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Rapporteur's Report on Impact of Economic Reforms on Rural Employment

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The debate on economic reforms in the agricultural sector has focused broadly on two sorts of issues: domestic market regulations and external trade impediments to the expansion of the growth prospects of rural India. The marketing and processing of agricultural output, for instance, is subject to various controls and interventions such as procurement levies on rice and sugar, laws curtailing the storage of commodities, prohibitions on future markets, etc., which, it is argued, inhibit rural economic growth. Trade liberalisation with its agenda of aligning domestic prices with international prices by removing regulations on external trade such as canalisation is the other strand of the debate where two effects of trade liberalisation may be specified. One effect of removing external restrictions on trade in agriculture is that as international prices are higher than domestic prices, foodgrain prices in India will increase and consumers will be adversely affected. The other effect of trade liberalisation is that higher prices induce a supply response with a resultant increase in rural labour demand and earnings that offsets the higher price paid for the consumption of agricultural produce.

The issue boils down to one of supply response in agriculture and here the evidence has been that overall the supply response in agriculture to prices is low but there is significantly improved supply response when public investments on infrastructure such as irrigation and roads or on technology through improved plant varieties takes place (see Desai and Namboodiri, 2001). It turns out, therefore, that the response of overall agricultural output to trade liberalisation can be significant if we allow for enough time for fixed inputs such as irrigation and technology to respond. These are areas of activity, however, where public investment is critical to creating profitable opportunities that can crowd in private investment. Also, at higher levels of agricultural activity farmers would make greater use of purchased inputs and services such as transportation, storage, and credit. The ensuing access to wider markets encourages diversification of cropping patterns and service activities such as business services, educational and health services, personal services, wholesale and retail trade, etc. Along with diversification there is a corresponding thrust for the share of non-farm employment to rise in activities such as metal products, repairs and construction (see Fisher *et al.*, 1997). The impact of economic reforms on employment is therefore mediated through the differential impacts of price and non-price

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factors, the size, economic composition and delivery of government expenditures, and rural private entrepreneurial responses to the creation of profitable economic opportunities.

The papers on this theme of the annual conference do not, however, proceed from an understanding of the process by which economic reforms enable the growth of rural employment. They take the position instead that the decade of the 1990s was the period when economic reforms were introduced and seek to empirically unearth what happened during this period to employment in the rural areas of the country. The papers accordingly are statistical digests which tell us what has happened on the employment front, but not why it has happened, as they do not generate hypotheses or conceptual frameworks by which we may understand the outcomes that they report. This emphasis on outcomes to the detriment of processes does not allow us to make any policy prescriptions and the papers which nevertheless go ahead and do so are liable to the criticism that they are taking a leap in the dark. As the analytical component in these papers has been underplayed, they have become purely descriptive accounts of the phenomenon of rural employment in India. When we know what has happened but not why, we are not allowing ourselves to learn from history and that implies that we are operating inside and not on the production possibility frontier of knowledge. Moreover, by operating in this manner the papers do not recognise that we have an intellectual heritage which addresses these questions that we can bank on. The papers either ignore or by-pass the previous literature that has been published on the same theme and so do an injustice to our accumulated wisdom on the topic.

Out of 30 papers received, 14 papers are accepted for discussion: two papers are accepted for publication in full length and 12 in summary form in this volume. The two papers that are accepted in full are by A. Bandyopadhyay and A.K. Giri and by R.R. Biradar and S.T. Bagalkoti. The paper by Bandyopadhyay and Giri documents using National Sample Survey (NSS) data that there has been a decline in the rural workforce compared to their urban counterpart in the reforms period. At the level of the states, some states such as Gujarat and Kerala showed a rise in rural usual status employment per thousand persons, whereas, most states showed a decline in this status of employment. We do not know why this occurred - is it because investment climate varies across states as Nicholas Stern (2001) argues? In the rural areas in the nineties, there is increased casualisation of both males and females and this has occurred along with a decline in self-employment. The paper could have disaggregated this to see whether this is due to the growth of non-farm employment in the nineties. The authors would then have reported that almost 90 per cent of the additional employment in the reform period was due to non-farm activities. Is this a pull or a push factor? Again, we need to know. The authors also document that the proportion of people employed in the tertiary sector in the rural areas increased significantly during the reform period. Again the states present a mixed picture with Haryana, Tamil Nadu, and West Bengal not witnessing an increased absorption of

