192)$$

F = 6.838 Correct classification rate = 65.3%

As is shown in Table 3, the above difference in the instrumental attitudes reflects the following fact that for female workers whose working conditions are extremely bad, a good job means more payment or easier works. When it comes to male workers whose working conditions are a little better, the aspects of work other than the means to earn a livelihood, such as human relationship at workplace and interesting quality of work (II - U, IV - J), come to be valued; further, in the case of a supervisor whose standard of living is guaranteed above a certain level and who has certain responsibility and authority, he can think more about the satisfaction and joy from work itself.

Figure 5 The Instrumental Attitude [Occupational Status]



F=6.84 > F_{0.01} (12, 180)

Table 3 What Is a Good Job? (II – I)

	Good pay	To be a worthy job	Good relations with workmates	Can work for many years	Easy work	Total
Female Workers	32	0	0	2	16	50
Male Workers	14	0	3	8	5	30
Supervisors	3	9	3	3	2	20
Total	49	9	6	13	23	100

$$\chi^2 = 60.79 > \chi^2_{0.01} (8)$$

The instrumental attitude is the concept that tries to capture the strong interest in work itself or valuing work from the negative opposite side, whereas commitment is the concept that directly captures the positive minds or attitudes that support the interest in such job-content. In other words, the construct “commitment” that governs the quality of labor here means the composite of such active attitude and psychology as promote a sense of identities to one’s job or factory, the induced loyalty and psychological adaptability, and strong motivation to work or eagerness to accomplish assignments, etc.

To identify the difference in commitment, we have estimated a discriminant function for the Muslim and the Hindu groups, and found that there is little difference between them. On the other hand, the degree of commitment largely varies depending on the occupational positions (Figure 6). They can be clearly identified by variates III-S, IV-B and III-P as indicated in the following discriminant functions:

$$C (\lambda_1) = 1.293 + 0.034 II C + 0.550 III P + 1.696 III S + 0.506 III T + 0.566 IV B \dots\dots\dots (4a)$$

$$\lambda_1 = 0.556 (\lambda_1 = 0.447)$$

$$C (\lambda_2) = 1.517 + 0.666 II C - 0.139 III P + 1.014 III S - 0.055 III T - 1.556 IV B \dots\dots\dots (4b)$$

$$\lambda_2 = 0.239 (\lambda_2 = 0.060)$$

F = 4.151 Correct classification rate 57.4%

One of the typical examples of this commitment is given in Table 4; while more than 90% of female workers prefer to change jobs if they are offered higher wages, 40% of supervisors intend to stay at their present jobs even if they are offered higher payment. That is, the latter group's commitment to their jobs is actually reinforced by facts that their jobs require adequate skills and experience (II - Q) and that they take pride in such jobs (II - D), which are uncovered by the matched tabulation.

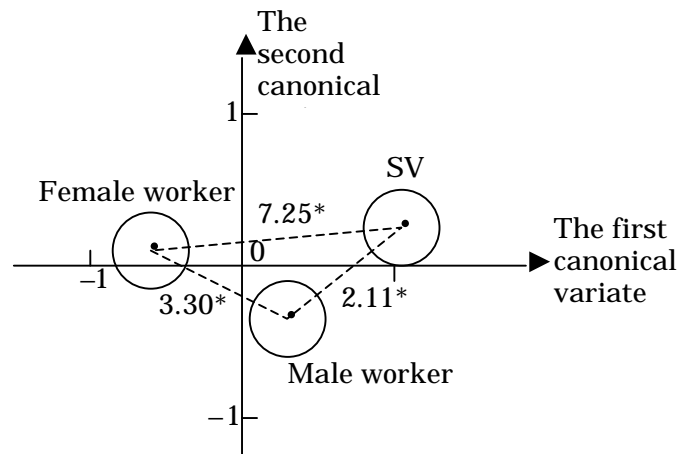
Thus this commitment is indeed a very important job-consciousness in the sense that it psychologically controls the motivation to work, loyalty to a factory, and cooperativeness. In other words, commitment is the most significant psychological attitude that determines the inner quality of labor. Regarding this central construct, commitment, what we could confirm here is that there is no significant difference between the Muslims and the Hindus, more generally, that the religious difference itself does not bring about any difference in commitment.

