

**Incomes of Rural Households in Maharashtra:
A Study based on Primary Data from Two Villages**

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CONTENTS

1. Introduction	3
2. Objectives	10
3. Methodology	11
4. Level and distribution of household and per capita household incomes	17
5. Disparities in incomes across social groups	22
6. Disparities in incomes across classes	28
7. Sources of Income	34
8. Level of Farm Business Incomes	45
9. Costs of cultivation of major crops	51
10. Conclusions	55
11. References	57
12. Acknowledgements	59
13. Appendix on Workshop schedule	60

1. INTRODUCTION

Over the last decade, there has been growing concern about the state of agriculture and agriculture-based livelihoods in India. In its final Report, the National Commission on Farmers noted:

The agriculture sector contributes only about 18 per cent of the total Gross Domestic Product with more than 60 per cent of population dependence, resulting in low per capita income in the farm sector. Consequently, there is a large disparity between the per capita income in the farm sector and the non-farm sector. Therefore, it is essential to deal with those issues which impact the income level of farmers...Several constraints such as preponderance of small and marginal holdings...imperfect market conditions and, lack of backward and forward linkages, affect the income levels of farmers adversely (GOI, 2007, page 1).

A recent study pointed out that the incidence of farmers' suicides was concentrated in Maharashtra, Karnataka, Andhra Pradesh, Chhattisgarh and Madhya Pradesh, which together account for about two thirds of suicides committed by farmers (Nagaraj, 2008). Nagaraj argued that the problem of suicides is "most acute in....the contiguous, semi-arid zone in the south and central parts of India, consisting of Vidharbha, Deccan, Hyderabad...Rayalaseema," He argues that "the pre-existing conditions of very high vulnerability in the region; the present acute agrarian crisis; and absence of alternate livelihood opportunities, particularly for the poor," are factors affecting suicides.

The agrarian distress in different parts of India has been linked to economic reform policies that have acted as a depressor on the rural economy. Economic reforms after 1991 weakened the institutional support structures for agriculture in India. The protection offered to agriculture from imports was removed, resulting in a fall in prices of many commodities as well as higher volatility of prices. As part of fiscal reform, major input subsidies were brought down relative to the size of the agricultural economy. Public capital formation in agriculture continued to fall, and the growth of public expenditure on research and extension slowed down. The policy of social and development banking ceased to be official policy. Policies on land use underwent significant

changes. Regulated markets came to be treated as obstacles to efficient marketing. Land reform was, in effect, taken off the official agenda.

The livelihood crisis is arguably a result of income and profit squeeze among cultivators following the introduction of the new economic policies. On the one hand, gross incomes have been affected by stagnation or decline in yields, price fluctuations and price collapses. On the other hand, costs of production have risen on account of withdrawal of public support, and dependence on the private sector for all basic inputs.

A study of incomes of rural households – from crop production as well as from other economic activities -- is thus crucial to understanding the extent and nature of agrarian distress in contemporary rural India.

Official sources of data on household income¹

India does not have a system of collection of statistics on household incomes. As is well known, estimates of poverty are based on data on consumption expenditure. For the purpose of formulation of agricultural price policies, the Commission for Agricultural Costs and Prices (CACP) collects data on costs of cultivation and gross and net incomes for different crops. These data, however, are crop-specific and do not provide household-level information even on the total income of farm households from all crops cultivated in a year. CACP does not, of course, collect data on other sources of incomes of farm households. The National Sample Survey Organisation conducted, as part of the 59th round, a Situational Assessment Survey of Farmers. While this survey collected data on incomes of farmer households, the survey was fraught with conceptual and methodological problems, and left out rural households other than farmers. As a result of these limited initiatives, there is no source of comprehensive data on rural household incomes.

Household incomes can be measured in two ways: by using national accounts statistics or by means of household surveys. In India, disaggregated data from National Accounts Statistics are available at the level of States and by different sectors of the economy, but it is not possible to estimate income for the rural or urban household sector separately, since the method of collection of National Accounts data does not allow for rural-urban disaggregation. Another limitation of using macro aggregates is that while the levels of income can be estimated through

¹ Material from here to the end of this section is extracted from Bakshi, et. al. (2012).

these aggregates, it is not possible to analyse patterns of income distribution in the economy.

Data on household incomes can be collected directly through household surveys. In many countries of the world, including developed countries like the United States and the United Kingdom, and less developed countries such as Sri Lanka, China, and Malaysia household income data is collected through household surveys. The merit of household survey data is that they allow for inter-personal comparisons of income and analysis of the sources and patterns of income generation. At the same time the estimation of income from household survey based data involves some well recognised problems, such as problem of defining the components of household incomes (inflows and outflows) and underestimation of household incomes.

