CHAPTER IX

SUMMARY OF CONCLUSIONS AND POLICY RECOMMENDATIONS

The recent Indian growth experience suggests that like many other Asian countries, agriculture here has experienced noticeable advances with the onset of the Green Revolution since the late sixties. The advances reflect themselves in many different ways. For example, agricultural output has been growing steadily, yield rates for a few important crops such as wheat and paddy, have recorded an upward trend, rising surpluses have been generated and income of different strata of rural households have been growing, albeit slowly, over the years.

It needs to be underlined that rising agricultural production and productivity not only make a far reaching impact both on on- and non-farm employment and income levels, but also tend to strengthen further the inter-sectoral linkages. It is through continuous expansion of irrigation facilities and cropped area, the rising levels of cropping intensity, the emergence of new labour-intensive crop combinations on a large scale, higher per hectare use of labour in respect of existing crops, etc., that on-farm employment records steady expansion. Then, thanks to an increasing volume of farm produce, many types of post-harvesting activities, inside as well as outside the village, give rise to a high degree of seasonal non-farm employment. Also, non-farm employment in a nearby semi-ruban or urban marketing/industrial centre becomes available to members of rural labour households. On the whole, the income levels of all sections of the rural society have normally the tendency to record gradual improvement over time. The rising rural incomes are, in turn, bound to push up the demand for industrial goods and services. This has its own impact on industrial output and employment, the benefit of which accrues partially to the rural sector itself in terms of enhanced non-farm employment/earnings.
Then, on the production side, the input structure steadily changes over time in favour of purchased inputs. This, in turn, initiates the process of agro-industrialisation. Gradually, the number of small-scale agro-industrial units increases, adding further to the availability of non-farm incomes and employment to the rural labour households. Further, the availability of sizeable agricultural surpluses on the one hand, and, the rising demand for processed food and non-food products on the other, lend great fillip to the growth and expansion of agro-processing industry. In this way, rural-urban ties get further strengthened. In fine, fast growing agriculture is capable of generating, inter alia, (a) high and rising levels of on-farm employment and earnings, (b) new and expanding avenues of non-farm employment and incomes, especially for the economically weaker sections of the rural society, and (c) structural changes in their consumption pattern.

The recent growth experience of a number of Asian countries has thrown up sharp inter-country differences. Likewise, the recent Indian agricultural growth experience has been characterized by sharp inter-regional variations depending upon the differences in factor endowments, infra-structural facilities, market support, extension services, and so on. Consequently, the labour absorption capacity has differed from region to region.1 Such inter-state differences manifest themselves more sharply both as regards the quantum of total yearly employment/earnings available to their rural households and as regards its division between on-and non-farm components.

1. For outstanding contributions on labour absorption in Asian and Indian Agriculture respectively, please see S Ishikawa, (1978); "Labour Absorption in Asian Agriculture", International Labour Organisation, Bangkok.; International Labour Organisation (1978); "Labour Absorption in Indian Agriculture: Some Exploratory Investigations", Bangkok.
In the wake of the Green Revolution in India, a spate of research contributions have appeared by Indian as well as foreign scholars. Most studies on the impact of the Green Revolution have focussed on production performance, distribution of production gains between small and large farms, between surplus and deficit regions, and so on. At best, the category of the landless labour households has figured marginally, say, in terms of the impact of tractorisation on labour employment, real wage behaviour, cropwise labour use, etc. Comprehensive studies on the total household economy of this category of rural workers have been rather exceptional. Moreover, most such studies deal with the early years of the Green Revolution. To put the record straight, most literature dealing with the Green Revolution and the consequent agricultural development does not attempt specifications of the household economy in terms of employment-income-consumption nexus of the rural labour household. In a sense, these households have continuously been neglected not only by the policy makers but also by the academicians, a few exceptions notwithstanding. Whatever justification may be there for exclusive preoccupation of researchers as well as planners with the cultivating households, yet keeping in view the fact that non-cultivating rural labour households form an integral part of the rural community both in terms of their population size and participation in various socio-economic activities, they should have been studied upon more adequately. There is thus an important research gap as far as the emerging economic situation of the rural labour households is concerned. The present study attempts to fill up this void.

The basic objective of the present study is to examine the changing structure of employment and the corresponding levels of income and consumption of the non-cultivating rural labour households in rural India. Employment is ascertained at the household level. All sources of employment are taken note of so that the picture on employment is as complete as possible.
Basically, employment comes largely through agricultural labour but non-agricultural activities in the rural areas and a variety of secondary-tertiary activities in the nearby urban areas could also be contributing towards total employment of these households.

Study Areas

For a variety of reasons, we have drawn our samples from the Indian States of Punjab and Bihar. Inasmuch as the dynamics of agricultural transformation is the outcome of the interplay of technology, institutions and environment, the states of Punjab and Bihar reveal distinct matrices of these factors. In other words, the states of Punjab and Bihar offer two sharply contrasting situations as regards the impact of the Green Revolution technology, including employment and earning capabilities of their rural labour households. While the Punjab model reflects a fast agricultural growth, that of Bihar, is characterised by sluggish agricultural performance. Although we have attempted to sketch out the details of comparative levelsof agricultural development between Punjab and Bihar only in terms of a few chosen indicators, yet the spectacular growth profile of Punjab agriculture and continuing backwardness of Bihar agriculture are, by now, too well-known facts of the agrarian reality in India. However, to observe some comparability of agricultural development between the two states, district Ludhiana of Punjab and district Bhojpur of Bihar have been selected as the sample districts for the present study. While Ludhiana is universally acknowledged as the best agricultural district of Punjab, Bhojpur is one of the top agricultural districts of Bihar. The impact of the Green Revolution on rural employment structure has been quite substantial in both. Still further to ensure a comparable rural-urban situation, Khanna in Ludhiana and Buxar in Bhojpur were chosen as the focal towns around which a sample of 8 villages had been purposively selected in both the states. Villages located at varying distances
from the designated towns were chosen in a parallel fashion in that they were located undirectionally, at varying distances from the focal towns mentioned above. The nearest village in both cases was about 2 kms from the focal town, and the farthest one was 17 kms away in the case of Punjab and 18 kms away in the case of Bihar. This purposive sample design has many merits to its credit. In the first instance, it helps to capture the impact of distance between rural urban proximities on employment-income-consumption nexus of the sample households located at varying distances from the urban focal towns. Secondly, it neutralizes, to a great extent, the differences on account of rural-urban proximities as also of transport accessibility between the Punjab and the Bihar situations. The employment/earning and consumption differentials to be observed between the two states could then be attributed, quite substantially, to differentials in agricultural growth and related non-farm expansions.