Table 4 Possibility of Changing a Job if Higher Pay Is Offered (III – P)

	Will change a job	Not certain	Will not change	Total
Female Workers	46	0	4	50
Male Workers	20	2	8	30
Supervisors	11	1	8	20
Total	77	3	20	100

$$\chi^2 = 14.51 > \chi^2_{0.01} (4)$$

Figure 6 Commitment [Occupational Status]



$$F=4.151 > F_{0.01} (10,174)$$

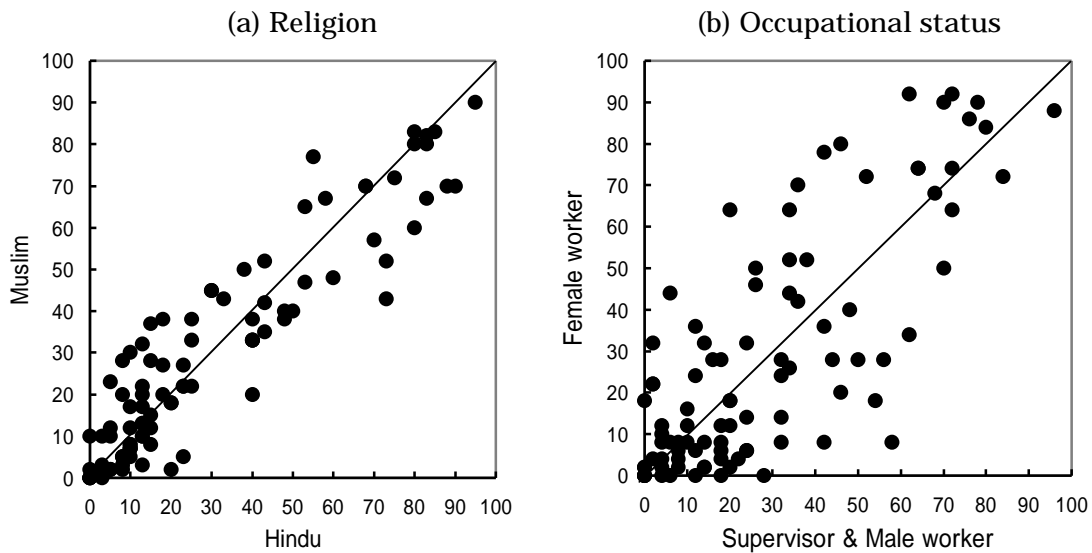
We have already observed that the religious difference is clearly linked with the different views of the social division of work between men and women, and also of family-oriented behavior. These aspects sensitively tend to reflect differences in culture and value-systems, and therefore, it is expected that they would derive some differences of job-consciousness, originated from different views of family, gender or money.¹⁵⁾

On the other hand, as we have seen in the analysis regarding the work-first attitude, when faced with more serious and impending situations, economic rationality and pecuniary necessity increasingly come to play larger roles, surpassing differences in religions and culture. Therefore, it can be said that the factors such as wage levels, employment types or responsibility in the job, become more controlling factors for job-consciousness, and the differences in occupational positions which reflect those factors dominantly create the differences in job-consciousness in the long term. Our analysis has confirmed that this is particularly so for the main concept of job-consciousness such as commitment.

Thus, when considering the overall job-consciousness, it is easy to imagine that the differences in job-attitudes due to different occupational positions overwhelm those due to different religions. For instance, as a convenient tool to intuitively confirm this,

Figure 7 provides the dispersion diagram of each response rate matched with two different attributes of religions or occupational positions. As is evident from the deviation from the 45 ° line¹⁶⁾, it can be easily found that the difference in job-attitudes due to occupational positions(b) is by far greater (a less similar distribution of response rates than in the case (a) of the religious difference).