Given the complexity of occupational patterns in the informal economies of less developed countries, the conceptual issues involved in the analysis of household incomes are correspondingly complex. Although India has a long and well-established system of statistical data collection, there are no regular surveys on incomes, in rural or urban areas. There are very few studies of household incomes in India primarily because of the dearth of data. The only nation-wide surveys that have directly collected data on household income are the attempts by National Sample Survey Organisation (NSSO) in the 1960s and the recent Situation Assessment Survey of Farmers in 2002-03, and those of the National Council of Applied Economic Research (NCAER).

Although the National Sample Survey Organisation conducts quinquennial surveys on consumption expenditure in India, it does not conduct regular surveys on household incomes. The two most important surveys on household incomes conducted by the NSSO were the pilot survey of income, consumption and savings in 1983-84 and the Situation Assessment Survey of Farmer Households in the 59th round in 2003.²

Pilot Survey of Income, Consumption and Savings (1983-84).

In 1983-84 the NSSO attempted a pilot enquiry into household incomes in rural and urban areas in five States (Haryana, Maharashtra, Tamil Nadu, Orissa and Uttar Pradesh) and the metropolitan cities of Delhi and Calcutta. The two main findings from the pilot survey were that, (a) household incomes were under-reported in rural areas, and (b) household incomes were

² The next two sections draw heavily on Bakshi (2010).

lower than the aggregate of consumption and savings.

Situation Assessment Survey of Farmer Households (2003)

The most comprehensive and large-scale attempt by the NSS to collect data on household incomes through direct enquiry was the Situation Assessment Survey of Farmer Households (SAS), conducted as part of the 59th round in 2003. This survey covered many issues related to farming households in India, including levels of income, consumption, farming practices, indebtedness, access to modern technology in farming, and ownership of productive assets and livestock. The SAS was limited to farmer households. Farmer households do not represent all households dependent on agriculture. Agricultural labour households and households earning rental earnings from leased out land were not included in the sample. Nevertheless, the SAS is the single largest data source on rural household incomes in India at present.

The reference period for the SAS coincided with the agricultural year July 2002 to June 2003. The survey was conducted in two phases in 2003. Each household in the sample was visited twice. The first phase of the survey was January to August 2003, when information on the cultivation of *kbharif* crops was collected. Second-round visits to households were conducted between September and December 2003, when information on *rabi* crops were collected.

The SAS questionnaire was an improvement on the NSS pilot survey in that it used an accounting framework to derive incomes from self-employment activities such as cultivation, animal husbandry and non-farm business. However, certain features of the survey method may have affected the quality of SAS data. First, costs of labour and other inputs are disaggregated by crop and not by crop operations or the type of input used, which may lead to recall errors by farmers. In most cases, farmers have a tendency to overstate costs, and inaccuracies can be checked to some extent by disaggregating the cost components.

Secondly, the SAS used different recall periods for different kinds of occupations. The recall period for farming was an agricultural season, the recall period for non-farm business was 30 days, and for wages and salaries it was seven days. The appropriateness of a seven-day recall period (instead of 30 days) for wages and salaries can be questioned. Salaries are generally received on a monthly basis. Wage employment is highly seasonal and uncertain in character, and a 30-day recall is likely to provide more stable data on wage earnings than a 7-day recall.

Rental incomes from agricultural land and machinery are considered non-farm business income in the SAS and income estimates from these components are based on a 30-day recall period. A 30-day recall period is likely to underestimate incomes from these sources, since rental incomes from agricultural land and machinery are received for an agricultural season or for specific operations in each season. Like agricultural incomes, the reference period for such rental incomes should also be the agricultural season.

Thirdly, the very definition of income used by the NSSO in SAS has two drawbacks. First, income from cultivation does not adhere to any of the commonly accepted definitions of farm business income in India (such as the cost and income concepts specified by the Commission for Agricultural Costs and Prices, CACP). Specifically, costs of owned animal labour, and depreciation costs of agricultural machinery were not included in costs of cultivation. Secondly, transfer earnings from remittances, pensions and scholarships and earnings from interest were not included in the questionnaire.

NCAER Surveys

The NCAER has conducted household income surveys, the most recent ones being in 1993-94, and 2004-05. These surveys were conducted for assessing human development but have also reported household incomes. As shown in Bakshi et. al. (2012), there are serious problems with the survey method and computation of household income, and they argue that the incomes estimates from the NCAER surveys are not very reliable.

Need for household income surveys

In view of the importance of study of rural incomes and the lack of official statistics on the subject, the Foundation for Agrarian Studies (FAS) has been conducting detailed village surveys in different States and agro-climatic regions in India as part of the Project on Agrarian Relations in India (PARI) since 2005-06.³ The questionnaire used in these census type household surveys cover a host of information, the most important being on household incomes and employment. Based on the household level data collected in these surveys it is possible to construct reliable estimates of household incomes in the study villages.