rural males in the tertiary sector during the reform period and Andhra Pradesh and Tamil Nadu being in the same situation with regard to rural females.

The paper by Biradar and Bagalkoti uses the quinquennial reports of the National Sample Survey Organisation (NSSO) for the period 1972-73 to 1999-2000 to document that the growth rate of labour force has been higher than of the population in the rural areas in the nineties. However, the growth rate of the female workforce was negative in that decade. Moreover, labour force participation in the rural areas which began declining in the pre-reform period accelerated, especially for females, in the nineties. The decline in the workforce participation is particularly stark in the younger age groups, i.e., up to 20-29 years of age, and in older age groups, i.e., above 50 years of age. The authors argue that this is due to more young people attending schools and elder age groups retiring early or becoming reluctant to work. These, however, are insufficient as explanations. If, for instance, a person decides to acquire more education, it is only because the wage foregone and the direct cost of acquiring the education is paid back for with a higher expected income over the remaining period of the working life. The expectation then is that the demand for skills is going to increase in the future. Or, the expectation is that in a crowded labour market one of the ways to be hired is to signal better abilities through higher skill and educational acquisition. Which of these hypotheses is true? Also, what if people in older age groups are not really reluctant to work but are unable to work as their skills have become redundant in the new economy of flexible production? The paper would be more useful if it grounded the explanations for the data in the changing pattern of production and decision-making in an environment of rapidly changing markets. The paper also finds that casualisation of employment increased in the rural areas in the nineties and points out that this is due to declining self-employment (which is self evident as casual plus self plus regular employment add up to total employment) and the attempt of employers to reduce labour costs. Casualisation is shown to decrease with education. Why? Is it because the quasi-fixed costs of employing more skilled workers reduces the variability of employment? Finally, the paper argues that it is inconclusive whether the growth of employment in the rural non-farm sector is 'growth led' or 'distress induced' as the real wage rates in agriculture have not declined and the wage rate in rural non-agriculture has not been declining relative to that in agriculture. There is a large debate in the Indian context (see Vaidyanathan, 1994) which this section of the conference should have seen more papers on but which has been mainly neglected.

Of the papers selected for discussion, that by K. Hanumantha Rao and K. Rajyalakshmi find that in the reforms period female employment shifted towards the secondary sector and male employment shifted towards the tertiary sector. Along with this in the rural areas the ratio of agricultural to non-agricultural wages has been rising for males and declining for females whilst in the rural areas female wages as a ratio of male wages have been declining in agricultural but rising in non-agricultural activities. The connection between this and the rising unemployment levels for