**Figure 7 A Comparison of Different Answering Ratios
vis a vis Different Attributes**

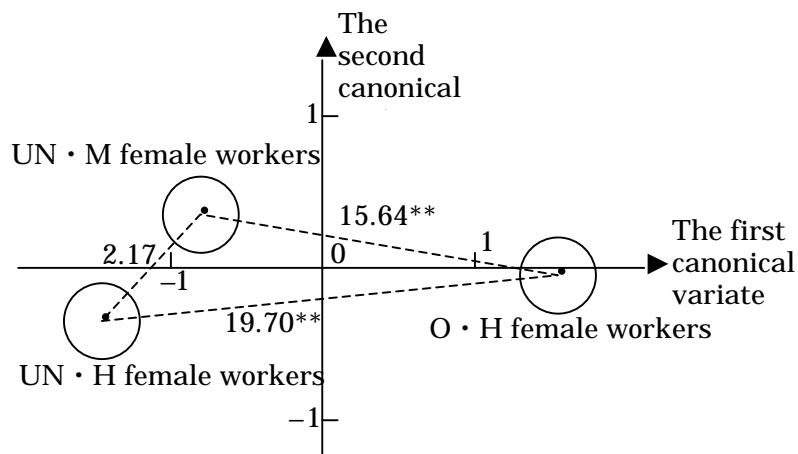


In other words, these overall results imply that, coming back to our original hypothesis, even if some religion or value-system may exert influences on job-consciousness even in the case of Islam which is considered to be the “strong” religion, such influences do not heavily disturb labor management, since economic factors ultimately prevail in job-consciousness in the long term.

III Conclusion : A Comparison with the Organized Sector

Yet, while strong religions or cultures do not themselves become any obstacles for labor management, neither do they guarantee high degree of commitment or motivation to work. An occupational structure more strongly dominates job-consciousness, which suggests the importance of labor management. In fact, the difficulties in an organized sector exactly lie there.

Figure 8 Comparison of Commitment [Organized Sector vs. Unorganized Sector]



$$F=10.22 > F_{0.001} (10,142)$$

- Notes 1) O means the organized sector and UN the unorganized sector.
 2) For the organized sector, the data of 41 people in the above-mentioned work by Kiyokawa, "Rishokusha no shokumu ishiki" are used.

Figure 8 (the discriminant functions are omitted) shows a comparison of commitment for female workers in the organized and unorganized sectors. As is evident here, the degree of commitment in the unorganized sector is distinctly low both for the Muslims and the Hindus. Also even in the case of supervisors whose commitment level is expected higher (Figure 5 and 6), it can be confirmed that their commitment is significantly lower than the counterparts in the organized sector.

Such a poor commitment is almost identical with low intensity of work or less willingness to work, which is concurrently and closely related to the labor management itself in the unorganized sector. While the low quality of industrial labor in developing countries has been studied so far in the context of X-inefficiency or the principal - agent relationship, of which the concept pays enough attention to psychological aspects or workers' initiatives, there is almost no doubt that a solution of the problem lies in labor management in the conventional sense. Further more, the only feasible way to raise the standard of labor management itself is to improve quality of managers through higher standards of their education. Without it the vicious circle of low quality management low quality labor low productivity can not be broken. At the same time, we can find there a breakthrough that promotes to function economic rationality beyond the restraints of religion or culture.

Note:

* I obtained a great deal of cooperation from the staff at the Institute of Economic Growth (Delhi) in conducting my survey in India. Particularly, Professor P. C. Verma helped me to realize the interview survey in Khurja. I also express my thanks for the financial supports given by Matsushita International Foundation and Science Research Fund of the Ministry of Education.

1) Refer to my prior work, "Indo kogyo joshi rodoryoku no shitsu o megutte [The quality of female industrial workers in India]," *Keizai Kenkyu*, Vol. 44, No. 1, (Jan. 1993).