Data Base

The study is based on detailed household level primary data gathered from 300 sample households from either of the two study areas. The choice of the number of sample households to be taken from each village was made on the basis of the proportionate probability sampling technique. Tipett's Random Numbers were used to select specific households.

To capture employment benefits of the Green Revolution in Punjab accruing to migrant labour, a few important questions are addressed to 150 migrant labourers found working in the sample areas of Punjab.

The data covering agricultural year 1980-81 were gathered in April-July '1981 from Punjab and July-October 1981 from Bihar through a well-structured and pre-tested questionnaire.
Household Classification

To the rural labour households in India, employment is available partly through on-farm, partly through non-farm activities, and in quite a few cases, through self employment in diverse avenues. The farm and non-farm activities offer them wage employment which evidently varies from region to region and within a region, from season to season. In any case, in areas experiencing fast agricultural growth, one would expect diverse types of non-farm activities coming up steadily and consequently the degree of dependence of rural labour households shifting steadily from agricultural to non-agricultural wage employment. The on-farm/non-farm employment divide is thus a continuous phenomenon and, at any point in time, the rural labour households may accordingly be put into two broad groups, viz. Predominantly Agricultural Labour Households (PALH) and Predominantly Non-agricultural Labour Households (PNLH).

Income criterion was employed for demarcating the two groups. Households deriving a major (more than 50.0 per cent) proportion of their total annual income from agricultural wage employment were notionally designated as the PALH group while those getting a major share (again more than 50.0 per cent) from non-agricultural wage employment as the PNLH group.

In brief, in terms of our field data, 54.0 per cent (163 out of 300) of the sample households belong to the PALH group in Punjab; while in Bihar, the percentage is as high as 84.0 (252 out of 300 households). In other words, an extremely high percentage of rural labour households in Bihar continue to depend very largely on wage-paid agricultural employment.

For a study of this type, numerous questions come up in natural course. All questions cannot, however, be handled by a single study. Understandably, therefore, some specific questions need to be identified and empirical answers sought therefore. In
the present study, the main questions posed are as under:

What are the variations in the overall as well as villagewise pattern of on-, non- and total yearly employment/earnings between Punjab and Bihar? Does the composition of different sources of on-, non- and total yearly employment/earnings in Punjab, reveal a pattern distinct than that in Bihar? If so, the nature and extent of these differences? Do the labour households in Punjab earn more in terms of per household and per day of employment? Does the differential pattern of total yearly earnings/income between Punjab and Bihar also transmit itself in the consumption pattern or the levels of living of the labour households? Have the gains of rapid economic growth in general and agricultural transformation in particular percolated more in Punjab than in Bihar? What are the socio-economic characteristics as also the areas of outmigration of the migrant agricultural labourers in Punjab? And finally, what proportion of the year-round employment/earnings in agriculture is enjoyed separately by the resident labour and the migrant-labour in rural Punjab?

With the help of our sample data, we have been able to get concrete empirical answers to the questions raised above. These answers are a pointer as to how rural labour households have fared in the total process of socio-economic development observed in recent years.

Major Findings

Employment for a household comes partly from agriculture and partly from non-agricultural activities. While agricultural (on-farm) employment consists of wage, non-wage and dairying and poultry components; rural wage employment, urban wage employment and others including self employment are the three components of non-farm employment. Our study throws up many important insights about on-farm as well as non-farm employment. First about on-farm employment.
On the face of it, to an average labour household in Bihar, total mandays of on-farm employment are slightly higher (458 man-days) compared with its counterpart in Punjab (422 mandays). However, the position is diametrically opposite as regards per household and per day earnings. It is brought out by the fact that a labour household in Punjab is earning nearly 65.0 per cent more on household level and nearly 79.0 per cent more on per day level than its counterpart in Bihar. Likewise greater mandays of wage-paid on-farm employment per year are available to an average labour household in Bihar compared with its counterpart in Punjab - 386 mandays in Bihar against 311 in Punjab. However, in terms of real economic gains, Punjab households are doing much better. For example, per household income is nearly 36.0 per cent higher, and per day earning is, about 69.0 per cent higher in Punjab than in Bihar. In other words, sheer number of days of recorded employment reveals the weakness rather than the strength of the slow growing economy of Bihar. A further evidence on the structural weakness of agriculture in Bihar comes from the fact that a typical Bihar household gets employment from dairying and poultry activities to the extent of 58 mandays only compared with as many as 108 mandays in Punjab. Naturally, the income differentials from these supplementary on-farm activities tilt heavily in favour of Punjab. Income from dairying and poultry makes up as high as 25.0 per cent of total on-farm income in Punjab while it is a petty figure of about 5.0 per cent only in Bihar. Every day spent in dairying and poultry activities by a labour household in Punjab generates a net earning of Rs. 8.65 in Punjab and only Rs. 2.13 in Bihar. It is thus clear that a weak agriculture cannot support supplementary activities on a viable basis; the return to human effort is extremely low. On the other hand, in Punjab, the dairying and poultry employment and incomes have played significant role in lending strength to the household economy of the rural labour so much so that the severity in the distribution of rural incomes is considerably mollified because
of these highly remunerative supplementations. In fine, our analysis suggests that sheer labour effort does not matter much in the modern system of agricultural production, the level of technology in use supported by an effective functioning of rural institutions have their own role to play on augmenting employment/earning opportunities for the rural labour households.

