

## SOME FAST AND SLOW-MOVING AREAS IN INDIA THE RICH AND THE POOR

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The World Conference on Land Reform and Rural Development held in Rome last July under the auspices of FAO has provided yet another opportunity to raise the most crucial issue facing the Third World - the reduction of poverty, particularly in rural areas. The FAO experts found that poverty has been increasing as fast in countries with rapid growth rates as in countries where production has moved slowly<sup>1</sup>.

How does this conclusion, coupled with that well-known statement "the rich get richer and the poor get poorer", apply to India? A comparison of three localities - a fairly fast-moving area in western Uttar Pradesh (U. P.), a relatively slow-moving one in eastern U. P. and a very slow-moving area in North Bihar - may provide us with some idea of the answer. In all cases, the enquiry focused on individual villages, while gathering more general information about its Block and the district as a whole. The first surveys took place in 1963-64 and 1967; subsequent surveys were carried out in the '70s, particularly in 1978-79<sup>2</sup>.

### BULANDSHAHR DISTRICT

Bulandshahr district is located on a plain which has benefited for nearly 100 years from a canal irrigation system connecting the Ganges and Jumna rivers. The British developed a basic infrastructure in the area, whose population consists partly of very enterprising agricultural castes, long accustomed to careful farming practices. These castes include the Brahmins, Vaishyas, Lodha-Rajputs and the well-known Jats, often the local dominant caste.

The main study focused on Khandoi village, which until the mid-1950s was in one of the remotest parts of the district, Unchagaon Block. By late 1963, when we first settled there, village life had undergone significant modifications. Between 1861 and 1961 the population had trebled to 1227 people; in 1971 the figure was 1,497. Irrigation had also trebled in size and improved qualitatively: Persian wheels had replaced the mot system of bullocks hoisting a leather bucket from a well. In addition, three farmers had installed tubewells, and by the late 1950s there was also a state-owned tubewell in operation.

Improved varieties of sugar cane, the main cash crop, and wheat had been introduced between both World Wars. In addition to these main crops, farmers were growing maize and millet during the monsoon season, or *kharif*. Other innovations included the fledgling use of chemical fertilizers after the creation of the development block in 1955 and the construction of a metal road to the nearby town of Unchagaon. Khandoi itself lies on a fair-weather road.

By Indian standards, average yields were relatively high: 1200-1300 kg/ha for wheat and maize, 5000 kg/ha for raw sugar, or *gur*. Millet yields, however, were low and the crop was often cut for cattle fodder while still green.

After 1964 the pace of change accelerated. The consolidation of land-holdings, completed during the following year, paved the way for a sharp increase in the number of privately-owned tubewells. Thus, today, irrigation reaches the whole cultivated area of 250-55 ha, and, provided there are no power failures, the quality of irrigation is better than in the past.

The massive installation of tubewells roughly coincided with propagation of high-yielding varieties of wheat. Within a few years the new varieties were virtually the only ones grown; a concurrent development was a sharp increase in the use of chemical fertilizers. Gradually, farmers developed a more balanced usage of the nutrients N, P, K. More recently, they have begun to renew their seed stock after every generation or two. This practice prevents the deterioration of seed quality which occurs in the seed after four or five years. Ploughing techniques remain largely unchanged, however. There are only two tractors in Khandoi, and bullocks do most of the ploughing.

Not surprisingly, most average yields have increased: 2500-3000 kg/ha for wheat; 6000 kg/ha for raw sugar, which is processed locally. With exceptionally good weather, sugar yields can even reach 7000-8000 kg/ha. Maize yields have hardly increased, however. Some farmers have started growing potatoes and vegetables to sell to Unchagaon.

Electric threshers made in small factories in different districts are now widespread. Bullocks no longer needed for Persian wheels now perform the formerly manual task of turning the chaff cutter for fodder. Most of the kolu use electricity to crush the cane; later the juice is boiled to make raw sugar by the traditional method of burning cane waste (bagasse). An increasing number of families now have their wheat processed into flour at the several new flour mills.

Most farmers with medium-sized holdings (from 1.25 ha upwards) are replacing their mud houses with brick homes. Where before only a few tiny shops existed, several small textile, grocery and vegetable businesses now thrive. The use of electricity, which was confined to tube-wells until 1965, is now used in the village to power machines. Recently, a young man opened a workshop to repair mechanical and electrical equipment.