2) This problem has often been discussed in the framework of "modernization" in Japan or East Asia. In such cases, the Confucian ethics was emphasized as a contributing factor to economic development, which often implied its comparative advantage over the Islamic culture in Arabia and Africa. In the Islamic countries on the other hand, the compatibility of the market mechanism with the Islamic law is often debated. One example of previous works that referred the Confucian culture as a determinant of East Asian economic development, is Ezra F. Vogel, *The Four Little Dragons*, Cambridge: Harvard U.P., 1991. The role of the Confucian ethics is emphasized also in Harry T. Oshima, *Economic Growth in Monsoon Asia: A Comparative Survey*, Tokyo: University of Tokyo Press, 1987. A survey that discusses the significance in China is Lin Jia-yan "Chugoku kindaika niokeru jukyo bunka no yakuwari [The role of the Confucian culture in the modernization of China]," *Keizai Ronso* (Keio University), No. 97, July, 1994. In the Islamic world, there is an academic field of Islamic economics, of which the main issues can be found for example in R. F. Faridi (ed.), *Essays in Islamic Economic Analysis*, New Delhi: Genuine Publishing & Media, 1991.

3) According to our interviews at the Pottery Development Center in Khurja, the number of employees in a narrow sense is approximately 10,000 and about 200 *factories* belong to the Khurja Pottery Association. Out of 500 pottery workshops, 120(non-factory organization) are said to share the kilns provided by the Center.

4) The pottery industry as a typical village industry has been protected and fostered under the Khadi and Village Industries Commission Act (started in 1956) since 1956 when the Second Five Year Plan started. There are many reports on village industries, and two examples are: Government of India, *Report of the Working Group on Khadi and Village Industries*, Ministry of Law and Social Security, Government of India, 1964, and V. K. R. V. Rao, et al., *Evaluation Report of the Intensive Area Scheme*,

Bombay: Khadi and Village Industries Commission, 1965.

5) For instance, see Kyoto-shi, Shakai-bu (ed.), *Kyoto-shi niokeru tojikigyo to sono jujisha ni kansuru chosa* [A survey of the pottery industry and its workers in Kyoto], Kyoto: Kyoto-shi, 1940, and Aichi-ken, Shakai-ka (ed.), *Tojiki seizo jugyosha no rodo to seikatsu* [Work and life of employees in the pottery manufacturing industry], Nagoya: Aichi-ken, 1926.

6) Central Glass & Ceramic Research Institute (Khurja Centre), *Activities and Major Achievements*, Lucknow: Gov. of Uttar Pradesh, c1993. Although tunnel kilns by oil firing have been gradually introduced and production of bone china was recently started, such innovating activities are not necessarily successful.

7) The circumstance has not been changed much. To know more about the employment system at large-scale factories, see to Ahmad Mukhtar, *Report on Labour Conditions in Potteries*, Delhi: Labour Investigation Committee, Government of India, 1945. Also, for recent village industries in Uttar Pradesh, including the pottery industry, see G. P. Mishra, et al., *Village Industries and Agriculture in Changing Agrarian Situation*, New Delhi: Ashish Publishing House, 1985.

8) We limited our samples to the main workers under the definition of the population census, who worked for more than six months in a year. Therefore, even if the factories employed the marginal workers who worked for less than six months, and the take-home workers who brought home unfinished goods to complete them at home, we excluded them from our sample.

9) Question I-K reveals that many of the supervisors are also working under the one-year contract. It seems that only for the cases of Muslim supervisors, they are employed for much longer period under some other different rules. The factories that those workers previously worked are tremendously varied, and do not show any systematic patterns or tendencies resulted from worker's shifts.

10) According to our survey that was concurrently conducted in the organized sector, the average wage for female workers was 2,451 rupees a month. However, we have to discount the fact that the factories are in the suburb of Delhi and that those factories are largely dependent on the labor of female workers. For more details, see my previous work, "Rishokusha no shokumu ishiki • zanryusha no shokumu ishiki [The job-consciousness of the workers who remained or left their factories]," *Keizai Kenkyu* Vol. 47, No. 3, July 1996.

