CHAPTER 8

Conclusions and Discussion

8.1 The Major Findings

Income deprivation and income inequality are major features of rural society in India. The study of rural household incomes in India is particularly important in the context of the current discussion of consumption poverty and rising consumption inequality in recent years.\(^1\)

The objectives of this thesis were two-fold. First, it attempted to understand some methodological issues of measurement of rural household income, particularly in a less developed economy such as India. Secondly, the study examined the levels and patterns of household income in three villages of West Bengal. West Bengal presents an interesting site to study rural household incomes in India because of its unique experience of agricultural growth since the 1980s, and implementation of land reform. The three villages chosen for the study – Dalkati in West Medinipur district, Amatsinghi in Malda district and Bidyanidhi in Barddhaman district – differed in terms of agricultural productivity, the sources and spread of irrigation, land relations, and the social composition of village populations. Although my sample was small (a total of 95 households), the survey on household income is rather unique in a) using an accounting framework to calculate household incomes, and b) reducing recall errors by interviewing each household at the end of each of the major crop seasons.

My surveys showed that the levels of household income were low in the study villages. The mean household income was Rs. 21,621 per annum at current prices. The estimates of

household income of farmer households from my data were lower than the West Bengal average estimated by the Situation Assessment Survey (SAS) conducted by the NSSO in 2002-03. According to SAS data, the household incomes of farmer households in West Bengal were slightly above the all India average, but much lower than the States that experienced high agricultural growth, such as Punjab and Haryana.

Income-deprivation was widespread in the villages. Using a simple rice-based income poverty line, 48 per cent of the households were below the poverty line. In terms of relative deprivation, a significantly larger proportion of Dalits and Adivasis earned below-median incomes and owned below-median levels of assets than Other Caste households in the village.

The Gini coefficient of household income ranged between 0.4 and 0.55 in the three villages, indicating relatively high levels of inequality by international standards. An important question asked in this thesis was how household attributes such as access to human and material capital contributed to household income and income inequality. The regression-based decomposition analyses of household income inequality brought some interesting results to the fore. The most important contributors to income inequality were access to non-land productive assets, education, and demographic factors (dependency ratio and household size). Though Dalit and Adivasi households earned significantly lower incomes than other households in two of the three villages, the contribution of social inequality to income inequality did not show up in the regression-based decomposition results. A population sub-group decomposition of the Theil index, however, showed that income differences between Dalit and Adivasi households and

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2 The Gini coefficient of rural household income in the NCAER survey 2002-03 was estimated to be 0.5 (Azam and Shariff 2009). In the study of three villages of Andhra Pradesh by the Foundation for Agrarian Studies in 2005-06, the Gini coefficient for household income was reported to be 0.64 (Ramachandran, Rawal and Swaminathan (eds.) 2010).
other households contributed to 22 per cent of income inequality in Bidyanidhi, 13 per cent in Dalkati and 1 per cent in Amarsinghi.

The low level of household income in the study villages was primarily on account of low incomes from crop production. It may be noted in this context that, according to the SAS, incomes from cultivation in West Bengal were among the lowest in India, higher only than in three States, Rajasthan, Orissa and Tamil Nadu. The two main causes of low agricultural incomes in the study villages were the small size of land holdings, and dependence on paddy cultivation, which was not very profitable.

The average size of land holdings in the study villages was only one acre in Dalkati and Amarsinghi, and 1.64 acres in Bidyanidhi; more than 85 per cent of the households in each village owned less than 2.5 acres of land. The main crops grown in the villages were aman paddy and boro paddy, and these two crops occupied 83 per cent of the gross cropped area under all crops in my sample. Mean net income from aman paddy was Rs. 2,960 per acre and mean net income from boro paddy was, in fact, negative (a loss of Rs. 511 per acre). Potato and vegetable crops (such as pointed gourd cultivated in Amarsinghi) were profitable, but the area under such crops was small.

Since income from cultivation was low, off-farm incomes (agricultural wages, forestry and fishing) and non-farm incomes (salaries, non-agricultural wages and self-employment, rent, interests, transfers) assumed importance in the study villages. This is again consistent with the findings from the SAS, which reported that 61 per cent of the income of farmer households in West Bengal was from wages and non-farm businesses. In my sample, 81 per cent of the
household income of farmer households was from wages and non-farm business. Off-farm incomes played a risk-mitigating role, particularly for landless and marginal farmers, and Dalit and Adivasi households in the study villages. Non-farm incomes constituted 60 to 65 per cent of annual household incomes in the three villages.