The bullock-drawn carts of the 1960s have now been replaced by more economical bogies, i. e. carts set on old truck wheels and tires pulled by only one buffalo. The last few kilometers between Unchagaon and Khandoi are still in bad condition, but the road connecting Unchagaon to Jahangirabad, the nearest town, is now asphalted and served by bus.

Trade from Khandoi to Unchagaon and Jahangirabad has increased. Unchagaon, which formerly had only a small bazaar, has seen the length of its main street double. Businesses include: several fruit and vegetable sellers now where scarcely any existed in 1963, more dry goods and grocery shops, several tailors and tea stalls, two chemical fertilizer dealers, eight bicycle repair shops and one bicycle dealer, two diesel engine dealers, three saw mills, five carpenters, five blacksmiths, two motor repairmen, two radio repairmen and even a photographer. In all, this village of 6 000 boasts 141 shops and workshops, many of whose owners were born in Unchagaon and in nearby villages.

Bulandshahr district has always been well-known for its animal husbandry. The number of cattle, especially cow-buffaloes, is rising in Khandoi and in other villages. Increased wheat yields are enabling farmers to plant lucerne or alfalfa on some of their land. Where formerly hardly any milk was sold, especially outside Khandoi, today there are three milk-collecting centres in Unchagaon, which supply the Bulandshahr and Delhi markets, 40 km and 120 km away respectively.

Growth is largely due to the combination of high-yielding varieties of wheat, better irrigation, and increased use of fertilizers. Wheat is beginning to make inroads against gur, until recently the main cash crop. Milk sales, construction, trade and transport, and the rise of small industries point to a diversification of the economy and to more jobs opportunities.

Data on Unchagaon Block and Bulandshahr District confirm the trends observed in Khandoi. The irrigated area in the Block has considerably increased, as has the use of chemical fertilizers, shown here:

1963-64:	140 t
1975-76:	550 t
1977-78:	1 437 t
net cultivated area: 16 576 ha.	

Statistics on Bulandshahr District, which has in 1971 a population of 1,88 million and a population density of 440 km<sup>2</sup>, are as follows:

geographical area: 4 265 sq. km.	
1977/78: net cultivated area	334 300 ha
cultivated more than once:	192 600
net irrigated area:	298 800 (topographical area)
gross irrigated area:	406 900 (incl. multi-cropping)

Irrigation in 1977/78 was carried out in the following ways:

canals	72 100 ha
tubewells	188 100 ha
wells	25 200 ha
other means	7 400 ha

24 201 tubewells were privately owned, while 564 were state-owned. The private tubewells varied between 5-7.5 HP and on the average irrigated an area of 5-8 ha.

These figures present a drastic change from those of 1963-64, when the net irrigated area was only 200 000-230 000 ha although the net cultivated area was the same as today. At that time only a few hundred tubewells were in operation.

Consumption of chemical fertilizers, in terms of the nutrients N, P, K, was as follows:

1963-64:	2 280 t
1975-76:	17 450 t
1977-78:	30 675 t

Wheat yields in the district averaged 2,050 kg/ha in 1977-78.

## THE IMPACT OF GROWTH ON THE RICH AND THE POOR

Since our first visit to Khandoi, the size of a minimum economic holding allowing more or less full employment and a small net return for the owner and his dependents has decreased from 1.75-2 ha to 1.25 ha. This is a fair improvement for a number of small farmers. The breakdown of land-holdings has not changed substantially, however, as the following data show:

1965	No. of holdings	Total areas of holdings (ha)
0 -1.5 ha	70	50
1.5-2.0 ha	11	20
2 ha and over	<u>52</u>	<u>180</u>
	133	250
1978		
0 -1.25 ha	62	49.06
1.25-2.0 ha	25	38.5
2.0 ha and over	<u>47</u>	<u>161.4</u>
	134	248.96

The two principal ex-zamindars each have 10.6 ha, followed by two landowners with combined holdings of 15.16 ha and 31 other farmers with 73.84 ha in all.

Nor has the pattern of caste ownership changed much. The Jativ, (scheduled caste) landowners, have retained their small amount of land: 15 holdings amounting to 19 ha. Thus, the polarisation of landownership, with the poor losing holdings to the rich, has not occurred.

Tenancy, mostly sharecropping, has never played a significant role and is confined to 10 ha owned by childless old people. Except for the 4.3 ha rented by one Thakur, the holdings are small, ranging between 0.60-1.45 ha.