11) The distinction between male workers and female workers is the difference in attribute, not the functional differences such as in status or roles for their work. However, it is rarely seen that male workers and female workers do the same job side

by side, and there are always different roles, different wage systems, and different employment patterns between them. Therefore, in the following analysis, we regard the *de facto* functional differences among supervisors, male workers and female workers as the occupational status structure.

12) For estimation of the discriminant functions, I used a statistical packaged program of BMDP. For compiling the data, I got a great deal of cooperation from the statistical service section at the Institute of Economic Research, Hitotsubashi University.

13) For a comparison between the Muslims and the Hindus, our sample includes by the design the same number of males and females to eliminate any factors attributable to gender differences. On the other hand, in a comparison between males and females, if the sample of all supervisors (all males) is combined with that of male workers, the ratio of the Muslims to the Hindus becomes 6 to 4 in each group.

14) However, probably because of extremely low wages in developing countries, such a phenomenon is rarely seen. To know more about the definitions and previous findings for instrumental attitude and job satisfaction, see the above-mentioned work by Kiyokawa, "Indo kogyo joshi rodoryoku no shitsu" and also the references cited in it.

15) By Question V-A, we asked their judgements on occupations in terms of respectability, but we did not find any differences arising from occupational or religious differences. Both of them do not have a high regard for managers, and it is common that they both regard doctors highly, but police and army lowly. In China, teachers at primary school are regarded highly, but this is not the case in India. For more details, see my previous work, "Chugoku ni okeru kigyo kaikaku no shinten to shokumu ishiki no henka [Enterprise reform and the changes in job-consciousness in China]," *Keizai Kenkyu*, Vol. 45, No. 2, Apr. 1994.

16) Any point on the 45 ° line means that the ratios of answers to each multiple-choice questions by the attributes on the horizontal axis and the vertical axis take the same value. This method is adapted from Chikio Hayashi (ed.), *Hikaku nihonjin ron* [A comparative study of Japanese people], Chuokoron-sha, 1973, Chap. 1. The related difficulties are discussed in the above-mentioned work by Kiyokawa, "Chugoku ni okeru kigyo kaikaku." Although the same conclusion can be rigorously reached by applying the discriminant analysis using all variables, we adopted this graph as it was intuitively easier to understand.

AN ATTITUDE SURVEY ON FEMALE LABOR IN INDIA

Name of Interviewer _____

Date and Time of Interviewing _____

This survey has only a purely academic purpose. It will never be used for other purposes. So, please feel free to answer the questions as you really think. If there are questions you don't want to answer, please say so.

Name of Interviewee _____

Sex: 1. Male 2. Female

I Basic Information on the Interviewee

Before answering the questions, let me know some facts about yourself and your family.

A. How many years have you worked at this factory? 1. _____ Years
(Or from when did you start to work? i. From _____)

B. (Deleted)

C. What sort of job do you do at this factory?
1. Dept. _____ 2. Sect. _____ 3. Status _____

D. Where are you living? Address 1. _____
Type of the dwelling 2. (i. Own house ii. Company house
iii. Rental room iv. Dormitory)

E. How do you commute to that factory?
1. On foot 2. By bicycle 3. By bus 4. Others

F. How long does it take to commute from your dwelling to work?
1. Less than 30 min. 2. 30 min. — 1 hr. 3. 1 — 2 hrs.
4. More than 2 hrs.