It is important to understand that the majority of rural households in India are self-employed in crop production or other non-agricultural occupations and are unable to report their total

³ For details of the Project and villages and States covered, see <http://www.fas.org.in/pages.asp?menuid=16>

household income as such. Thus, income has to be treated as a derived variable, in other words, derived on the basis of a detailed accounting of output and costs of all economic activities. The derivation is complex given that markets are thin or even absent for many outputs and inputs. A second factor is the relevant time period. Given that income is a flow variable, it has to be estimated for a uniformly specified period. In contrast, stock variables – like assets or debt – are valued at a specified date (for example, at the time of the survey). For the most important rural economic activities, there tends to be an annual production cycle. It would, therefore, be reasonable to estimate income for a period of one year. Since agriculture is the most important economic activity in rural areas, crop production can be treated on an annual cycle and used to estimate annual income (for the crop year, that is, July to June in India). However, there are some crops with a longer production cycle (perennial tree crops, ratoon crops, etc) for which an annual income will need to be derived. Thirdly, a household has to be considered as the basic unit for estimation of incomes. However, this poses challenges such as accurate estimation of remittances of household members that are not regularly resident, or apportioning of incomes in the presence of joint cultivation (say, by brothers residing in two separate households).

Incomes of households in the FAS-PARI villages are estimated separately for following sources. The surveys used detailed modules on incomes from each of the sources.

1. Crop production
2. Animal resources (including rental income from animals)
3. Wage labour
 - (a) Agricultural labour (casual)
 - (b) Agricultural labour (long-term)
 - (c) Non-agricultural labour (casual)
 - (d) Non-agricultural labour (monthly/long-term)
4. Salaried jobs
 - (a) Government salaried jobs
 - (b) Other salaried jobs
5. Business and trade
6. Money-lending
7. Income from savings in financial institutions and equity
8. Pensions and scholarships
9. Remittances and gifts
10. Rental income

- (a) Rental income from agricultural land
 - (b) Rental income from machinery
 - (c) Rental income from other assets
11. Artisanal work and work at traditional caste calling
 12. Any other sources

Gross incomes net of paid-out costs from crop production were calculated for each individual crop or crop-mix. The definition here of “costs of cultivation” closely resembles the definition of the “Cost A2” category used under the Comprehensive Scheme for Studying Cost of Cultivation/Production of Principal Crops (CCPC) of the Commission of Agricultural Costs and Prices, India. It includes, broadly speaking, the cost of all material inputs (purchased and home-produced), the cost of hired labour, rental payments, the imputed value of interest on working capital, and depreciation of owned fixed capital other than land. No cost is imputed for family labour and no rent is imputed for owned land.

Similarly, for wage labour in agriculture, each worker was asked questions on the number of days of employment and on earnings (in cash, kind, or both) for each season, crop, and crop operation. In order systematically to record labour use and employment in different agricultural tasks, FAS has prepared a comprehensive list of all field operations and categorized them using a four-digit system of classification. Using this system of classification, the Foundation’s survey team prepares, for each village, a separate set of survey codes covering all operations involved in the cultivation of each crop cultivated in the village. These village-specific survey codes take into account village-specific variations in production processes, techniques of production, and systems of labour hiring. When preparing these codes, care is taken to list all the tasks involved in the production of a crop. An appropriately disaggregated and comprehensive list of all crop operations is crucial for collecting accurate data on labour use and employment.

In this Report, we use data from household surveys in two villages of Maharashtra conducted as part of PARI. These villages are located in two different agro-ecological zones: one in Vidarbha, the region most affected by agrarian distress, and one in the Western Maharashtra Plain Zone, an area that is well irrigated and constitutes a relatively prosperous part of the State. We have used these data to study the level and structure of household incomes among rural households.

2. OBJECTIVES

The objective of this project is to study levels and structure of incomes of households in two villages of Maharashtra. In particular, the project proposes to study the following issues:

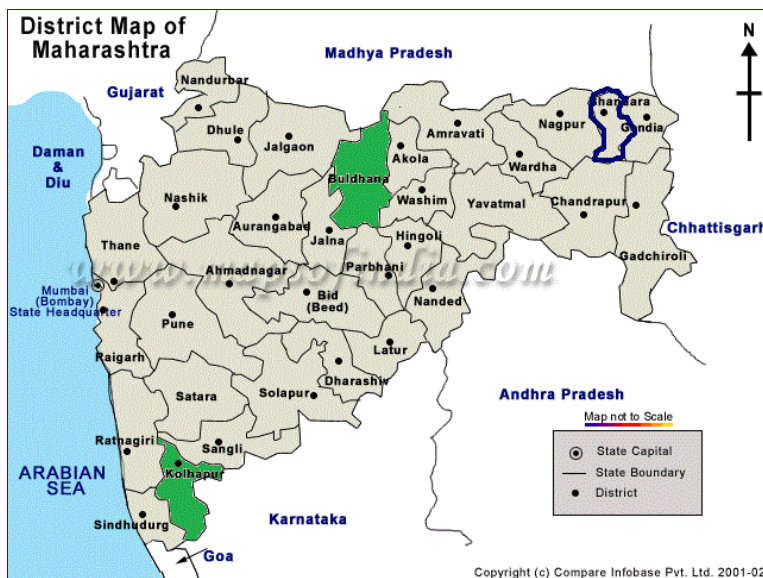
- Level and distribution of household and per capita incomes
- Disparities in levels of incomes across social groups and classes
- Contribution of different sources to household incomes, and the variations in composition of income across social groups and classes
- Levels of farm business incomes from different crops and crop cycles
- Costs of cultivation of different crops