Rich farmers, with 5-10 ha, and medium-sized farmers with 2-5 ha, have improved their lot. They have invested in tubewells, seeds and fertilizers; hard work and frugality are characteristic of them. Several of them have benefitted from co-operative loans.

Progress is evident in the daily lives of the medium-sized landholders. Houses are built of brick; tea and sugar, fruits and vegetables appear more frequently on the family menu. Radio sets, watches and bicycles have found their way into these households, and education for the children now extends to high school and even college or university at Bulandshahr or Merut. The children are better dressed, as well.

Unchanged is the basic diet: at least one glass of milk daily for each person, chapati of wheat or maize flour, pickles, dal (pulses), mustard leaves in season and gur.

Although the bulk of the new farm machinery belongs to rich and medium-seized farmers, small landowners, too, have taken advantage of new technology. Ten of 48 tubewells belong to landowners having less than 2 ha. Surplus water is sold to other small farmers. Fertilizers and seeds are used, though in smaller amounts. An extra source of income consists of money sent back by family members working in other areas.

A typical example of a small farmer is Buddha in his 40s, a Jativ who owns 0.12 ha. Half is planted with wheat, half with sugar cane. Yields are 1800 kg/ha for the former and 7000 kg/ha for the latter. Urea, but no phosphate, and farm manure spread, and two bullocks are rented out for ploughing. Buddha earns an extra Rs. 16 daily plus food by ploughing neighbours' fields. Two cow-buffaloes furnish 10-11 l. of milk daily, which is mostly converted into ghee (clarified butter) for later sale. The family, consisting of a wife and daughter, is small: two children died young. Thanks to these various activities, Buddha's life has improved in the last ten years.

Sibhu, a young Jativ of 22, is married with one daughter. His father's holding consists of 0.12 ha. Bullocks must be borrowed for ploughing. Using urea and farm manure, his family gets 320 kg of wheat (2500 kg/ha) and, during the monsoon, 200 kg of maize. By working as a farm labourer, Sibhu earns Rs. 5-6 per day, with food. Since the introduction of new seeds and fertilizers, his yields have doubled, and his outside work has resulted in a higher real income for the family. The same farmwork in 1963-64 would have brought him only Rs 1 and food per day.

The progress of the Jativ is apparent: several women have colourful saris; they now have more than one change of clothes. More children go to school, and the men have gained more self-assurance. Caste relations are better, too: a Jativ may now sit beside a Brahmin, an unspeakable offence in the past. Thirty or 40 years ago physical contact with a Jat or other high-caste farmer would have resulted in a beating, and compulsory replacement of the garment touched.

Amar Singh, is a dhobi, the scheduled caste of washermen. Quite smart in short trousers and canvas shoes, he has managed to go as far as high school. He and his wife live with his father and two brothers. The two eldest brothers, whose families are in Khandoi, are looking for work in other towns. Amar Singh himself works two to four months a year as headman of a kolu, or cane-crushing and gur-processing operation, earning Rs. 6-7 a day plus food. Alternately, he works as a farm labourer for a daily wage of Rs. 5. Amar Singh collects grass for two

young cow-buffaloes, which will soon give milk. His father still works as a dhobi for 20 families, who pay him according to the traditional jajmani system. This brings in 1000 kg of grain a year.

All these changes do not mean Khandoi has become a rustic paradise. Medium-sized and rich farmers are still far from affluent, and owe their relative prosperity to hard work and austerity. The poor are still vulnerable to accidents and catastrophes; heavy rains in 1978 destroyed several mud houses. Still other families have not managed as well as those already discussed. Several Bhangis, belonging to the scheduled caste of sweepers, complained they could no longer find grazing land for their pigs. In addition, some Jativ complained of being as poor as ever.

However, the important fact is that the growth and diversification processes just described extend beyond the so-called trickle-down effect. In addition, employment outside of the village is increasing: about 125 men, as against 45 in 1963-64, have left their families in Khandoi to seek work outside the village. As in the past, some have joined the army or the police; others have found jobs in administration, teaching, or industry in nearby villages, in Bulandshahr or even in Delhi. Cash wages, which have gone up from Rs. 1 to Rs. 5-6, have increased in real terms, and labourers receive 10-12 kg of wheat daily at harvest time, twice as much as in the early 60s.