The picture on non-farm employment further reinforces the relative superiority of the Punjab situation. The Punjab households reveal their edge for each of the three components of non-farm employent. For example, a household in Punjab enjoys 28.0 per cent higher of wage-paid rural non-farm employment, more than 111.0 per cent higher of urban wage employment, about 106.0 per cent higher of self-employment and finally about 88.0 per cent of total non-farm employment than its Bihar counterpart.

The differential gets magnified when we move from employment to earnings. On an average, a typical household in Punjab gets about 188.0 per cent, 308.0 per cent, 216.0 per cent and 276.0 per cent higher earnings from rural-, urban-, self and total non-farm employment, respectively. Similarly, in terms of per day earning, the edge of Punjab households over those of Bihar is to the tune of 125.0 per cent, 93.0 per cent, 54.0 per cent and 100.0 per cent respectively for the four categories of non-farm employent described above.

Finally, total yearly employment/earnings (the aggregate of on-and non-farm employment days) offer similarities as well contrasts between the two states. First, on-farm employment/earnings constitute the most dominant component of total yearly employment/earnings. Thus agriculture and allied activities are still the mainstay of rural labour households whether in Punjab or in Bihar. Second, the share of earnings from on-farm employment is less than its share in employment in both the states. The lower level of labour productivity and earning in on-farm compared with non-farm sector is confirmed, again in
Punjab as well as in Bihar. However, their mutual differences in this regard are quite striking. For instance, the share of on-farm activities in the total employment and earnings for an average labour household in Bihar (roughly 83.0 per cent and 78.0 per cent, respectively) is much higher compared with that of a labour household in Punjab (nearly 70.0 per cent and 60.0 per cent respectively). To put it otherwise, the share of non-farm activities in the total yearly employment/earnings of a household in Punjab (about 30.0 per cent and 40.0 per cent respectively) are much higher than that of its counterpart in Bihar (approximately 18.0 per cent and 22.0 per cent respectively). It is thus obvious that a slightly lower employment time available to the Punjab households in respect of on-farm activities is more than compensated through higher employment/earning from more productive non-farm activities. Further the differential observed in respect of per day earnings in on-non-and total employment/earnings also suggest a better position of Punjab households. The stable and consistently expanding agriculture in Punjab, coupled with growing rural urban linkages, has enabled its labour households to maintain an edge in all correlates of overall employment/earnings over their counterparts in Bihar by offering the former more remunerative employment opportunities. Consequently, the total yearly employment/earnings are structurally more diversified in the more progressive region of Punjab compared with Bihar. Our analysis of Punjab-Bihar differentials are indicative of the fact that relatively progressive rural institutions in Punjab, the adoption of farm technology at a higher level and the growing rural-urban contacts have all contributed substantially not only in the matter of augmenting or diversifying employment opportunities but also in raising the corresponding level of per household and per day earnings for its rural labour households. In Bihar, on the other hand, such developments have not occurred as yet.

Analysing the employment and income structure for each of the eight sample villages of Punjab and Bihar, we discover
striking contrasts, both within each state as also between the two states. Without doubt, on-farm wage-paid employment is availed of by preponderant majority of households in both the states. In other words, while non-farm avenues are gradually opening up for such households, agriculture still remains the surest source of getting employment, the number of working members involved or the percentage of mandays spent notwithstanding. Very few households living in the villages, even those near the urban-industrial towns, are completely weaned away from agriculture. Nevertheless, the degree of dependence on agricultural wage-employment goes on increasing as one moves into the interior. In fact, in villages beyond a certain distance from the urban-focal town, not a single labour household subsists without agricultural employment.

The distance from the focal town plays a crucial role in determining the level of earning. For example, while per household earning from on-farm employment tends to increase with decrease in rural-urban proximity in Punjab; in Bihar, on the other hand, such an increase is not statistically significant. Again, while per day earning from on-farm employment is not much affected by the intervening distance in Punjab; the labour households in the remote areas of Bihar earn significantly less on per day basis. The Bihar pattern mainly emerges due to the fact that rural-urban linkages become exceedingly weak after a certain distance.

In the matter of different components of on-farm employment/earnings, our data show some important differences between the two states. Firstly, even though dependence of the labour households on on-farm employment tends to increase as we move into the countryside of both the study areas; yet between equally distanced pairs of Punjab-Bihar villages, this dependence is higher for the households of the latter compared to those of the former. Secondly, for this category of on-farm employment, per household mandays of employment keep on increasing with
increase in distance from the focal town; for each village in Bihar, mandays of employment are uniformly higher compared with a more or less equally distanced village in Punjab. It is also important to note that differences in mandays of employment between Punjab and Bihar villages tend to narrow down in the extremely remote villages from the urban focal town. This is indicative of the fact that in terms of relative importance of wage-paid on-farm employment to the labour households, the Punjab and Bihar villages in the interior are not much different from one another. However, as regards earnings from this component, Punjab and Bihar show important variations. For example, while the level of per household earnings in Punjab tends to rise uninterruptedly as the rural-urban distance increases; in Bihar, it remains unaffected in terms of distance and is also marked by very wide fluctuations from village to village. In this context, while general dynamism of Punjab agriculture is a plausible explanation for the systematically rising levels; part of the explanation for Punjab-Bihar differentials lies in the mode of wage payment, particularly to the attached farm servants, in the two states. It is important to note that effective wage rate in Bihar, often determined by extra-market relations, turn out to be much lower than the normal market rates. On the other hand, such labourers in Punjab receive their wages largely in cash nearly completely reflecting the demand-supply dynamism of the labour market. Moreover, part of the wage-payment in Bihar being in the form of rent-free tiny piece of land, is no guarantee for higher per day earning as much the productivity of such land is extremely low, for various reasons. Again, a declining pattern of per day earning in both the states is indeed interesting in as much as the mandays of employment are less but per day earning is higher in villages near the town. The plausible explanation is that in such nearby villages, labour households have relatively greater prospects of employability including the possibility of higher wage rates both in on-farm and non-farm jobs. However, the cushion of higher wages rate is available much more sharply to all villages in Punjab compared with those in Bihar. It is,
indeed, the strength of Punjab agriculture that employment/earnings from dairying and poultry are important in the nearby as also in the distantly located villages from the focal town. In Bihar on the other hand, it is not so. It is brought out the fact that a village in Punjab at about 17 kms from the urban away focal town is better placed than the one in Bihar at a distance of 2 or 3 kms.