females as well as labour market conditions such as casualisation could have been dwelt on in more details - for example, rising unemployment rates for females relative to males is connected to the declining female-male wage ratio in agriculture but given that the non-agricultural female-male wage ratio is improving we could conjecture that unemployment is growing more rapidly in the primary sector. The paper by A. Narayanamoorthy and A.R. Deshpande uses cost of cultivation data from the Commission for Agricultural Costs and Prices (CACP) to find that labour use (man hours per hectare) has declined for all crops except rapeseed and mustard in the post-reforms period whereas the yield (quintal/ha) has improved for wheat and sugarcane, rapeseed and mustard but is approximately the same for paddy, gram and groundnut. The paper points out that increased productivity has not gone hand in glove with increased labour absorption in agriculture. The paper mixes up this yield input relation when comparing it with the conjecture made in its theory section that output growth should result in employment growth when it states that this theoretical proposition is not validated in the empirical finding. The paper conflates yield with output - in fact, agricultural output growth as is well known has been lower in the reforms period than earlier and this has slowed the growth of employment. It also argues that the employment issue has been sidetracked in the reforms period as labour costs as a percentage of cultivation costs are not high. However, the share of labour costs in the cost of cultivation has risen for all crops in the reforms period - one possible explanation for the declining labour use. Hicks as far back as 1932 in his *Theory of Wages* had stated the famous "important to be unimportant" proposition that the importance of the proportion of labour costs to the total costs of production can be neglected only if commodities can be substituted in consumption more readily than inputs can be substituted in production. Thus the demand for labour is likely to be more elastic, the more is the proportion of labour costs to the total costs of production, provided the elasticity of demand exceeds the elasticity of substitution. The paper needs to revisit the theoretical literature before drawing conclusions from the data. There is also a conundrum the paper needs to investigate. The paper claims that real wage rates in agriculture have declined and so has labour use. Given the accepted increased relation between wages and employment we need an explanation for this. Also, we need an explanation as to how the share of labour cost has increased when both the real wage and the labour use have declined.

There are seven papers that focus on regional databases. Two papers focus on Haryana. The paper by R.K. Khatkar *et al.* uses cross-section data from two research bulletins of the Department of Agricultural Economics, Haryana Agricultural University, Hisar. They show that the relative share of crop farming in total farm family income has been declining whilst the share of the livestock sector and other non-farm activities has increased. They use measures of diversification such as the Index of maximum proportion, Herfindahl index and Entropy index to check for crop diversification. Their data reveal a facet of diversification that the authors do not extract - i.e., that increasing crop diversification as measured by the indices is

accompanied by reduced income diversification. Given that the Herfindahl index is linearly related to the coefficient of variation it means that more variation in crop acreage is accompanied by less variation in income. The authors could deal with the economic significance of this at length. The other paper on Haryana by Dalvir Singh *et al.* uses data from the Statistical Abstracts of Haryana as well as some survey data. It is a descriptive paper that finds, for instance, that the area under cereals has increased while for pulses it has declined. Employment levels have marginally increased from 1988-89 to 1998-99 and nominal wages have increased. There is no attempt in the paper to hypothesise a connection between variables and to identify propositions about the changing nature of agricultural diversification in Haryana. Yet another paper on diversification in agriculture based on a sample study of district Farrukhabad in Uttar Pradesh by R.B. Singh *et al.* does mention that crop diversification may be explainable by changing relative prices but having said that, does not test the proposition. The paper thus tells us much less than it could when it states that large farms display a crop pattern which is diversified and balanced. Incomes were found to increase with farm size and larger farms grow high value crops. Also, employment (days per hectare) is the highest in commercial crops like sugarcane and fruits and lower in oilseeds and cereals, but employment as expected increases with farm size.

The paper by R. Rajesh and N. Chitra focuses its attention on Tamil Nadu. The paper does not present any data on wages for the nineties though it has data on workforce participation till 1993-94 and is mistitled as it cannot comment on the economic reforms with such a data set. As it uses secondary data I am at a loss as to why this selective choice of data was made by the authors. Also, the suggestions made such as the need to organise unions of labour do not follow as policy prescriptions from the data presented and are misplaced. The paper by A.S. Solanki and P.M. Sharma is an impact case study of Jhakam Irrigation Project in Rajasthan. The idea that developing irrigation potential in the command area of irrigation projects is an economic reform is a bit stretched. The paper finds, not surprisingly, that labour use is higher in the command area as opposed to the non-command area for crop production. Otherwise, labour use in livestock and other activities is significantly higher than in the command area. Why this is the case is a theme the paper does not pursue which is what it ought to have done. For instance, the pattern of employment may have been a compensating income effect by non-command area farmers and studying this would give us clues about the developmental and diversification process.