#### SLOW-CHANGING AREAS

Nahiyan, located on a fair-weather road 32 km from Veranasi (Benares), is a few kilometers away from Mangari, a large village which serves as the headquarters for Pindra Block. By 1961, Nahiyan had 2500 inhabitants; the figure reached 2958 by 1971. In the 1960s, population density lay at 600 per sq. km., as against Khandoi's figure of 444. The net cultivated area amounted to 362 ha, of which half was irrigated, albeit not always adequately. Yields were far lower than in Khandoi, despite fertile soil. Nahiyan presented a painful picture of semi-stagnation, poor traditional farming techniques, and, among its small farmers and landless labourers, acute misery.

Unlike Western U. P., the eastern districts did not experience much economic growth and technical innovation until India gained independence. Population increased without corresponding gains in production. In 1964, irrigation still relied on the mot system, which is less efficient than the Persian wheel. One state-owned tubewell had been installed; there were none under private ownership. Water management was particularly

poor; because of a lack of drainage, fields were flooded even during a normal monsoon, which is heavier than in the west. Non-irrigated plots were at the mercy of the rains, and rabi crops, i. e. winter crops, were less frequently irrigated than in Bulandshahr. Chemical fertilizers had as yet made no inroads, and the main land-owning castes - the Thakurs, Bhumiards and Brahmins - were, by tradition, non-agriculturalists, and were not inclined to hard, manual work in the fields. Only a few took a keen interest in improving their crops.

Not surprisingly, yields were low: 900 kg/ha for wheat, 1000-1200 kg/ha for paddy, by far the most important crop, and 2000-3000 kg/ha for gur. Improved varieties of wheat and cane were not in use, which aggravated the problem of poor yields.

A few large farmers with 10-15 ha made good livings, but the standard of living for medium-sized farmers holding 2-5 ha was low. Some medium farmers, belonging to the Kurmi, a middle caste, were rising socially and economically by dint of hard work and an enterprising spirit, however. Landless labourers earned the same wages - Rs. 1.00 - as those in Khandoi, but work was less plentiful. As one labourer said: "Misery does not leave the poor". Landlords, abused labourers, often belonging to scheduled castes, and thus worsened the situation. Semi-feudal relations led to various types of pressure from landlords (daba o), and the overwhelming feeling on leaving Nahiyen we experienced in March 1964 was semi-helplessness.

Some changes and improvements were visible on subsequent visits in November 1975 and October 1978. The consolidation of holdings had been completed. The installation of 29 privately-owned tubewells had improved irrigation, and thus, most wells equipped with the mot system were no longer in operation. Chemical fertilizers and high-yielding varieties of wheat were increasing, with some farmers attaining 2500-3000 kg/ha for wheat and others averaging 1500 kg/ha. The average for Pindra Block had risen from 900 to between 1300 and 1400 kg/ha, though this figure was kept down by areas having poorer soil and less irrigation than Nahiyen. There are now 42 state-owned tubewells, 654 privately-owned tubewells and 247 pump sets in operation.

Sugar cane yields were still poor. Some advanced farmers using high yielding varieties of paddy on well-irrigated high-lying plots had increased their yields to 2500-3000 kg/ha but in too many fields yields hovered around the 1500 kg/ha level because of lack of drainage and/or irrigation. Paddy yields at the Block level were about 2000 kg/ha on irrigated land and 1000 kg/ha on non-irrigated.

Data for the district, which has a net cultivated area of 328 000 ha, shows that agriculture is no longer static. Whereas only a few private tubewells



were in use in 1964, today state-owned and privately-owned tubewells irrigate 89 600 ha, as against 85 000 ha irrigated by canals. Average wheat yields, though rising, do not exceed 1300 kg/ha. Progress has been even more modest for paddy, which has an average yield of 1300 kg/ha.

What other innovations have reached Nahiyān? No one yet owns a tractor, but farmers occasionally rent one from a nearby village. A few mechanical threshers have come into use; because electricity is confined to tubewells, they are powered by diesel oil. Some Lohar, or blacksmiths, have opened a workshop which produces small iron ploughs that are better than the traditional ones. They sell for Rs. 20-30. One Muslim has started a hand-loomed operation to produce saris for Benares. A young Kurmi has started making carpets. Finally, several farmers, especially Kurmi, have begun to grow potatoes for sale to the new cold-storage warehouse at Mangari.