Practically in every aspect of non-farm employment/earning, the labour households of Punjab whether living nearer an urban focal town or quite away from it, show a much better economic performance. In particular, the non-farm employment opportunities in rural as well as the urban areas are availed of by a much higher percentage of Punjab labour households compared with those of Bihar. The mandays of actual employment availed of and the level of total earnings as also the per day earnings are much higher in Punjab than in Bihar seen in terms of rural-urban distance continuum. The strong economic base of the rural Punjab, giving rise to higher wage-paid rural non-farm employment coupled with expanding industrial and other economic activities in the urban areas generating lots of wage-paid urban employment to the households living in the nearby villages are the crucial elements of Punjab's model of economic development. In comparison, the Bihar scenario reflects weakness both at the village level and in terms of rural-urban linkages.

The relatively happier situation in Punjab is not, however, free of its weakness. In fact, this weakness is discernible more acutely in Bihar. The weakness is that there is a considerable degree of irregularity in the availability of rural non-farm employment. At best, such employment avenues especially for households in the remote villages, are heavily influenced by seasonal peaks and troughs of agricultural activities. In contrast, the urban employment does not pose such a high degree of adhocism in Punjab; in Bihar, villages beyond a certain distance are totally devoid of this employment
opportunity.

The villagewise pattern of total yearly employment/earnings, shows a mixed evidence. While the level of per household and per day earnings register a declining trend with respect to distance from the focal town, per household mandays of total yearly employment record an important contrast between Punjab and Bihar. Interestingly, while per household mandays of total yearly employment are statistically invariant with respect to distance from the focal town in Punjab; in Bihar, on the other hand, these tend to be inversely related with the distance. It seems that increasing mandays of on-farm employment with respect to distance from the focal town are subsumed by the decreasing mandays of non-farm employment with the net effect that total mandays of employment remain unaffected in terms of distance from the focal town. The Bihar pattern on the other hand is explained by the fact that employment opportunities in the countryside get largely confined to the farm sector. And given the low level of agricultural development in Bihar on the one hand, and poor rural-urban linkages on the other, mandays of total yearly employment for an average household tend to decline as we move away from the town.

A comparison between Punjab and Bihar villages located more or less at comparable distances from the focal town has its own share of important findings. Apart from the fact that variations do exist from village to village, the differentials in per household total yearly mandays of employment are relatively less sharp than those observed in the case of per household and per day earnings. The villages nearer to the urban-focal town do not reveal as sharp contrasts between Punjab and Bihar as those located in the interior do. In other words, the gaps between Punjab and Bihar villages nearer the town are less pronounced than those between the two sets of villages far away from the town. The absolute differences are nevertheless quite substantial, irrespective of the distance involved. This gives a clue that the decline in earning is much faster in Bihar
than in Punjab, as we move away from the urban-focal town. This, in turn, lends further substance to our contention that the economic base of the rural Punjab is comparatively much stronger than that of Bihar.

The PALH group (Predominantly Agricultural Labour Households) has its own contrasts with the PNLH group (Predominantly Non-agricultural Labour Households. The PALH and the PNLH groups of Punjab have their own contrasts with the corresponding groups in Bihar. First, for the PALH group, the Bihar situation reflects a relatively higher dependence on wage-paid on-farm employment compared with its Punjab counterpart, while the reverse is true about the groups involvement in dairying and poultry. In more concrete terms, while about 86.0 per cent of total on-farm employment and nearly 93.0 per cent of on-farm earnings for the PALH group in Bihar are derived from agricultural wages alone, against roughly 80.0 per cent (both in employment and earnings) for the same group in Punjab; the group's earning from dairying and poultry is a petty figure of 4.0 per cent in Bihar compared with as high as 20.0 per cent in Punjab. This suggests that a household belonging to PALH group in Punjab has a more diversified and lucrative structure of on-farm employment. It is, therefore, no surprise that per day earning of the Punjab PALH group from dairying and poultry (i.e. Rs. 9.12) is more than five-fold higher compared with its counterpart in Bihar (i.e. Rs. 1.73 only). In the matter of per day earnings from other components of on-farm employment, the PALH of Punjab is far better placed compared with its counterpart in Bihar. The overall picture thus shows many concrete advantages of Punjab households as regards the employment time as well as per day earning from each component of the on-farm employment.

Secondly, like the PALH group, the PNLH group in Punjab also fares much better in comparison with the same in Bihar. In particular, the differential in per day earning from wage
employment or dairying and poultry (in both cases 61.0 per cent) or even from total on-farm employment (44.0 per cent) reveals a decisive edge of the PNLH group in Punjab over its counterpart in Bihar.

Thirdly, comparing the PALH and PNLH groups within the states, we discover that per day earning from total on-farm employment is practically the same between PALH (Rs. 8.85) and PNLH (Rs. 8.90) groups in Punjab, while in Bihar, the latter group (Rs. 6.17) enjoys a much higher per day earning compared to the former (Rs. 4.87 only). The Bihar model is thus a clear pointer to a decisive disadvantage of those who subsist largely on agriculture (the PALH group) compared to those who derive major share of their earnings from non-farm avenues (i.e. PNLH group). In comparison, the equal per day earning for both the groups in Punjab can perhaps be explained by the fact that the fast growing agriculture in the state throws up lots of demand for labour, real increase in agricultural wages and consequently a fairly higher per day earning from on-farm employment. No special advantage seems to accrue to PNLH group, as far as per day earning from total on-farm employment is concerned. On the other hand, the relatively higher time involvement of PALH group in on-farm employment is not a disadvantage to those households which depend more on earnings from agricultural employment.