The non-farm sector was heterogeneous. On the one hand, a few households earned high non-farm incomes from salaries and self-employment in non-agricultural activities. The mean incomes from these two sources were much higher than all other sources of income. On the other hand, a large number of households in the study villages earned non-farm incomes from wage employment that were generally not high.

The decomposition analysis of income inequality (measured by the general entropy measure GE(2)) by source of income showed that off-farm incomes lowered income inequality, while farm and non-farm incomes raised income inequality. The non-farm sector was the largest contributor to income inequality in the study villages, and 81 per cent of total income inequality could be explained by inequality of non-farm incomes.

A further decomposition of each source of income by household attributes showed that ownership of land was the major contributor to inequality of farm incomes, but not an important contributor to non-farm income inequality. Non-farm income inequality was largely determined by inequality in the ownership of non-land productive assets and level of formal education.
The relationship between land ownership and household incomes was interesting, and perhaps reflects an unique feature of the State. The relationship between land ownership and household incomes was weak in the villages because of the relatively equal distribution of land. Land ownership was not a necessary condition for gaining access to non-farm employment. Though many households from the traditional land-owning classes had diversified to high-income non-farm activities, there were also households emerging from the class of small and marginal peasants that gained access to high-income non-farm employment through access to credit and government jobs.

An analysis of diversification at the household and individual levels showed that 98 per cent of the households in the three villages earned incomes from more than one source. The majority of the workers (78 per cent men and 61 per cent women) were “pluri-activity workers”. The degree of diversification, measured by the inverse Herfindahl-Hirschman index, was low in the highest and lowest income and asset quintiles. Households in the lowest income quintile generally received more than two-thirds of their income from farm and off-farm sources, while households in the highest income quintile generally received more than two-thirds of their income from non-farm sources. Households in the middle of the distribution were most diversified, earning incomes from different farm and non-farm sources. Even though households in the highest income quintiles earned a larger share of income from non-farm sources, access to non-farm income was not a sufficient condition for high household incomes. The ANOVA results indicated that non-farm wage incomes did not significantly raise

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3 The sources of income were classified in ten categories, viz., cultivation, animal husbandry, agricultural wages, non-agricultural wages, forestry and fishing, salaries, non-agricultural self-employment, rent, interest, pensions and other transfers.

4 See Reardon, Berdegue, Barrett and Stamoulis (2007).
household incomes, though income from salary and non-agricultural self-employment decisively put a household in a higher income class.

In all three villages, the employment generated by the farm and the non-farm sectors was woefully inadequate to meet the demand for wage employment. In such a situation, government employment programmes can play a vital role in mitigating income poverty. The case study of Bonkati gram panchayat, one of the best-performing gram panchayats with respect to the implementation of the National Rural Guarantee Scheme (NREGS) in West Bengal and India, illustrated how farm and non-farm incomes can be raised through efficient implementation of current government programmes. In this gram panchayat, the NREGA was implemented in convergence with other government programmes, namely, the Hariyali scheme, the Pradhan Mantri Gram Sadak Yojana, and the Swarna Jayanti Gram Swarozgar Yojana. As a result, 172 days of employment were generated per household in 2008-09. The total expenditure under NREGA in Bonkati gram panchayat in 2008-09 was Rs. 2.5 crores.