#### THE IMPACT OF GROWTH ON INCOMES

Although it is mainly the rich and medium-sized landowners who have improved their lot due to innovations, some of the poor have also experienced progress. Bansi, a Kurmi with 0.3 ha, has earned an extra Rs. 800-900 a year for the past two years by growing potatoes on part of his land and irrigating them with water bought from another Kurmi who owns a tubewell. He uses urea and di-ammonium phosphate on this crop, and grows wheat and maize in the winter and monsoon seasons, respectively. In addition, he works as a labourer for Rs. 3-5 per day, and thus earns enough to survive and remain free of debt. Unfortunately, several other small farmers are not doing as well.

The current daily wages, with few exceptions, lies at Rs. 2.50 to 3; food is often provided. Considering the fact that in 1964 the price was Rs. 1 and that since then the cost of living has gone up, the increase in real terms is minimal, if indeed, it exists. Several landless Jativ, who in this part of the country are called Chamar, complained of their lot - poverty, as well as *dabao*, pressure from the landlords. The worst-off are the Musahar, a scheduled caste, who work as migrant farm workers. They live in scantily furnished temporary huts and their children, who go around naked, show clear signs of malnutrition. One man, Ram Dula, told me he may earn as little as Rs. 1, plus food, per day.

Another Chamar is a permanent labourer for a Thakur household. He earns Rs. 50 a month plus food for only himself, not his family. A third

man complains of a landowner who is trying to exploit the fact that the common well has fallen into disrepair. Approached for water from his tubewell, the landlord demands that the Chamar work for him Rs. 1 per day.

In summary, the situation is no longer stagnant. Production has begun to rise, albeit modestly. Diversification is occurring, but at a slower pace than in Khandoi, even though population pressure is greater. The condition of the poor has not deteriorated, but few of them are better off than before. Wages and employment opportunities are increasing too slowly.

#### CASES OF DETERIORATION

One of the poorest districts in India is Muzaffarpur in North Bihar. In 1967 we conducted our first survey there in the village of Pilkhi, which lies on a good district road 25 km away from the district town. In 1971 the population of Pilkhi was 2 928, and the density per sq. km was 610. The net cultivated area amounted to 372 ha.

At the time of our first visit, poverty and technical primitiveness were extreme, even though the area has fine alluvial soil, a fairly good rainfall and a large potential for ground and surface-water irrigation. The whole area had grain surpluses up to the end of the 19th century, but a growing population exerted pressure on the land, and an unchanging technology was unable to meet new needs. The main crop, paddy, was only rain-fed and had very low yields: 1000-1200 kg/ha. Fields were exposed to the vagaries of nature: some low-lying plots were flooded even during a normal monsoon, while others suffered drought when the monsoon failed. Except for one state-owned tubewell, irrigation was non-existent. Soil management techniques were poor: fields were not levelled, weeding was not carried out and paddy nurseries were not well tended, etc. In winter, farmers grew some wheat wherever moisture was left from the rains; they got yields of 500 kg/ha.

The resultant poverty is well imaginable. High-caste landlords - Bhumíars, Thakurs - were not particularly enterprising and as well off because of poor crops. Some large Vaishya landowners were beginning to show more initiative. Medium-sized and small farmers had a low standard of living, while landless labourers were often extremely poor. Nevertheless, the spirit of change could be felt. Two very severe droughts in 1965 and 1966 had at least made most farmers irrigation-conscious. Many were beginning to apply for loans in order to install a tubewell.

By 1978 some changes were visible. One of the main Bhumiar landlords, who owns 40 ha in Pilkhi and 80 ha in another village, had developed his land to some extent and invested in a tractor. His land, which is cultivated partly by share-croppers, partly by labourers, averaged 2000 kg/ha. The aging head of the family complained that the old jajmani system, a form of patron-client relationship, was breaking down. He could no longer trust his dhobi and fought with his barber, or nai. Another big landlord had not shown much, if any, interest in his fields, and crop yields were unimproved.

Some large Vaishya landowners had become more enterprising. One farmer with 8 ha was irrigating his wheat fields with water from the state-owned tubewell and using high-yielding varieties and chemical fertilizers. His yields had increased to 2300 kg/ha. Another Vaishya farmer with 2 ha was growing a high-yield variety of paddy, IR 8, on 0.6 ha on irrigated, high-lying land. His yields amounted to 2500 kg/ha, and his irrigated wheat averaged 2300-2500 kg/ha. Chillies grown on 0.4 ha were yielding an annual net return of Rs 1000. Besides chillies, wheat and paddy, he had tobacco and a small mango orchard. On the whole, his standard of living was rising.