3. METHODOLOGY

3.1 Introduction to Study Villages

In 2007, as part of the Project on Agrarian Relations in India (PARI), the Foundation for Agrarian Studies conducted surveys in two villages of Maharashtra – Warwat Khanderao in Buldhana district of Vidarbha and Nimshirgaon in Kolhapur district of southern Maharashtra (see Figure 1). A brief description of the two villages follows.⁴

Figure 1 Location of Buldhana and Kolhapur districts in Maharashtra



Warwat Khanderao, Buldhana district, Maharashtra

Warwat Khanderao is located in Sangrampur tehsil, Buldhana district, of the Vidarbha region of Maharashtra (Figure 2). The nearest town, Shegaon, is 20 kilometres away, and connected by an all-weather road. There is a primary school and a middle school in the village but no Primary Health Centre (PHC) or any other medical facility.

⁴ This material is drawn from agrarianstudies.org/pages.asp?menuid=29 and presentations at a Workshop held in Mumbai, October 8-9, 2011 (see Appendix for list of presentations).

Figure 2 Map showing the location of Sangrampur Tehsil, Buldhana district, Maharashtra



A census survey of the village was undertaken. At the survey, there were 250 households in the village with a population of 1308 persons (at the Census of 2001, the population was 1447). The number of females per 100 males was 99. The major caste in the village was Kunbi (OBC). Persons from Dalit, Muslim, and Nomadic Tribes were also resident in the village.

Table 1.1 *Distribution of population by caste and sex, Warwat Khanderia, 2007*

Social group	Number			As percentage of all households		
	Females	Males	Persons	Females	Males	Persons
Scheduled Caste	57	57	114	8.7	8.7	8.7
OBC	308	325	633	47.2	49.5	48.4
Muslim	163	158	321	25	24.1	24.5
Nomadic Tribe	124	116	240	19	17.7	18.3
All	652	656	1308	100	100	100

Agriculture is the main occupation of resident households. The major crop cultivated in 2006-07 was cotton, including Bt cotton. Other crops grown were groundnut, sunflower, green gram, sesamum, jowar, maize, pulses, wheat, red gram and black gram. Cotton was cultivated in the kharif season and was intercropped mainly with green gram and red gram. A few cultivators raised wheat during the rabi season.

Eighty eight per cent of the crop land operated by residents of Warwat Khanderao was unirrigated in 2006-07. Tubewells were the major source of irrigation and 12 per cent of the operational holding was irrigated by tubewells. The Dalit households did not operate any irrigated land. Twelve per cent of the land operated by Muslims, 23 per cent of the land operated by the Dhangar community and 13 per cent of the land operated by Kunbis was irrigated.

Table 1.2 *Proportion of operational holding irrigated by different sources, Warwat Khanderao (acres and per cent)*

Source	Lift/Gravity	Area	Per cent
Tubewell	Diesel	5	0.5
Tubewell	Electricity	126	11.5
Open well	Electricity	7	0.6
Unirrigated	...	971	88.1
Total operational holding	...	1102	100

Land was unequally distributed in the village. The Gini coefficient for ownership and operational holdings of land in Warwat Khanderao were 0.643 and 0.637 respectively. Of the total operational holdings 63.9 per cent was operated by Kunbi households. Nomadic tribes and Muslim households operated 16.8 and 13.8 per cent of the total operational holdings. Dalit households constituted 10 per cent of the total households in the village but operated only 3.1 per cent of operational holdings.

Table 1.3 *Distribution of operational holdings of crop land across caste groups, Warwat Khanderao (per cent)*

Caste group	Caste	Households	Crop land	Access index
Scheduled Caste	Mahar	7.6	2.4	0.32
Scheduled Caste	Matang	2.4	0.7	0.29
Muslim	Muslim	21.2	13.8	0.65
Nomadic Tribe	Nomadic tribe	20	16.8	0.84
OBC	Kunbi	42.8	63.9	1.49
OBC	Other OBC	6	2.4	0.4

Nimshirgaon, Kolhapur district, Maharashtra

Nimshirgaon village is located in Shirol taluk of Kolhapur district in the sugarcane-growing region of western Maharashtra (Figure 3). It is connected by an all-weather road to the highway. The nearest railway station is 1 km away and the nearest town is 10 km away. The village has a post office, ration shop, public telephones, two pharmacies, an office of the Kolhapur District Central Cooperative bank, and two cooperative societies. The nearest Primary Health Centre is at a distance of 4 km at Danoli though there is a registered medical practitioner practising in the village. The village has two primary-cum-middle schools and one secondary school.