Fourthly, total non-farm employment/earnings and its individual components reveal far more sharp contrasts between Punjab and Bihar groups. For instance, while non-farm employment/earning levels and sources show a striking superiority of PALH group of Punjab over that of Bihar, these offer a mixed picture between the two study areas with respect to PNLH groups. In particular, it is interesting to note that while for most components of non-farm employment, mandays worked by an average PNLH household in Punjab were slightly lower compared with those worked in Bihar, the relative picture is significantly opposite as regards the earnings, especially on per day basis. It is
obvious from the fact that typical PNLH household in Bihar compared with its counterpart in Punjab, shows about 50.0 per cent more mandays of employment in wage-paid rural activities, but is earning nearly 67.0 per cent and 153.0 per cent lower than those accruing to a Punjab household. Similarly, for wage paid urban employment, an average Bihar PNLH household expends nearly 20.0 per cent more of labour time compared with its counterpart in Punjab; it trails behind the latter to the extent of 58.0 per cent and 90.0 per cent respectively, when it comes to total and per day earnings. Again in terms of total non-farm employment, while a Bihar household puts in about 20.0 per cent more of labour time, its total earnings are lower by as much as 64.0 per cent, and per day earning by as much 95.0 per cent.

Fifthly, the better employment and earning performance of the PALH and PNLH households in Punjab over their counterparts in Bihar is further confirmed at the level of total employment. In particular, PALH group in Punjab is enjoying an extra of 24.0 per cent of employment over its counterpart in Bihar but earning nearly 126.0 per cent more than it on household basis and 82.0 per cent more on per day basis, Likewise a household belonging to PNLH group in Punjab, by putting in nearly 9.0 per cent less labour time earns nearly 61.0 per cent more at the household level and 77.0 per cent more on per day basis.

Thus our results clearly signify what the growing agriculture of Punjab has brought to its rural labour households and what has yet to happen in the case of Bihar on any significant scale. A fast growing agriculture of Punjab has bestowed productive employment opportunities not only on those households which are largely dependent on wage-paid on-farm employment but also on those which have a more diversified structure of employment. The latter group thus enjoys larger benefits of non-farm employment without being devoid of what they can chip off from agriculture as well. For the PNLH group, the multiplicity
of employment opportunities, in particular, income supplementation accruing to them through on-farm earnings are thus solid gains arising out of the Green Revolution that overtook the rural Punjab since the late sixties. Yet another point of strength for the Punjab situation is that the total yearly household earnings of its PALH group (Rs. 6190.74) is not inferior to those of its PNLH group (Rs. 6169.16). In other words, those households which continue to depend more on agriculture (PALH group) are not worse off than those which derive a major share of household earnings from non-farm sources (PNLH group). Farm employment is fairly competitive with non-farm employment in Punjab and those households which are primarily dependent on the former do not have to suffer an undue disadvantage. To put the record straight, the remunerativeness of farm employment in Punjab is discernible in terms of our 1980-81 household level data inspite of the huge pace of mechanisation witnessed during the Green Revolution years as also the intervening effects of migrant labour consistently since the early 1970s.

As regards working of labour households on attached versus daily basis, our results show that economic exigencies prompt certain rural labour households to seek employment on daily basis rather than on regular basis. In other words, the practice of working purely as attached farm servants is of a very low order both in Punjab and Bihar. Not only that the incidence of this type of employment is low in all categories of villages but also it is totally non-existent among the sample households in certain villages. Our results point out an important fact that irrespective of socio-politico reasoning for this aspect of employment, the rural labour households in general and agricultural labour households in particular are drifting away from attached jobs and attached obligations. This is perhaps due to the fact that net yearly earnings from wage-paid agricultural labour on daily basis as well as from non-agricultural jobs tend to be higher than the yearly earnings
realized by an attached farm servant. The seasonality premiums on certain agricultural operations reflect themselves in terms of higher wage rates and consequently the economic acumen of these households would fully justify their action of seeking unattached farm employment by keeping their options open. This assertion gains credence if we look at the percentage of households seeking agricultural wage-paid employment on purely daily basis. In Punjab villages, nearly 62.0 per cent rural labour households are engaged in agricultural employment on purely daily basis against about 50.0 per cent in Bihar. Still important is the fact that practically in all villages of Punjab, the incidence of wage-paid on farm employment purely on daily basis is much higher compared with the corresponding villages in Bihar. The growing strength of Punjab agriculture is perhaps a source for providing this prompting to the labour households. In contrast, this, cushion is available to labour households in Bihar on a much smaller scale. Another explanation for the above mentioned pattern operates on the demand side in the two study areas. The demand for attached farm labour by the Punjab farmer has significantly declined due to huge influx of migrant labour during the peak seasons, introduction of higher degree of farm mechanisation, work standardisation and rising incidence of contracts. In Bihar, on the other hand, such developments are rather conspicuous by their absence; in any case, their degree is still fairly low.

The rural labour households deriving their agricultural employment on mixed basis (as attached farm servants plus casual labourers on daily basis) show marked differences between the two study areas. For instance, in Punjab, the percentage of households availing themselves of employment on mixed basis is relatively low in villages near the town compared with distantly located villages. This is due to the fact that in villages near the town, women-folk have a relatively greater share in the agricultural labour employment, while in the distantly located villages, the men-folk also increasingly avail of this
employment. In Bihar, on the other hand, there is a tendency for the households to avail of all available avenues of work whether on purely daily basis or on contract basis or in the form of semi-attached servants, and so on. In fact, for them the choice is rather limited. Further, the loose definition of attached-farm-servants in Bihar, in contrast with the rigid specifications given of such a worker in Punjab also offers a part of the explanation for the differences between the two study areas. In Bihar, the fixity of the attached-farm-servants is notional and the so-called 'attached-farm-servant' can seek work elsewhere during the period when the employer has no work for him. As such, a simple comparison would not be in order.