Irrigation had expanded, but slowly. Besides the state-owned tubewell, there were seven privately-owned tubewells with oil-driven engines. Operation and maintenance problems were more acute than in western U. P. There were few repair shops, and problems with the power supply had forced farmers to use less economic diesel oil engines. The state-owned tubewell experienced all kinds of operational difficulties; during our visit, for example, it had stopped functioning because 20 meters of connecting wire had been stolen. High-lying, irrigated lands growing IR 8 had yields similar to those already mentioned; they also had good crops of wheat. But large areas of low-lying fields were still exposed to flooding, since no drainage work had been carried out. Here, yields were low: 1000 kg/ha. Finally, unirrigated, high-lying lands were prone as always to bad winter crops and drought when the monsoon failed.

Techniques had not changed much, nor had the behaviour of the people. Whereas small Bhumiar and Brahmin farmers in Nahiyān had begun to do their own ploughing, the taboo against such work was still widespread in Pilkhi. The same attitude pertained to soil management, nurseries, weeding, etc. The women of Harijan and other landless families, like high-caste women, did not work in the paddy fields, although such work is common in other parts of India. As a result, income was reduced and when transplantation was urgently required, a shortage of workers resulted.

Minor changes worth mentioning include the purchase of 3 tractors in the village, and the progress of cash crops like chillies and potatoes.

Poverty ranges from bearable to excruciating. Ram Chandra Ray, who belongs to the enterprising middle-level caste of the Yadav, lives with his wife and three small children. On his tiny plot of 0.04 ha he grows tobacco, which brings him an annual net return of Rs. 200; this crop is followed by maize during the monsoon. Ram Chandra Ray applies urea and combined fertilizers to his crops, and manages reasonably well, thanks to several sideline activities. By plowing fields with his bullocks, he earns Rs. 6 daily, plus food. Half the four litres of milk he gets from his cow-buffaloes daily are sold at Rs. 1.25/l. Ram Chandra Ray's total debt amounts to Rs. 1000, at three percent interest per month.

Living conditions are more precarious for those without land or bullocks; often such people belong to scheduled castes. One group of Chamars live in huts built on land granted by the government; furnishings and household utensils are minimal, and the women each have only two saris. One family cares for a calf entrusted to it by a farmer; when it gives milk, both parties will share it. In the last twenty years the lot of these people has not improved, and they are as vulnerable as ever to unexpected crises like illnesses, accidents and natural disasters.

The Dusad, another scheduled caste, are even poorer. The men have only one dhoti, i.e. a garment tucked in at the waist, and one shirt apiece. The children do not go to school because of "Peise nahin", no money. Families subsist on chapati and rice, with very few pickles, vegetables, fruit or meat to supplement this basic diet. Except for a few goat owners, the Dusad have no milk, either.

Aggravating this elemental poverty are other factors. Landlord pressure is strong in this region, and one man summarized the situation thus: "We grow the food, they (the landlords) eat it." North Bihar is typical of areas where semi-feudal relations still prevail, and unlike other parts of India, here really large landowners with 50-100 ha and more exist. The landless labourer is especially vulnerable in this context; the general situation of small landowners, especially if they possess cattle and belong to a middle-level caste, is not quite so grim.

Inter-caste conflicts here are not restricted to the high-caste landlords and the Harijan. The rising middle-castes/classes find themselves in conflict with both the landlords and the Harijan.

Daily wages have increased from Rs. 1.50 plus some food in 1967 to Rs. 2.50-3.00 in 1978 or 2 kg of wheat or paddy. At harvest time, the amount of wheat or paddy paid may increase to 5-10 kg, without supplementary food. Thus, wages have hardly increased in real terms. Nor have employment opportunities increased appreciably since economic diversification is minimal. In addition, moderate increases in food-grain production lag behind the population increase.

Nor does the picture change at the district level. The city of Muzaffarpur has grown, but small-scale industries are not very noticeable. The degree of animal husbandry and milk production, as well as trade between villages and towns, has not grown much either. In term of nutrients, the consumption of chemical fertilizers rose from 4070 t in 1973-74 to 13,322 t in 1977-78, while the number of privately-owned and state-owned tubewells went up from 9 560 and 135 respectively in 1974-75 to 14 200 and 210 in 1978-79. Although these figures are not insignificant, they pale beside those for Bulandshahr. The development of roads and electricity is not as far advanced, either.