G. Where were you born? (Or where did you grow up?)
Name of District 1. _____ (i. Rural ii. Urban)
Father's occupation 2. _____

H. How old are you now?

1. _____ years old (When were you born? i _____)

I. What is your religion?

1. Hinduism
2. Moslim
3. Buddhism
4. Christianity
5. Others

J. What was your highest level of schooling.

1. Primary school
 2. Middle school
 3. High school
 4. College
 5. Graduate school
 6. Technical (or vocational) school
 7. None
- * (i. Graduate ii. Incomplete, dropout)

K. What is your employment status?

1. Permanent employee
2. Casual employee (i. _____ Months per year)
3. Part-timer (i. _____ Hrs. per week)

L. How much are your monthly earnings (including all allowances)?

1. _____ Rps. per month

M. How is your health?

1. Good
2. Not very good (i. Name of illness _____)

N . (Deleted)

O. Are you married?

1. Unmarried
2. Married
3. Divorced
4. Widowed(Separated)

P. How many children do you have?

1. None
2. One
3. Two
4. Three
5. Four
6. More than four (Their ages? i. _____ Years old, ii. _____ Years, iii _____ Years, iv. _____ Years)

Q. Now many persons do you have in your family (those who live together)?

1. _____ Persons

R. Among them how many persons are working?

1. _____ Persons (Who and who? i. _____, ii. _____)

S. Who is the breadwinner (main income earner) in your family?

1. Myself
2. My spouse (husband or wife)
3. Father
4. Brother
5. Others

T. How much is your family's total monthly income (earnings)?

1. _____ Rps. Per month

II On Job Satisfaction

I will now begin to slowly read aloud questions, once, and answers, twice. Please choose only one answer which you think is closest to your view or judgement.

A. Are you satisfied with your present job?

1. Completely satisfied
2. Well (almost) satisfied
3. Neither satisfied nor dissatisfied
4. A little dissatisfied
5. Very dissatisfied

B. (Deleted)

C. If your son or daughter were offered a job identical to yours, what advice would you give him (her)?

1. Strongly recommend him (her) to take the job
2. Urge him (her) to decide for him (her) self
3. Urge him (her) to search for a better job than mine

D. If you have occupational pride, is it the pride in the organization (company) or the work?

1. In our organization
2. In my work
3. Don't have the pride

E. (Deleted)

F. Do you think that you have good relations with your workmates?

1. Yes, I have
2. Not so good
3. Neither good nor bad

G. Which is more important to you, the working conditions such as wages or working hours, or the human relations with fellow workers?

1. Working conditions
2. Human relations
3. Hard to say

H. (Deleted)

I. What does the "good job" suggest you most in the following reasons?

1. High wage
2. To be a rewarding (worthy) job
3. Good relations with workmates
4. Can work for many years
6. Easy work

- J. How do you feel about your wage (salary)?
1. Should be a little higher
 2. Reasonable
 3. Very satisfied
- K. What do you think about your working hours?
1. Prefer shorter hours even with lower wage
 2. Reasonable
 3. Prefer longer hours in order to earn more income
- L. How are the safety conditions in your work surroundings?
1. I sometimes feel they are dangerous
 2. Very good
 3. No problem
- M. What do you think about the amenities and welfare facilities of this factory?
1. Very good
 2. Satisfied
 3. Poor (What kinds of facilities should be improved?
 - i. Toilets
 - ii. Drinking fountains
 - iii. A mess room
 - iv. A recreation room
 - v. A commuter bus
 - vi. A canteen
 - vii. A medical room
 - viii. Others)
- N. (Deleted)
- O. (Deleted)
- P. Does your job require grave responsibility?
1. Yes, requires great responsibility
 2. Almost no responsibility
 3. Neither great nor small
- Q. Does your job require skill and experience?
1. Requires a lot
 2. Requires a little
 1. Almost no skill and experience
- R. What do you demand most on your job?
1. Would like greater responsibility
 2. Would like more on-the-job-training and technical education
 3. Nothing
- S. How do you feel about your job?
1. Monotonous
 2. Boring
 3. Repetitious
 4. Interesting
 5. Rewarding
 6. Laborious (hard work)
- T. Which do you prefer, time-rate wage or piece-rate wage?
1. Time-rate wage, which is not affected by the speed of work
 2. Piece-rate wage, which guarantees more wage for harder work

U. If you are offered an opportunity for the job-change, what kind of a job will you choose?

1. A job with higher wage
2. A job requiring higher skill
3. An easier job
4. A more challenging and interesting job

III The Meaning of Work and Family-orientation

A. How did you find your present job?

1. By the referral (introduction) of my friend
2. By the referral of my parents, brothers or relatives
3. Through the recruitment of company

B. [Women only] When you got a job at this factory (or at some other place for the first time), did someone in your family object to your employment?