Putting together all households reporting any degree of wage-paid agricultural employment on daily basis, we find that both in Punjab and Bihar, the proportion of households reporting agricultural employment on daily basis keeps on rising as we move into the interior of the countryside. Although no definite relationship between employment-time and wage-paid earnings on daily basis is discernible, there are, however, different explanations in this regard in Punjab and Bihar. On account of relatively more developed network of village link roads and growing rural-urban linkages in Punjab than in Bihar, the rural labour households can afford to keep their options open in the former compared with the latter. The farmers in the Punjab also prefer to employ labour on daily basis for the reasons mentioned earlier. In Bihar, on the other hand, low labour demand in agriculture coupled with increasing supply of labour, keeps the wage rate low. Consequently, in Bihar, the farmers prefer to employ labour on daily basis.

Finally, as regards employment/earnings on daily basis, a Punjab household by putting in nearly 18.0 per cent less labour time than its counterpart in Bihar, earns nearly 33.0 per cent more at the household level and roughly 63.0 per cent more on per day basis. Again, in most of the components of wage-
paid on-farm employment on daily basis, the level of per household and per day earning is much higher in Punjab than in Bihar. This holds equally true in respect of each pair of nearly equally distanced Punjab and Bihar Villages from the focal town. The PALH and PNLH groups of Punjab also come out with a clear edge over their counterparts in Bihar in the matter of per household and per day earnings.

On an average, every earner in a typical rural labour household in Punjab invests nearly 13.0 per cent more human effort in a year but is able to derive as much as 122.0 per cent extra earnings compared with its counterpart in Bihar. The per capita income of such a household in Punjab (Rs. 1140.49) is more than double than that in Bihar (518.51). Further, the superiority of Punjab households comes out very clearly in terms of distance from the focal town as well as between PALH and PNLH groups. This is a bold pointer to the fact that the gains of rapid economic growth do indeed trickle down to all strata of the society provided growth is high and sustained, as has been the case in Punjab. Thus, in contrast to a popular belief that agricultural growth leads to immiserization of the working class, our results clearly establish a positive association between the level of economic development and the level of per capita income of even the lowliest among the rural labour households. In rural Bihar, on the other hand, enough growth has not taken place to filter down to those who constitute the lowest rung of social and economic hierarchy.

The picture on poverty throws up further contrasts between the two study areas. Following the conventional head count norms for measuring poverty, we discover that in the Punjab sample villages about 22.0 per cent of the labour households are living below the poverty line compared with a much higher figure of nearly 89.0 per cent in the Bihar villages. Punjab and Bihar contrasts on the magnitude of absolute poverty, in fact, lead us to believe that it is only the rapid agricultural growth,
supported by growing and dynamic institutions, highly developed and expanding infrastructural facilities, that open up, inter alia, avenues of more productive and gainful urban employment to the rural labour households. This has been so in the case of Punjab. It is the availability of diverse and highly remunerative avenues of employment which explains the alleviation of absolute poverty even among the households at the lowest ladder of the rural society in Punjab; the Bihar scenario is a sharp contrast.

Sen's 'P' measure which also deals with the intensity of poverty reinforces the Punjab-Bihar contrasts still further.

Extending the analysis of poverty in terms of distance from the focal town, we observe that between each pair of Punjab and Bihar villages, incidence and intensity of poverty are much higher in the Bihar villages compared with those in Punjab. Not only this, the poor households of Punjab are much 'better off' from their brethren in Bihar, if we look at the per capita income levels in our sample.

We have thus strong empirical evidence to show that the Punjab labour households has had a share in the gains resulting from economic development in general and agricultural transformation in particular. Consequently, the Punjab model of economic growth has been successful in making a real dent on poverty in the state. In contrast, such a phenomenon seems to be non-existent in agriculturally backward Bihar still believed to be characterised by semi-feudal production relations.

Seasonal migration of labour into the agriculture of Punjab from the rural areas of Bihar and eastern Uttar Pradesh is a recent but significant phenomenon. The huge influx of migrant labour has mainly occurred in the wake of the Green Revolution. Although demographic pressure in areas of outmigration and time differences in the seasonal demand for
labour between the areas of in- and out-migration also contribute their share, yet it is, in all essentiality, an economic phenomenon summarized by the glaring wage differentials between the two sets of areas. In particular, it needs to be underlined that it is the adoption of new farm technology, intensification of cultivation, shift in the cropping pattern, rising commercialisation of agriculture and undertaking of various development programmes in the non-farm sector in Punjab, which have opened up many productive and highly remunerative avenues of wage-paid employment. All these developments have led to continuous increases in the demand for labour in Punjab. This, in turn, had the effect of pushing up the earning levels in various wage-paid activities. Consequently, rising earning levels under the pressure of steadily rising demand for labour, have attracted lots of migrant labour into Punjab since early 1970s.

As regards the specific areas of outmigration, our results indicate that over three-fourth (78.0 per cent) of the total migrants in our sample are from Bihar and 21.0 per cent from Uttar Pradesh. In particular, the districts of Champaran (East and West) and Sitamarhi, which have fairly low levels of agricultural development, account for 62.0 per cent of the total sample migrants interviewed by us. Of those coming from Bihar, the migrants from these districts accounted for nearly 80.0 per cent. In comparison, no sample household in Bhojpur reported outmigration into Punjab. Likewise none of the sample migrants in rural Punjab reported to be coming from Bhojpur, Nalanda, etc. The message is clear. The exigency of outmigrating to a destination of higher and assured earning per day of work operates more acutely in agriculturally backward areas; the incidence of outmigration by farm labourers is much lower from areas of less backward agriculture.

Regarding the employment/earning pattern of the migrant labour in Punjab per migrant mandays of employment and the
consequent level of earnings as also per day earning tend to decline as we move away from the focal town into the interior. This is so perhaps because the resident labour in the extremely remote villages, because of limited employment options, participates in wage-paid on-farm employment on a large scale and thus the degree of competition is fairly high.