Nevertheless, North Bihar enjoys a tremendous growth potential. With a massive drainage programme and full-scale minor and major irrigation, yields could soar dramatically. Instead of a single paddy crop averaging 1000-1500 kg/ha followed by an optional crop of wheat yielding 1000-1500 kg/ha, it would be possible to institute two crops. In the first phase paddy and wheat, would average 2500-3000 kg and 1500-2000 kg/ha respectively. In the second phase, these yields would rise to 3000-4000 kg/ha for the former and 2000-2500 for the latter.

## CONCLUSIONS

What emerges from these case studies is the link between the standard of living of the poor on one hand and growth, diversification of the economy and employment on the other. Far more critical than the need to narrow the possibly growing gap between rich and poor is the necessity of reducing poverty beyond just the "trickle down effect".

Secondly, although slow-moving regions are no longer static and the lot of some of the poor is improved, poverty remains acute, and is aggravated when combined with semi-feudal relations. The latter are not universal to rural India, but are striking in Bihar.

These contrasts between slow and fast-moving areas are not confined to the Ganges Basin. During our trips we surveyed and resurveyed deltas on the East coast with similar results.

In the Mahanadi delta of Orissa, rural wages in Brahmagiri Block, lying in the most backward part of the Puri district, have fallen in real terms, and paddy yields are as low as 500 kg/ha. Wages have remained more or less constant, or have fallen slightly, in less developed blocks within the

same district. In Guntur district of Andhra or in the new delta of Thanjavur of Tamil Nadu, on the other hand, a rather fast growth in paddy yields has coincided with increases in real wages and employment opportunities.

These findings stand in glaring contrast to the conclusions expressed by FAO, which we referred to at the beginning of this paper. In fact, many books and articles share FAO's viewpoint. "The number of the rural poor has increased and in many instances their standard of living has tended to fall. Perhaps, surprisingly, this has occurred irrespective of whether growth has been rapid or slow", a well-known ILO study concludes<sup>3</sup>. The Asian Bank states: "There is a general consensus that the problems have worsened considerably in the past decades", even though it is forced to make qualifications and admit that in the Indian Punjab "wage rates seem to have risen sharply in the late 1960s" under the "strong impact of the green revolution". But it adds that in the 1970s "there is evidence of a decline in real wages" in almost all Asian countries<sup>4</sup>. Similar comments appeared in the Far Eastern Economic Review on the occasion of the FAO world conference in Rome. One article speaks of "islands of prosperous capitalist enterprise in an ocean of impoverished small farmers and landless labour". Another article, while admitting that impressive economic growth has occurred in most Asian countries, adds: "Increasing impoverishment in rural Asia is not due to an inadequacy of growth in food output"<sup>5</sup>.

How can the gap between the findings of so many studies and those of this paper be explained? First, we should point out that findings similar to ours have been published by other researchers. Several years ago, Ashok Mitra and a team from Pantnagar University presented evidence of farmers with 1-2 ha increasing their production thanks to high-yielding varieties, irrigation and fertilizers<sup>6</sup>. J. Q. Harrison made similar findings in districts in both West Godavari and Thanjavur, where he studied farmers owning less than 1 ha. C. Muthia did the same for five districts in South India, and P. K. Bardhan observed "a phenomenal increase in the intensity of labour input per ha" in farms of less than 0.4 ha in West Bengal due to the following changes: improved irrigation, seeds and fertilizers, diversification of agriculture in favour of potatoes and wheat in the dry season, and of paddy in the pre-monsoon period<sup>7</sup>.

One explanation is that these studies, and others like them, have received far less publicity than the ILO work, or books on rural development, by authors such as Francine Frankel<sup>8</sup>. Another is the manner in which the more publicized studies have been carried out. The Asian Bank team, for example, worked mostly with secondary sources, i. e. books, reports, government statistics, "visiting each country for an average of a week or less" (p. XIV). The ILO study used the same approach, with startling

results. Thus, Mohini Nayyar, writing about Bihar, states "the per capital income of agricultural labourers was the second highest in India" (p. 102) and observes that the distribution of income was "somewhat less inegalitarian than in many other States" (p. 115). The error of such an assessment would be obvious to anyone with even a passing familiarity with local conditions in India. M. Nayyar uses the 25th National Sample Survey of 1970-71 for information on the wages of agricultural workers. The report furnishes the following data:

	Daily wages of labourers
Coastal Andhra	Rs. 2.03
North Bihar	Rs. 2.01

Our surveys, however, collected the following data:

	Daily wages of labourers	
	1967	1978
Guntur (coastal Andhra)	Rs. 3.0	Rs. 5.0-6.0
Muzaffarpur (North Bihar)	Rs. 1.50	Rs. 3.0