8.2 A DISCUSSION OF SOME IMPORTANT ISSUES ARISING OUT OF THE THESIS

8.2.1 Survey-based Estimates of Household Income in India

There is no official collection of serial all-India survey-based data on household incomes similar to the regular surveys on consumption and employment conducted by the NSSO. The absence of household-level survey data on incomes has made systematic analysis of the causes and nature of agrarian distress and income deprivation in rural areas difficult.
The few large-scale and small-scale surveys on rural household incomes that have been conducted in India in recent years fail to give a coherent picture of the levels of household income or its distribution.\textsuperscript{5} The problem arises from the fact that these surveys use different definitions of household income and different methods of estimation. Our review of the income surveys that have been conducted in India identified three major problems of comparing survey-based estimates of income from different data sources in India (see Chapter 2). First, there was no uniformity between surveys in the definition of the components of income and costs of production. The components of income and costs of production included or excluded from the income estimates vary across surveys. The problem is compounded by the fact that there is no internationally accepted definition of household income, similar to the System of National Accounts, and by the absence of any standard definition of household income within the country. In this context, it may be noted that the Expert Group on Household Income Statistics (The Canberra Group) is working on an internationally acceptable definition of household incomes.\textsuperscript{6} Secondly, there were differences in methods of imputing values for inputs and outputs not transacted in the market. This is a major problem in India, where a large part of household production is for own consumption and forms of non-monetary transactions abound in input and output markets. Thirdly, income estimates from survey data are affected by recall errors. Production and employment are highly seasonal in rural India, and recall errors are common in estimates of household incomes. However, recall errors can be minimised by increasing the number of visits to the household, and by proper design of the questionnaire. The different income surveys use different recall periods. For example, the NCAER 1993 survey used the calendar year preceeding the survey as the recall period. The SAS, on the other hand, used the previous six months as the recall period.

\textsuperscript{5} See section 1.3 of chapter 1.
\textsuperscript{6} See The Canberra Group (2001). Also see section 2.1.3 in chapter 2.
for incomes from farming, a 30-day recall period for non-farm business, and a seven-day recall period for non-agricultural wages and salaries. The questionnaires used in the various income surveys are also very different. These three factors introduce biases in the income estimates. The direction and magnitude of the biases are difficult to measure, and hence comparison between the different data sets becomes a difficult task.

In spite of such problems of estimation, the importance of household-level data on income in the analysis of the nature and causes of poverty and income deprivation cannot be ignored. Recent surveys of household income in India revealed two interesting features of the data. First, income surveys report the presence of households with negative incomes (that is, households that have incurred losses) in the reference year. The NCAER study in 2004-05 reported that some rural households earned negative incomes, and this was due to the losses made in agriculture.\(^7\) The Andhra Pradesh study of the Foundation for Agrarian Studies reported that net income was negative for 2.5 to 2.8 per cent of the population in the three villages in Andhra Pradesh that they surveyed in 2005-06.\(^8\) The SAS also reported negative incomes, particularly in animal farming, but ascribed negative incomes to "reporting biases".\(^9\)

A second interesting feature of the large-scale income surveys conducted by the NSSO and NCAER was that average rural household consumption expenditure exceeded average household incomes. Bhalla (2008) noted from SAS data that, at "the all India level, a farmer household had to possess 4.01 ha or more to be able to make ends meet. The proportion of such farmers was only 5.2 per cent; the rest, namely 94.8 per cent, were incurring a deficit."

\(^7\) Desai, Dubey, Joshi, Sen, Shariff, Vanneman (2010)
\(^8\) Ramachandran, Rawal and Swaminathan (2010)
\(^9\) NSSO (2005)
Whether the deficit for such a large proportion of households can be explained by “reporting biases” alone is a matter to be considered. In my view, these two observations illustrate the extent of income deprivation in rural India more strongly than indicators of consumption expenditure or trends in production and employment.

8.2.2 Small Farmers and Agricultural Growth in West Bengal

As we have noted earlier, West Bengal’s rural economy was characterised by rapid growth in the 1980s and early 1990s. The major features of growth, which were particularly marked in the rice economy of the State, were rapid growth in aggregate production; growth in yields per hectare, particularly in the boro (or rabi) season, but also in the aman (or kharif) season; and an overall narrowing of the gap between districts with respect to production and yield performance.10 While the period of agricultural slowdown in India from the early 1990s affected the peasantry in India as a whole, it thus had a special significance for West Bengal. West Bengal, too, saw deceleration in the agricultural sector.11

The data in this thesis have a direct bearing on the issue of agricultural deceleration in the State, and its implication for the peasantry. Our data show that the absolute levels of incomes — agricultural and other rural incomes — were very low by the mid-2000s.12 Our data are consistent with the interpretation that, by the end of a relatively long period of deceleration, the income-effects in West Bengal of land reform among the peasantry (what Sengupta and Gazdar (1996) referred to as the “first round effects” of land reform and wage increments),

12 Discussed in Chapters 4 and 5.
had tapered out. As we have seen, among the main reasons for low crop incomes among households in Dalkati, Amarsinghi and Bidyanidhi was the high cost of inputs, a phenomenon observed elsewhere in India as well. In West Bengal, once the general rise in input costs had affected the momentum of land-reform-induced growth, problems of scale, that is, of productivity on fragmented land holdings, also asserted themselves.