1. No one
2. Yes (Who did?
 - i. Husband
 - ii. Husband's parents
 - iii. My parents
 - iv. Children
 - v. Husband's brothers)

C. [Women only] Who is the main housekeeper in your family?

1. Myself
2. My mother
3. Husband's mother
4. My daughter
5. Husband's sister
6. My sister
7. Domestic servant

D. [Women only] How many hours on the average do you have to do house-work everyday (on a working day)?

1. Less than 1 hr.
2. 1 – 3 hrs.
3. 3 – 5 hrs.
3. More than 5 hrs.

E. [Married women only] Does your husband help you with housekeeping and childcare?

1. Does not help
2. A little cooperative
3. Very helpful

F. [Married women only] Do you want your husband to help more actively with housekeeping?

1. Want him to spend more time helping
2. Satisfied as is
3. Need not spend so much time

G. When a wife has a job outside the family, do you think that her husband should share the housework sufficiently?

1. Yes, I completely agree
2. It is better if he helps
3. Hard to say whether he should or not
4. I don't think so

- H. Do you think that women should as a rule stay at home, if they have no economic necessity to work outside the family?
1. Yes, I do
 2. It is better to devote her time to housework, if possible
 3. Hard to say whether she should or not
 4. It is better to work outside, if circumstances permit
- I. Do you think that a mother who has young children should stay at home?
1. She should devote her time to childcare at home
 2. If it is economically necessary, she may have no choice
 3. Should work outside without regard to childcare
- J. [Married men only] Does your wife have a job outside?
1. Yes
 2. No
- K. [Married men only] Do you want your wife to stay at home and devote herself to housework, rather than work outside?
1. Yes
 2. Yes, if circumstances permit
 3. Prefer for her to work and earn money
- L. [Married men only] Do you think that your wife should spend more time on housework?
1. Yes
 2. Satisfied as it is
 3. No
- M. Which is more important to you, family life or work life?
1. Family life
 2. Work life
 3. Hard to say which
- N. [Women only] What is the main reason for your working outside the home?
1. To supplement the family income
 2. To obtain pin money
 3. Don't want to stay at home
 4. Because my work is interesting
 5. Want to have social relations
 6. To earn my own keep
- O. [Women only] If your family was guaranteed enough income from other sources, would you quit your job?
1. Yes
 2. No
 3. Hard to say yes-or-no
 4. Would change the present job
- P. If some other factory offered you a much higher wage for the same job as present, would you accept the offer?
1. Yes
 2. Hard to say yes-or-no
 3. No(Why? i _____)

- Q. Which do you prefer, earning extra income by working overtime or regular return home with regular payment?
1. Prefer overtime
 2. Hard to say which
 3. Prefer regular return even without extra income
- R. In what sense is your job important to you?
1. Because it brings income
 2. It provides human relations
 3. To work is enjoyable
- S. If some in your family is sick, what do you do?
1. I will take a leave and accompany the person the hospital
 2. I will go to work and get a family member to take him to the hospital
 3. Cannot say anything without seeing the condition of an illness
- T. Are you often hindered in your work (absence or tardiness) due to the illness or accidents of your family members?
1. Frequently
 2. Sometimes
 3. Rarely

IV View on the Quality of Female Labor

- A. Do you think that female workers have the same abilities as those of male workers?
1. Men have higher productivity
 2. Yes, completely the same
 3. Women are superior to men
- B. Do you think that for your present job the same productivity can be attained by either male or female workers?
1. Men are more appropriate
 2. Women are more appropriate
 3. No difference between men and women
- C. Some people believe that women are not suitable for positions on the managerial staff such as a supervisor or forewoman. What do you think?
1. No, women are not suitable (Why? i _____)
 2. Yes, women also have the enough abilities
 3. Hard to say which, depending on the person
- D. Which do you prefer for your own superior (boss), a male or female superior?
1. Male
 2. Female
 3. Indifferent
- E. How are your human relations with your superiors?