Figure 3 Map showing the location of Shirol Tehsil, Kolhapur district, Maharashtra



In Nimshirgaon, a household listing with a short questionnaire was followed up with a sample survey with a more detailed questionnaire. The number of households in the listing was 768, with a population of 3515 persons (at the Census of 2001, the population of the village was 4515). The sex ratio was 862 females per 1000 males. Nimshirgaon is a multi-caste village. Almost one-third of households were Jains, and another one-third of households were Dalits. There were also households from the Dhangar Nomadic Tribe, OBCs and other caste Hindus (Marathas, Lingayats).

Table 2.1 *Distribution of population by caste and sex, Nimsbirgaon, 2007*

Social group	Number			Percent		
	Females	Males	Persons	Females	Males	Persons
Scheduled Caste	592	708	1300	33.9	34.7	34.3
OBC	105	161	266	6.0	7.9	7.0
Other Castes	861	995	1856	49.2	48.8	49.0
Muslim	112	77	189	6.4	3.8	5.0
Nomadic Tribe	79	100	179	4.5	4.8	4.7
All	1749	2041	3790	100	100	100

Agriculture in Kolhapur is relatively modern and dynamic. Sugarcane is the major crop, and soyabean, pulses and millets are also cultivated, as are a variety of vegetables and fruits (including grape and mango). Irrigation is from a water supply system linked to the Krishna River. There are also hundreds of privately-owned open wells, borewells and tubewells in the fields. Of the total land operated by residents of the village, 75.1 per cent was irrigated.

Table 2.2 *Proportion of operational holding irrigated by different sources, Nimsbirgaon (acres and per cent)*

Source	Lift/Gravity	Area	Per cent
Open well	Electricity	983	64.1
Open well	Diesel	8	0.5
Tubewell	Electricity	287	18.7
River	...	92	6.0
Drainage channel	Diesel	9	0.6
Unirrigated	...	382	24.9
Total operational holding	...	1534	100

The bulk of cultivators have marginal or small holdings. The Gini coefficient for land holdings was 0.648 for ownership holdings and 0.692 for operational holdings. The Jains and Marathas were the major caste groups operating agricultural land in the village. The Mahar and Matang castes among Dalits and a small proportion of lingayat households were households who had limited access to agricultural land.

As the Kolhapur region has a large and diversified non-agricultural economy, households in the village also had access to non-agricultural employment and salaried employment.

Table 2.3 *Distribution of operational holdings of land across caste groups, Nimshirgaon (per cent)*

Caste group	Caste	Households	Crop land	Access index
Scheduled Caste	Chamar	5.13	7.74	1.51
Scheduled Caste	Mahar	20.79	3.11	0.15
Scheduled Caste	Matang	6.74	4.08	0.61
Muslim	Muslim	6.16	2.93	0.48
Nomadic tribe	Dhangar	5.13	5.05	0.98
OBC	OBC	7.93	6.08	0.77
Other Caste	Jain	32.46	57.17	1.76
Other Caste	Lingayat	3.52	0.04	0.01
Other Caste	Maratha	12.15	13.8	1.14

3.2 Data collection and estimation of income

Surveys of the two villages of Maharashtra were undertaken as part of the Project on Agrarian Relations in India (PARI). Detailed data were collected from all 250 households in Warwat Khanderao through a census survey and from 138 households in Nimshirgaon through a sample survey. Nimshirgaon was a large village consisting of 768 households. A houselisting was done in the village and based on data on occupations and land ownership a systematic stratified sampling method was used to select the sample of 138 households. The results in this report use multipliers to arrive at estimates for the population of Nimshirgaon.

4. LEVEL AND DISTRIBUTION OF HOUSEHOLD AND PER CAPITA HOUSEHOLD INCOMES

In this section, we discuss aggregate or total household incomes per household as well as per capita household incomes (total household income divided by household size).⁵

The mean household income in Warwat Khanderao was Rs. 62,110 in 2006-07 (Table 3.1, at current prices). The median income was exactly half the value, at Rs 31,489 a year. The richest household in Warwat Khanderao received a net income of Rs. 28 lakhs in the reference year, while three households had incurred net losses (these were all households with losses in crop production).