8.2.3 Profitability of Boro Paddy Cultivation

Important features of agricultural growth in the 1980s and 1990s in West Bengal were that the sustained growth in rice production of the period was weather-independent, and that that growth was influenced significantly by the spread of irrigation in the boro season (in particular, by groundwater irrigation from wells fitted with motor-pumps). A feature of the 2000s is that, with the sharp and continuous rise in fuel prices, the cultivation of rice in the boro season on groundwater-irrigated fields where motor-pumps are driven by diesel has become almost completely unprofitable.

As a result of the rising cost of cultivation of boro paddy, area under boro paddy, which showed a steady increase in the 1980s and 1990s, stagnated and declined marginally in the 2000s (Figure 8.1). The growth of yields of boro paddy also stagnated by the 2000s.

Signs of economic distress among boro rice cultivators using diesel pumps began to appear in the early part of the decade. In Barddhaman district in 2000-02, the All India Kisan Sabha surveyed a village in Raina II, the administrative block bordering the block in which Bidyanidhi is located. They found that, over a period of two years, some 100 bighas that came within the survey, all of which were irrigated by diesel-driven motor-pumps, had been left fallow by cultivators in the boro season:

Given the combination of the rise in diesel prices, the fall in paddy prices and the lack of information on crop substitution, cultivators decided that it was not worthwhile to plant anything on the land [in the boro season].¹⁴

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¹⁴ Reported in Ramachandran, Rawal and Swaminathan (2002).
Ramachandran, Rawal and Swaminathan conducted case studies in Bankura, Haora, and Hugli districts in May 2002. Here too the conclusion was that “if a boro crop is irrigated by a shallow tubewell fitted with a diesel-driven pump, net income (if sales are at harvest-time prices) is almost certainly negative”.15 A similar conclusion emerged from the surveys of seven villages of West Bengal conducted in 2005, particularly with respect to Bidyanidhi, Amarsinghi, and Kalmandasguri village (in Koch Bihar district).16 Agriculture in Bidyanidhi had been hit hard because of lack of electrification and the rise in the costs of diesel. Intensive land use for about two decades had, the study found, resulted in stagnation in yields. In Bidyanidhi, three submersible shallow tubewells were no longer used because of the prohibitive costs of boro cultivation with diesel-driven motor-pumps.17 With regard to the three villages, the study noted:

Irrigated agriculture was constrained by high the cost of irrigation, which was primarily dependent on diesel-powered pumps. There was no provision of electricity for operating tubewells in any of the study villages and groundwater had to be extracted using tubewells driven by diesel or kerosene-powered pumpsets driven tubewells. It was primarily on account of the high and rising cost of diesel that profitability from the cultivation of irrigated boro rice was low and declined in recent years. This resulted in stagnation in the area under boro cultivation in Amarsinghi and Kalmandasguri and a decline in area under boro cultivation in Bidyanidhi in recent years.18
My study confirms that the cultivation of boro paddy was unprofitable in the study villages. The major reasons for low net incomes from boro paddy were the high cost of irrigation and chemical inputs. In Amarsinghi, where diesel-powered pumps were used for irrigation, irrigation costs accounted for 42 per cent of the gross value of output (GVO). Boro paddy was cultivated in a small area irrigated by an electrified deep tubewell in Bidyanidhi. Irrigation costs for boro paddy constituted 12 per cent of GVO, and costs of chemical inputs were higher for boro paddy than aman paddy. Farmers dependent on hired labour made losses in boro cultivation, while farmers using family labour made very small gains. In spite of such low profitability, households cultivated boro paddy on a part of their land to meet their own consumption needs.

8.2.4 The Class of New Rich in Bengal

The two most important institutional changes to occur in the West Bengal countryside in the last few decades were land reform and the establishment of panchayat raj institutions. Land reforms after 1977 have been estimated to have affected, in some way, more than half of all rural households in the State. It was observed in 2008 that

The absolute numbers give us an idea of the sweep of land reform. As a rough measure, the aggregate, as on February 15, 2008, of the total number of recipients of agricultural

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19 While lack of electrification of irrigation is an important factor affecting the profitability of boro paddy in recent years, it should also be noted that West Bengal has the one of the highest tariffs on electricity for agricultural purposes in India. In 2007-08, consumption of electricity for agricultural purposes was only 4 per cent of total electricity consumption in the State. In contrast, the figure was 33 per cent for Punjab, and 38 per cent for Haryana. Power tariff for agriculture in West Bengal in 2005 was Rs. 191 (upto 10HP, 2000 KWH per month), when farmers in Punjab and Haryana paid Rs. 31.50 and Rs. 17.50 respectively (Data source: www.indiastat.com).