It is a formidable feature of the Punjab's model of rural development that the migrant labour chips off a neat 30.0 per cent share in total yearly wage-paid on-farm employment/earnings. It is, however, a different matter, and is quite understandable, that the share of resident labour in the total wage-paid on-farm employment/earnings tends to increase with increase in rural-urban distance while that of the migrant labour registers a declining trend [Table 7.5]. In this regard, an analysis of the share of the migrant labour vis-a-vis that of the resident labour of Punjab in wage-paid on-farm employment on daily basis, labour use and level of earnings per acre of gross cropped area separately for the migrant labour and the resident labour on overall as well as daily basis, tends to reinforce our conclusions mentioned above.

In the matter of per day earning of the migrant and the resident labour, our results indicate that for most of the operations, it does not differ much between the local and the migrant labour. It seems, the availability of the migrant labour has tended to depress the money wage rates that would have otherwise accrued to the resident labour. As such, we have no reason to subscribe to the view that the migrant labour is being exploited or discriminated against, *inter alia*, as far as daily wage rates are concerned.

It is generally believed that higher earning/income levels tend to reflect themselves in better levels of living. By implication, it is natural to expect that Punjab labour households enjoy a much higher level of living compared with
their counterparts in Bihar under all conceivable situations. Our study tends to confirm this view in more than one way. First, we observe that a.p.c. (average propensity to consume) of Punjab households works out to be less than unity (.81) compared with above-unity in Bihar (1.02); a.p.c. of Punjab labour households is low at all comparable distances from the focal town compared with that of Bihar households. This highlights the accrual of net savings in Punjab and the unmistakable phenomenon of negative savings in Bihar. This implies that Bihar households do not earn enough to finance their household expenditure and incur deficits. These deficit households are invariably obliged to undertake petty consumption loans which, in turn, may keep them under feudal and semi-feudal stranglehold. This phenomenon lends support to the commonly held view that production relations in Bihar agriculture are governed by consumption-credit-employment interlockings.

Second, the absolute level of per capita expenditure on all items of consumption is fairly higher for the rural labour households of Punjab compared with those of Bihar in the overall sense as also in each pairwise village comparisons. Not only this, the composition of consumption basket is much inferior for Bihar households compared with those of Punjab. The Punjab households being relatively free of the worry to arrange a square meal, seem to be bringing in more and more items of nutritious food and non-food items in their consumptions basket compared with their counterparts in Bihar. In particular, allocation of higher proportion (27.0 per cent) of expenditure on vegetables and fruits, meat, fish, eggs, clothing, footwear, medicine and health and education by Punjab households, compared with very low by Bihar households (just 11.0 per cent) signifies the reorientations ushered in by the expanding levels of households income in Punjab and its absence in Bihar.

Thirdly, our comparison of cash component in the total expenditure on an item of consumption reveals that consumption
ties are far more strong in the employer-employee relationship in Bihar, compared with Punjab. It is obvious from the fact that cash component in the total consumption expenditure of the rural labour households is higher in Punjab (66.0 per cent.) against 48.0 per cent in Bihar; only 55.0 per cent of the cereal requirement in Punjab but as high as 74.0 per cent in Bihar are met largely from employers' coffers through wages in kind and other prequisites received by working members and petty consumption loans obtained from employers. In terms of distance from the focal town, the share of cash component in the total consumption expenditure is higher in Punjab compared with that in Bihar; it is 76.0 per cent in Punjab compared with 59.0 per cent in Bihar say in the village in the immediate proximity of the focal town; again it is 58.0 per cent in Punjab compared with 42.0 per cent in Bihar in the extremely remote village from the focal town. Similarly, the share of cash expenditure on cereals declines from 61.0 per cent to about 30.0 per cent in Punjab and from nearly 36.0 per cent to just 15.0 per cent in Bihar from a village located in the immediate vicinity of the focal town to the extremely remote village. This is inspite of the fact that cash component in all commodities is consistently higher in Punjab than in Bihar in each pair of Punjab and Bihar villages. Viewed in this sense, our results tend to support the generally held view that consumption ties between employer employee relations are relatively stronger in Bihar than in Punjab where wage payment in cash has emerged on a wide scale after that on set of the Green Revolution, especially after the cultivation of rice started on a big scale in the early 1970s. It implies two things. First, Punjab labour households owing to their greater dependence on market purchases, are more prone to inflationary pressures than their counterparts in Bihar. Secondly and possibly more importantly, employer-employee relations are much different in Punjab than in Bihar; informal contracts including consumption ties seem to prevail in a large measure in Bihar. The natural fall out in Bihar is the presence of employment - credit - consumption interlockings with all their exploitative contents
affecting the rural labour there.

Fourthly, distribution of consumption expenditure in various deciles shows that despite of the apparent similarities, each decile of Punjab consumers is much better off than its counterpart in Bihar. There seems to be practically no skewness in either state in commodity groups such as cereals and cereal products, gram and pulses, edible oils, salt and spices, all food items, fuel and light, etc. Bihar reveals a slightly more skewed distributional pattern in the case of milk and milk products, meat, fish, eggs, fruits and vegetables, gur and sugar, processed food, medicine and health, consumer durables etc. Bihar's skewness in the case of milk and milk products need to be underlined in particular. What is important to note is that skewness in the distribution of expenditure on marriage a social ceremonies is higher in Punjab than in Bihar possible due to demonstration effect and status values considerations. Lastly, in the case of milk and milk products and footwear, the poorest among the rural labour households of Bihar are either totally bereft of these items or these items account for only an insignificant proportion.