The absolute level of average household income in Nimshirgaon was slightly higher, at Rs.73,896. The median income was lower than the mean, and equalled Rs 40,293. The coefficient of variation in household incomes was lower in Nimshirgaon than in Warwat Khanderao. The highest income household obtained Rs 24 lakhs during the reference year. There were no households with negative incomes.

The first notable observation is of a low level of household incomes, averaging Rs 5,175 a month in Warwat Khanderao village and Rs 6,158 in Nimshirgaon village. At the same time, there was large intra-village variation with low income households receiving a few hundred rupees a month and high income households receiving a few lakhs a month.

Table 3.1 *Descriptive statistics of total household income, Warwat Khanderao and Nirmshirgaon, 2006-07 (in rupees)*

Descriptive statistics	Warwat Khanderao	Nimshirgaon
Mean	62,110	73,896
Median	31,489	40,293
Maximum	28,35,050	24,32,974
Minimum	-6,983	2,400
Coefficient of variation	3.0	1.8
Number of households with negative incomes	3	-

Turning to per capita annual household income, this equalled Rs. 10,436 in Warwat Khanderao

⁵ The definition of household in the survey is similar to the definition used in the Census of India.

and Rs 13,410 in Nimshirgaon (Table 3.2). Again, the median per capita income was much lower than the arithmetic mean and the range (maximum – minimum value) was very large.

Table 3.2 *Descriptive statistics of per capita household income, Warwat Khanderao and Nimshirgaon, 2006-07 (in rupees)*

Descriptive statistics	Warwat Khanderao	Nimshirgaon
Mean	10,436	13,410
Median	7,207	8,791
Maximum	157,503	221,179
Minimum	-1,746	1387
Coefficient of variation	1.2	1.2

It is difficult to benchmark these estimates since, as we have mentioned, there are no regular official surveys or estimates of household income in India. The entire debate on measurement of poverty in India has been in terms of household expenditure. While our estimates of household incomes cannot be directly compared to official expenditure-based poverty lines, nevertheless, merely as an exercise, we report the official poverty line. The Tendulkar poverty line for rural Maharashtra for the year 2004-05 was Rs. 484.84 per capita per month and 47.9 per cent of the rural population was below the poverty line (GoI, 2011). Adjusting the Tendulkar poverty line for 2006-07 prices using the consumer price index for agricultural labourers (CPIAL), the cut off expenditure for the Tendulkar poverty line equals Rs 6,504 in 2006-07. Now, it is of note that 47.9 per cent of households in Warwat Khanderao and 34.6 per cent in Nimshirgaon did not receive per capita incomes equivalent to the poverty line level of expenditure (Tables 4.1 and 4.2). As we expect, an income cut-off (if it existed) to be higher than an expenditure cut-off, this clearly suggests high levels of deprivation.

Table 4.1 *Number and proportion of persons with income less than zero, between 0 and Rs. 6504, and above Rs. 6504, Warwat Khanderao, 2006-07*

Per capita income	Persons	Per cent of population	Cumulative Percent
Less than 0	16	1.2	1.2
0 - Rs. 6504	610	46.6	47.9
above Rs. 6504	682	52.1	100
Total	1308	100.0	

Table 4.2 *Number and proportion of persons with income less than zero, between 0 and Rs. 6504, and above Rs. 6504, Nimsbirgaon, 2006-07*

Per capita income	Persons	Percent
0 - Rs. 6504	262	34.6
above Rs. 6504	496	65.5
Total	757	100.0

Note: Rs. 6504 is the Tendulkar expenditure poverty line for Maharashtra at 2006-07 prices.

To get an overall picture of the level of inequality in incomes, we have computed the Gini coefficient. The value of the Gini ranges from zero (no inequality) to one (perfect inequality). The estimated Gini coefficient for household incomes was 0.586 in Warwat Khanderao. Income was highly concentrated and the top decile received 47.5 per cent of the total household incomes in the village (Table 5.1 and Figure 4). At the other end of the income distribution, the poorest decile received less than one per cent of total household income in the village. One of the measures of income inequality is the D10/D1 ratio, that is, the ratio of the shares of income of the top and bottom deciles. In Warwat Khanderao this ratio was 52.8 for household incomes. It is also to be noted that there was a large difference in income shares between the richest 10 per cent and the next decile. The ninth decile received only 15.1 per cent of the share of total household income, which is less than a third of the income received by the top decile. This feature of the existence of an exceptionally rich segment in society is a common feature of many Latin American countries (Swaminathan and Rawal 2011a).

Table 5.1 *Distribution of total household income and per capita household income, by income decile, Warwat Khanderao, 2006-07*

Income decile	Share in total households	Share in total household income	Share in per capita income
Poorest	10	0.9	1.3
2	10	2.1	2.8
3	10	2.9	3.8
4	10	3.7	4.7
5	10	4.6	6.1
6	10	5.7	7.6
7	10	7.5	9.8
8	10	10.0	12.9
9	10	15.1	18.0
Richest	10	47.5	33.0
Total	100	100.0	100.0

The decilewise distribution of per capita household income is also shown in Table 5.1. Up to the seventh decile, the share of income is less than the share of households in population. The top decile cornered 33 per cent of income and the D10/D1 ratio equalled 25.4. The distribution of households by per capita income was less unequal than the distribution of households by household income, indicating that richer households tend to have larger families than poorer households.