20 See case studies in section 5.3.2, chapter 5.
land under land reform (2,971,857), the number of recorded bargadars (1,510,657) and the number of recipients of homestead land (557,151), is 5,039,665 beneficiaries.21

It is in this general context of land reform that questions of existing class relations in the West Bengal countryside, and of the "new rich" therein have also been raised.22

Mishra and Rawal have attempted to delineate the broad descriptive-analytical features of the "new rich":

Such landowners may not have big holdings in terms of extent but they cultivate their land more intensively. They are now engaged in a variety of occupations. In the post-land reform period, they have invested in the non-farm and service sectors. A household from this class may have only a medium-sized landholding of, say, 5 acres, but within the same extended family, different persons may be engaged in a variety of occupations. For example, one person might be supervising cultivation alongside selling water from his tubewell and renting out a mechanized tiller. Another person might be engaged in agricultural trade. Yet another might run a transportation business through ownership of a truck or two, perhaps a bus or a jeep. And there might be still another person working on a salaried job. (Mishra and Rawal 2002, p.345)

My own data add some new facets to this analytical description.23 My analysis showed that while a segment of the rich in the study villages emerged from the class of the traditional land-

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21 Ramachandran (2008)
22 And it is important to remember here that there is no doubt that the "big" farmers of West Bengal are substantially smaller than their counterparts in Punjab, Haryana, Tamil Nadu or Andhra Pradesh.
owners who diversified to various non-farm activities, a small proportion of the rich also emerged from the class of small and marginal peasants, and from among socially disadvantaged groups. These households made their positions among the richest households in the villages through their access to non-farm sector employment, as traders or as government employees. Access to formal sector credit, education and reservation in government sector jobs facilitated their upward economic mobility. The decomposition of income inequality in the study villages showed that non-farm income was the major contributor to income inequality and 81 per cent of income inequality in the village was explained by inequality of non-farm incomes.

8.2.5 Education and Rural Household Incomes

The impact of education — and different levels of education — on agricultural innovation, high-yielding-variety adoption, yields and labour productivity, and consequently on self-employment and non-farm incomes (and on incomes and livelihoods more generally), is a rich field for research. Quantitative evaluation of the impact of education on these variables is, however, beset with methodological problems, not least because of the interconnectedness of the variables: education is often both the cause and consequence of higher incomes.24

In addition to the technical and methodological difficulties in calculating the returns to education in terms of income and earnings benefits are problems also of the availability of data. Despite these, the general international scholarly consensus is that income returns to education are substantial, and are highest for “primary education, general curricula, the education of women, and countries with the lowest per capita incomes”.25 Studies also show that the returns to education are greater in a “modernising environment,” and when there is

23 See Section 6.3 in Chapter 6.
concurrent development of "hard" infrastructure (for example, electricity, roads, and the means of transport and communications) and "soft" infrastructure (for example, education and health facilities). In their work on school education, Colclough and Lewin report

- that the international evidence is that schooling improves productivity in rural and urban self-employment; and

- that in a survey of 13 developing countries, four years of schooling were associated with farm output increases of 8 per cent; and that the positive impact of four years' schooling, compared to none, was much higher in modernising environments (i.e., when there were concurrent investments in roads, marketing facilities, access to credit, and so on).

Empirical support for the positive association between education and household incomes can be found in the Indian literature as well. Lanjouw and Shariff found a strong association between education and non-farm earnings as well as non-farm employment probabilities in all the regions in India. Their study was based on NCAER data on household incomes for 1993.