1. Very good
2. Not so good
3. Neither good nor bad

F. (Deleted)

G. When a male manager is supervising female workers, do you think that discrimination against women is apt to be often observable?

1. Yes, often observable
2. No discrimination
3. Hard to say whether it exists or not in general

H. (Deleted)

I. When women work in the factory, do you think some special protections such as the restriction of working hours or the paid menstruation leave are indispensable for them?

1. Definitely indispensable
2. Not necessarily
3. Hard to say which

J. What is the main reason for you to continue I your present job?

1. Because of a high wage
2. Because of a short journey to and from work
3. Because the job is interesting
4. Because of unavailability of other jobs
5. Because my work is a part-time job

K. When men and women do the same job at the same posts, do you think that the same wage should be paid to both men and women?

1. Of course, it should be the same
2. Should not necessarily be the same

L. Often the wage for male workers is actually higher, even when his work is the same as the women. Do you think this is a case of the discrimination against women?

1. Yes, it is
2. Not necessarily discriminatory, due to the higher productivity of male workers
3. Not necessarily discriminatory, since men are the breadwinners

M. Some people think that women are suited to be housekeepers, and that they should stay at home and devote themselves to the housework. What do you think of the view?

1. Women also should actively work outside
2. Women should devote themselves to housework, if circumstances permit

3. Each individual may choose, depending on her personal situation
- N. In recent years the number of employed women in India has hardly increased at all. What do you think is the main reason for this?
1. Managers' discrimination against women
 2. The male-first policy due to the existence of a great number of unemployed
 3. Women do not want to work outside
 4. Men are more suitable for workers
 5. Women have various social barriers
- O. (Deleted)
- P. Do you think that some jobs are suited for men, and some others for women?
1. Yes, some are more suitable for a particular sex (For example? i _____)
 2. No, any job can in principle be filled by either sex
- Q. What do you think about the sharing of the same job at the same posts by men and women?
1. Men and women should respectively devote themselves to different kinds of jobs through the division of labor
 2. It is enough for someone irrespective of sex to do the job
- R. Do you believe that a woman also can become a good engineer, if she is provided enough technical education?
1. Yes, she can
 2. A woman is not suited to be an engineer
 3. Depends on the person, hard to say whether she can or cannot
- S. (Deleted)
- T. (Deleted)
- U. (Deleted)

V. Supplementary Questions

- A. Which occupation do you think is the socially most important among the followings? (Select two with the order of importance) And which do you think is the socially least important? (Select one with a tickle)
1. () Medical doctor
 2. () Engineer
 3. () University professor
 4. () Primary school teacher
 5. () Soldier
 6. () Company manger

7. () Government official 8. () Policeman

B. Which factor do you think is the most important for promoting the work skill? (Select two with the order of importance)

1. () Experience 2. () Educational basis
3. () Supervisor's guidance 4. () In good health
5. () Aptitude of an individual

C. What do you think is the most useful for improving your skill or technical level?

1. Supervisor's technical guidance and OJT
2. Formal technical education outside the factory
3. Motivating surroundings in the factory

D. What do you think of the view that the standard of wages, status and promotions should in principle be based on the educational level (including technical education)?

1. Theoretically I agree
2. Should consider other important factors as well as education
3. Educational background is not an appropriate criterion

E. How do you feel about the regulations in this factory?

1. Too strict 2. Reasonable 3. Should be more strict
4. Strict, but not fully enforced

F. Do you think that competition among workers is very important in factory production?

1. Competition is indispensable
2. Cooperation among workers is more important than competition
3. To employ more workers is more important than competition

G. What do you think about the seniority wage system based on your length of service?

1. Seniority wage is important
2. Egalitarian wage is preferable rather than seniority wage
3. I prefer piece-rate or efficiency wage based on the ability.