Turning to Nimshirgaon, the Gini coefficient for annual household incomes was estimated to be 0.549 and that of per capita household incomes was 0.491. When ranked by household incomes, the richest decile received 44.8 per cent of total incomes and the poorest decile received only 1.1 per cent of total incomes (Table 5.2 and Figure 5). The D10/D1 ratio was 40.7 for household incomes.

Again, the decile-wise distribution of households by per capita incomes was less unequal than the distribution of households by household incomes. Family size does appear to moderate aggregate income inequality.

Table 5.2 *Distribution of total household income and per capita household income, by income decile, Nimshirgaon, 2006-07, in per cent*

Income decile	Share in total households	Share in total household income	Share in per capita household income
Poorest	10	1.1	1.86
2	10	2.2	3.02
3	10	3.3	3.89
4	10	4.3	4.83
5	10	5.3	5.80
6	10	5.9	6.98
7	10	7.0	9.50
8	10	10.2	12.79
9	10	15.9	16.20
Richest	10	44.8	35.13
All	100	100.0	100.00

Benchmarking our estimates of intra-village inequality is a difficult task, as there are few points of comparison. A study of eight villages in four States of India, drawing on data from PARI, found the D10/D1 ratio to be as high 204 for household incomes and 76 for per capita incomes (Swaminathan and Rawal 2011a). In comparison to this figure, both Warwat Khanderao and Nimshirgaon appear to be villages with a moderate degree of income inequality.

Figure 4 *Shares of total household income and per capita household income, by income decile, Warwat Khanderao, 2006-07*

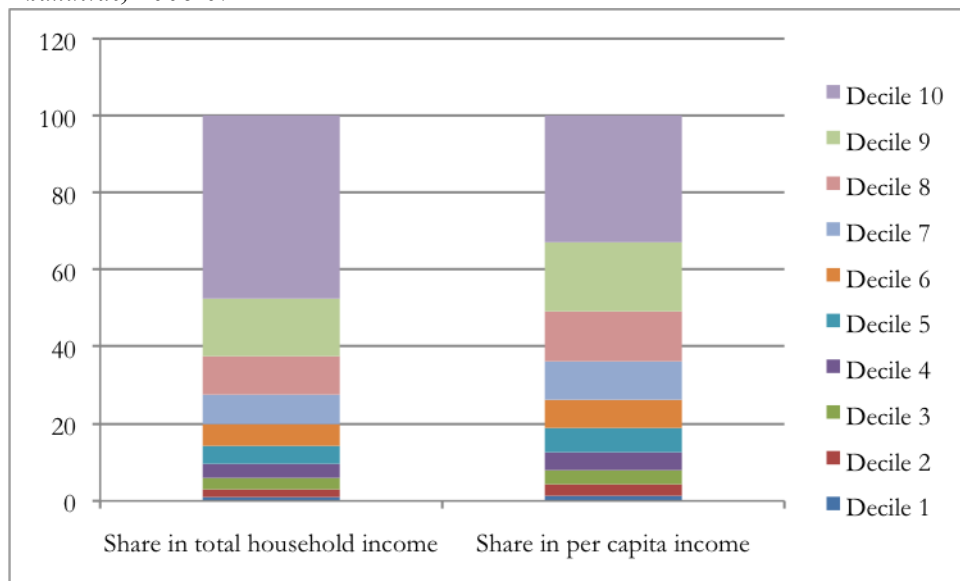
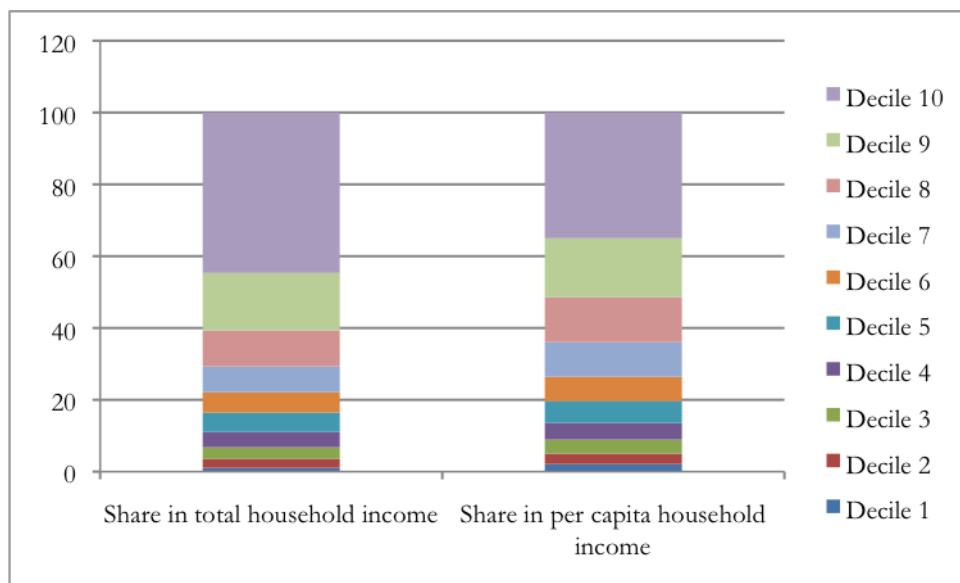