Formal education may also raise aggregate rural household incomes by raising rural non-farm incomes. There are varied mechanisms by which education can do so, and the international findings in this regard are relevant enough to quote at some length. An illustration from the Philippines illustrates the possible relationships between the variables highlighted in our study, that is, between education, non-farm employment, and income inequality. Estudillo, Quisumbing and Otsuka found that

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27 Colclough and Lewin (1993)
28 Lanjouw and Shariff (2004)
education has a strong effect on non-farm earnings (but not earnings from green revolution rice farming), both before and after the green revolution, and that educated households generally shift away from farming towards non-farm employment.\textsuperscript{29}

In rural Mexico, Taylor and Yunez-Naude documented "high returns from schooling in both farm and non-farm activities [and] found that education induced households to shift from farm to non-farm activities."\textsuperscript{30} An important consideration of the discussion in the literature is whether or not the change in rural non-farm incomes consequent upon enhanced education has an equalizing or unequalising effect on overall income distribution. Reardon cites the work of Adams in Pakistan, which found that

although non-farm income had an overall equalizing effect on the income distribution, this was not the case for all specific sources of off-farm income. In fact, the "education-intensive" sources (such as government employment) were found to have an unequalizing effect as they were accessible mainly to wealthier households with more education.\textsuperscript{31}

In contradistinction to this experience is that of Collier and Lal (1980) from Kenyan data, which emphasizes the egalitarian effect of education on income distribution via enhanced rural non-farm incomes. Reardon summarises their conclusions thus:

More equitable access to education, access to urban wage employment and scale-neutral

\textsuperscript{29} Estudillo, Quisumbing and Otsuka (2001), cited in Reardon (2005)
\textsuperscript{30} Taylor and Yunez-Naude (1999).
\textsuperscript{31} Reardon (2005) summarising the work of Adams (1994).
agricultural innovation (i.e. that could be adopted by both small and large-scale producers) were what achieved the equal distribution of development. Off-farm income (especially migration income from government employment) was channelled into agriculture. As productivity-increasing innovations were scale-neutral and thus independent of farm size, investment generated with off-farm and migration income (of which education was a strong determinant) caused productivity increases for poor and rich households alike, thereby further enhancing the equalizing effects of access to off-farm employment. Access to off-farm income permitted poorer households to be involved in investments in tree crops (with a long gestation period) and hybrid livestock (sometimes with a high mortality rate). (ibid.)

The international evidence thus shows a clear positive association between education and rural non-farm incomes. This increase in rural non-farm incomes can, however, have contrasting effects on income inequality (the effects being highly influenced by the specific features of pre-existing income distributions and the costs of school and post-secondary education), bringing down overall income inequality in some regions and exacerbating income inequality in others. Our data are clearly an example of the latter case.

My study confirms the significant association between education and household income, particularly non-farm income. In the regression analyses undertaken in this thesis, education of the head of the household was a significant determinant of total household income, and particularly non-farm income. As mentioned earlier, there were two types of non-farm incomes in the study villages -- wages from non-farm employment, which did not yield very high average incomes, and income from salary and non-agricultural self-employment, which were
the most remunerative sources of income. Education was an important factor influencing
access to salaried jobs and non-agricultural self-employment activities. According to the
decomposition analysis of household income inequality, education contributed significantly to
income inequality in the study villages. This was primarily due to the positive association
between education and access to high-income non-farm employment. However, my case
studies (in chapter 6) illustrated that education was also an important factor in the upward
income mobility of a few marginal and small peasant households, as it facilitated their entry to
high-income non-farm employment. This is indicative of the income-equalising role of broad-
based education in the long-term in a society characterised by the unequal distribution of land
and physical assets.

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In conclusion, the study of household incomes in India, crucial though it is to understanding
poverty and process of development, is beset by problems of data. Not least among these
problems is that there is no regular source of all-India data collected by the National Sample
Survey or similar organisation on household incomes in India, rural or urban. My analysis of
household incomes in three rice-dominated villages in West Bengal showed that incomes were
low, and that low household incomes were the consequence of very low crop incomes and the
lack of access of households to sources of non-farm incomes. Low crop incomes, in turn, are
the consequence of high input costs, which is an India-wide phenomenon in the current
period. Although inequality in the distribution of land holdings and incomes is distinctly lower
in West Bengal than in the rest of the country, marginal and small farmers as well as manual
workers face a critical situation with regard to agricultural incomes (including wage earnings)

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32 Discussed in chapter 5.
33 See chapters 4 and 6.
from non-agricultural sources. Employment programmes such as the National Rural Employment Guarantee Programme can provide some relief to the income deprived; if implemented in convergence with other local development schemes they can enhance livelihoods further. Nevertheless, the problem of low incomes can be addressed effectively only when the issue of declining agricultural growth and profitability are addressed, and education and opportunities for remunerative employment outside direct crop production are more widespread and open to all.