The best explanation for these differences is given by anthropologist M. N. Srinivas. In an article he criticizes rural development studies based on reports and surveys, many of which include an array of data on production, consumption, income, etc. As he points out, such information often comes from badly trained and poorly motivated field officers, who confine themselves to filling out long questionnaires, the data of which can be computerized. M. N. Srinivas observes that the information so collected is used by economists to whom "the idea that they should themselves undertake field work does not seem to have occurred". "This is indeed perplexing as they are, again as a class, anxious to end exploitation of the poor and the oppressed, and to bring about equality and abolish poverty. But their laudable aims have not created in them a desire to come into close human contact with the objects of their concern and sympathy"<sup>9</sup>.

#### A PLEA FOR CLEARER APPRAISALS

In analysing the rural world one must first draw a line between relatively fast-moving areas and slow-moving ones, in order not to confuse socio-economic issues or apply the same criteria to very different situations. In addition, one must find ways of promoting growth which benefit the poor, too.

In eastern U. P. , Bihar, and the plains of Assam or Orissa, the first priority must be given to water management. This entails a much more complex process than in western U. P. , since not only minor irrigation by tubewells, but large-scale drainage projects and major surface irrigation works are required. These tasks require serious commitments on the part of the state governments; unfortunately, given local conditions at present, they may not be forthcoming in the near future.

A good water management policy would benefit not just the rich; better irrigation and fertilizers would increase the yields of small farmers, making them less dependent on landlords.

Other major tasks include developing roads, electricity, trade facilities and possibly extending more credit.

This approach to development, which benefits the poor as well as the more affluent requires better district administration and smaller, more manageable districts. It is already applied to some extent, but needs strong reinforcement. It seems more promising than all the talks on integrated rural development or the schemes to help small farmers introduced since the early 1970s. Such schemes can only reach a limited number of the poor and often, to quote M. L. Dantwala, their benefits "are diverted and appropriated by better-off farmers with political influence"<sup>10</sup>. Thus promoting the Panchayati Raj, or local councils, in U. P. or Bihar, would simply increase the influence of rich farmers.

In fact, the constant danger in rural development has been to conceive complicated schemes and projects or attempt to do too much at one time, given the cadres and funds available. It might be better to concentrate on a few key issues, and diversify production. This in itself could have a positive impact on wages and employment opportunities.

#### Footnotes

- 1) FAO, Examen et Analyse de la Réforme Agraire et du Développement Rural dans les Pays en Voie de Développement . . . . Rome, 1979. p.15.
- 2) For the first Surveys in U. P. see my Studies in Indian Agriculture - The Art of the Possible, Berkeley, University of California Press, 1968. (All interviews were conducted directly in Hindi).



- 3) ILO, Poverty and Landlessness in Rural Asia, Geneva, 1977, p.1.
- 4) Asian Development Bank, Asian Agricultural Survey 1976, Manila 1979, p. 53.
- 5) See articles by Mohan Ram and A. K. Gosh and K. Griffin, Far Eastern Economic Review, 13. 7. 79.
- 6) A. Mitra, "Delivery and Distribution of Inputs of Agriculture to Small Farmers". Ahmedabad, Tagore Lectures and Problems and Prospects of Small Farmers in two Regions of Uttar Pradesh in 1969/70, Pantnager University, 1971.
- 7) J. Q. Harrison, Small Farmers Participation in Agricultural Modernization, New Delhi, Ford Foundation, 1970. C. Muthiah, "The Green Revolution - Participation by Small Versus Large Farmers." Indian Journal of Agricultural Economics, no.1, 1971. P. K. Bardhan, "On Labour Absorption in Asian Rice Cultivation with Particular Reference to India." (Bangkok, ILO 1978) quoted by M. L. Dantwala, Economic and Political Weekly, 23. 6. 79. For Punjab, see among others, C. H. Hanumantha Rao, Technical Change and Distribution of Gains in Indian Agriculture, New Delhi, Macmillan 1975, p. 35.
- 8) India's Green Revolution, Princeton University Press, 1971.
- 9) M. N. Srinivas, "Village Studies, Participant Observation and Social Science Research in India". Economic and Political Weekly, Special number August 1975.
- 10) Ed. by C. H. Shah and C. N. Vakil, Agricultural Development in India, Bombay, Orient Longman 1978, chapter by M. L. Dantwala, p. 28.