Finally, higher expenditure elasticites for Punjab households than those of Bihar households in the case of many food and non-food items clearly signify the qualitative superiority of the consumption basket of the former compared with that of the latter. Our Punjab - Bihar comparison reveals that not only the labour households of Punjab are enjoying a higher level of living compared with their counterparts in Bihar, their propensity to spend out of every incremental income is higher compared to the latter.
POLICY RECOMMENDATIONS

What are the implications of our findings regarding the employment income-consumption differentials observed in this study between the rural labour households of Punjab and Bihar? Our analysis clearly brings out the fact that while the Punjab model of rural economic transformation has succeeded in making a decisive impact on the magnitude of rural poverty, that of Bihar on the other hand has not. This is most certainly due to the fact that growth itself has eluded the state so far. Whatever growth has taken place, particularly in the agricultural sector, has been punctuated by periodic ups and downs, often by big margins and till today the state has not succeeded in insulating itself from such instabilities. Keeping apart the extremely archaic agrarian structure typical of the rural Bihar, the lack of adequate and sustained growth process has contributed to the low level of earnings against equally arduous human labour put in by rural labour households. Can the Punjab model of transformation of rural economy be transferred to Bihar is, therefore, a natural question to be answered by this study. Before answering this question, it is worthwhile to briefly recapitulate some striking features of Punjab and Bihar agriculture. For example, rising commercialisation of agriculture, assured and fairly equitable distribution of irrigation facilities, well developed network of village link roads and power facilities, growing and dynamic rural institutions, fairly high level of farm mechanisation, progressive state patronage are some of the outstanding features of Punjab model of economic transformation. In comparison, feudal and semi-feudal rural institutions, poor irrigation base in one part of the state and devastating floods in the other, poor infra-structural facilities, growth resisting institutional set up, low level of farm mechanisation, caste ridden social set-up, perfunctory and uncommitted role played by the state, underline the inherent weaknesses of Bihar agriculture. However, in view of the continuing and expectedly high dependence of the vast majority of
rural labour households on agricultural employment, a lasting solution to the problem of poverty has to be sought by synchronizing the development efforts in the farm as well as non-farm sectors. In the farm sector itself, there is tremendous scope for diversification. Extreme dependence on crop production alone can never be the answer for low levels of gainful employment. Supplementary activities such as dairying and poultry must be encouraged and institutionally supported on a big scale. Perhaps, the political economy of the prevailing agrarian realities may not come in the way of such a strategy. This does not, however, negate the possibilities of creating additional productive employment in crop production. To remind ourselves, a very striking feature of Punjab model of rural transformation has been its assured and fairly equitable irrigation base brought about by many institutional packages. This strong irrigation base, coupled with the availability of rural infra-structural facilities is, in fact, considered to be the sheet-anchor of agricultural development in Punjab. It can, therefore, be argued that for promoting wage-paid on-farm employment/earnings in rural Bihar (and other backward states), the additional productive and gainful employment can be created through multiple cropping by means of proper water management, power and transport (or road) facilities for rural use, strengthening institutional credit institutions, and so on. It also requires the search for short duration, quick-maturing, photosensitive H.Y.V. seeds. The multiple cropping will not only increase the demand for labour but also push up the level of earnings which, in turn, may reduce the severity of the problem of poverty of such households. This strategy to promote wage-paid on-farm employment through water management alongwith provision of H.Y.V. seeds, fertilizers and credit expansion, shall work simultaneously on two fronts. On the one hand, the would-be outmigrants should avail themselves of more avenues of productive employment in their own areas, and on the other, it will add up to the employment and earning levels of the labour households in the areas of inmigration (i.e. Punjab in our case).
The awkward situation of Bihar labourers working nearly for the same number of days in a year but deriving half, or even less, the income compared with Punjab will be rectified through the above policy actions. In one word, the expansion of agricultural productivity alone is a necessary condition for raising per day on-farm earnings of the labour households.

As suggested above, it is essential to promote self-employment among the rural poor. In this direction, subsidiary occupations such as dairying, poultry and piggery may be developed in a big way. It can be achieved by means of providing subsidized inputs, credit liberalisation and providing market facilities for the products of such activities. These are expected to be helpful in mollifying the severity of the problem of poverty. Moreover, in the absence of these crucial requirements and infra-structural facilities, other non-farm employment promotion programmes such as rural industrialisation and development of cottage and small scale industries may fail to generate additional employment on any significant scale. Further, for promoting gainful employment through various rural development programmes among the rural poor, well co-ordinated policy packages are needed. It is, therefore, desired that the choice among alternative programmes for using public and private resources to promote avenues of gainful employment for the rural poor is evaluated against the social objectives. Therefore, only such massive programmes of rural works need to be launched as may aim at expanding the efficiency of rural infra-structural facilities on the one hand, and, improving the earning position of the rural poor.

Thanks to a much less rigid caste structure, and the availability of diverse avenues of non-farm employment, the Punjab has been witnessing a great degree of inter-generational (and perhaps, intra-generational) occupational mobility. The Bihar scenario is a sharp contrast. Here, the caste rigidities have acquired proverbial notoriety. The economic situation is
governed largely by semi-feudal production relations. These structural weaknesses of the rural Bihar have tended to strengthen further the socio-economic and political hold of the rural oligarchy over the rural labour households. It is not, therefore, surprising, as is testified by some studies, that the public funds for the development of infra-structural facilities and additional funds for alleviation of poverty have been appropriated by the rural rich in connivance with the corrupt Indian bureaucracy. To put the record straight, in the given structural milieu, policy interventions of the poverty alleviation type as embodied in the various 'target group programmes' in the name of the poor have very largely tended to benefit the non-poor. Consequently, dominant classes in rural India in general and backward areas in particular, have come to wield enormous social, economic and political control over the mostly illiterate, socially downtrodden and economically weak rural labour households which, in turn, has further tended to strengthen the feudal and semi-feudal rural institutions. There is enough empirical evidence that suggests that the existing power structure, instead of being serious about the desired structural change, is doing its utmost to dodge such a change. As such there are no sweeping hopes anywhere in sight in the near future in this regard. So the limited options are the development of agriculture in the backward areas, increased diversification of the rural economy through promoting dairying/poultry enterprises, increasing the rural-urban contact by developing rural infrastructure and a carefully planned process of rapid agro-industrialisation.