Using data collected from the Cost of Cultivation of Principal Crops in Western Maharashtra, K.S. Birari *et al.* find that the share of wheat and bajra in cropping have increased in 1997-98 over 1993-94 at the expense of groundnut and cotton. The days of employment on farms for crop production also increased over this period with hired labour increasing by over 500 per cent whereas own labour increased only by 30 per cent. We do not have a clue, however, as to what economic forces resulted in

such an outcome and whether economic reforms had anything to do with it at all. The paper by B.V. Pagire and H.R. Shinde uses secondary data from government publications to report that both net and gross cropped area declined in the nineties but otherwise has little to say about rural employment except that employment growth in Khadi and village industries has decelerated sharply from 33.3 per cent in the 1970s to 6 per cent in the 1980s to 2.5 per cent in the 1990s. Again, these are facts, and facts tell us what is and not why it is which is the question that a research paper should be asking.

The paper by Sukhpal Singh is a case study of two MNCs, Pepsi Foods and Hindustan Lever's role in employment generation in rural Punjab. It was found that as the crops grown for these MNCs such as potato and other vegetable crops are more labour intensive than traditional crops, these have better employment opportunities, especially for women. However, it is cautioned that employment generation may not continue as mechanisation of planting and harvesting is being considered. Also, though women have got more work opportunities, their wage is lower than that of male wage workers. Off-farm employment has also not been generated by these projects. The study by Usha Tuteja on female rural employment found that their labour force participation rate declined for all age groups in the nineties. This was accompanied by (a) more casualisation and less regular employment, (b) marginal increase in female employment in the tertiary sector at the expense of the secondary sector, and (c) a decline in usual status unemployment. On the basis of this, the author concludes that education and skill upgradation of rural women is a required policy implication but it is not demonstrated how this conclusion follows from the data, thus requiring us to treat it more as a personal opinion.

The final paper I report on by K.N. Rai *et al.* is the only paper in the section of the conference which attempted to estimate the determinants of agricultural employment in India. The methodology, however, has been inappropriately applied - one of the casualties of the increasing ease with which computer packages are available today. The paper attempts to explain agricultural employment first through looking at the impact of the barter terms of trade. The data are split into the period 1971-90 and 1991-96, the latter being far too short a period for any meaningful regression exercise. In the first period the terms of trade negatively affect employment and in the second they positively affect employment but over the period 1971-96 the model has an extremely low explanatory power. This suggests that there is a turning point in the terms of trade data after the mid-1980s or so and that a dummy or some non-linear estimation should have been attempted. Subsequent attempts at finding out whether other explanatory variables such as capital formation in agriculture or per capita income mattered found no significance for the estimates on these variables in the 1990s mainly because of only six observations being used to do the regression - a meaningless exercise.

I would like to conclude by reiterating that the papers at the conference have been conceptually wanting, they have been far too descriptive, and sometimes have

quickly drawn policy lessons which do not necessarily emerge from the processes that underlie the data which is presented. They also do not engage with the literature which has addressed these questions and bypass an accumulated bank of knowledge that informs us about these very issues. The papers have given us a snapshot of events - they have not given an explanation or an account of why the events occurred. To explain an event is to give an account of why it happened as it happened. That did not take place in this section of the conference.

It would benefit the community of researchers and policy makers if we could focus on some of the following issues:

1. To what extent do domestic market regulations inhibit rural economic growth and employment?
2. What sort of effect will trade liberalisation have on supply response in agriculture?
3. How critical is public investment in agriculture to enabling access to wider markets and encouraging diversification of rural incomes and employment?
4. Why is the impact of reforms different for males versus females labour and the wages they earn?
5. Does endowments, institutions, or policies explain the different employment outcomes across states?
6. Is the relationship between farm and non-farm employment push induced or due to demand-pull?
7. Why is the workforce participation of younger and older age-groups declining?
8. What explains declining self-employment and rising casualisation of the labour force?

Some clues about such issues would promote the success of the conference.

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