Figure 5 *Distribution of total household income and per capita household income, by income decile, Nimshirgaon, 2006-07, in per cent*



5. DISPARITIES IN INCOMES ACROSS SOCIAL GROUPS

It is well known that economic attainments are broadly correlated with caste differences, particularly as between Scheduled Castes, Scheduled Tribes and all other social groups (Thorat, 2009). In this section, we examine differences in income levels across the major social groups in the two survey villages. In Warwat Khanderao, Kunbis received significantly higher incomes compared to other caste groups (Table 6). The mean per capita income of households from the Kunbi caste was Rs.13,431. Dalit and Muslim households received lower incomes. The mean income of a Kunbi household was almost twice that of a Dalit or Muslim household.

Table 6 *Per capita household income, by caste group, Warwat Khanderao, 2006-07 (in rupees)*

Caste group	Number of households	Mean	Median
Kunbi	107	13,431	10,181
Nomadic tribe	50	9,484	6,443
Other OBC	15	9,653	7,339
<i>Other caste/OBC *</i>	<i>172</i>	<i>11,954</i>	<i>8,196</i>
Scheduled caste	25	7,025	3,678
Muslim	53	7,117	5,786
All households	250	10,436	7,207
Kunbi/Scheduled Caste (%)		191	276

This is an aggregation of the groups Kunbi, NT and Other OBC

The proportion of households with incomes less than the expenditure poverty line was high among Dalit and Muslim households. While 72 per cent of Dalit households received incomes less than the Tendulkar poverty line, the proportion of such households among Muslims was 58 per cent (Table 7). About one-third of Kunbi and Other OBC households, and 50 per cent of Nomadic Tribe households received incomes below the expenditure poverty line.

Table 7 *Proportion of households with incomes less than the expenditure poverty line, by caste, Warwat Khanderao, 2006-07, in per cent*

Caste group	BPL households
Kunbi	35
Nomadic tribe	50
Other OBC	33
Scheduled caste	72
Muslim	58
All	46

If we consider the distribution of households across per capita income deciles (Table 8), we observe that of the 25 households in top income decile, 17 were Kunbi households. By contrast, almost half of the Dalit households (48 per cent) were concentrated in the bottom 20 per cent of the income distribution and there was only one Dalit household in the top income decile. Muslim households were spread across the income distribution, except for the top two income deciles. This indicates considerable income inequality between the caste groups. It is very difficult for Dalit and Muslim households to access high incomes.

Table 8 *Distribution of households, by caste, by per capita income deciles, Warwat Khanderao, 2006-07*

Per capita income decile	Other caste/OBC		Scheduled Caste		Muslim	
	Number	Per cent	Number	Per cent	Number	Per cent
Poorest	12	7.0	6	24	7	13.2
2	13	7.6	6	24	6	11.3
3	15	8.7	2	8	8	15.1
4	18	10.5	2	8	5	9.4
5	13	7.6	3	12	9	17
6	20	11.6	1	4	4	7.5
7	20	11.6	1	4	4	7.5
8	19	11.0	0		6	11.3
9	20	11.6	3	12	2	3.8
Richest	22*	12.8	1	4	2	3.8
Total	172	100	25	100	53	100

Note: * Decile comprises Kunbi: 17, Nomadic Tribe: 3, Other OBC: 2

In Nimshirgaon, Jain households received the highest mean income, amounting to Rs. 20,861 per capita per annum. Dalits and Muslim households obtained lower mean incomes than the remaining population (Table 9). A caste group is, of course, heterogenous. The fact that the median is less than the mean for each caste group, indicates unequal distribution of incomes within a caste group.

Table 9 *Mean and median per capita incomes, by caste groups, Nimshirgaon, 2006-07 (in rupees)*

Caste group	No. of households	Mean	Median
Jain	246	20,861	17,927
Other caste	119	12,959	7,033
OBC	60	9,086	8,823
Nomadic tribe	39	12,435	8,786
<i>Other caste/OBC *</i>	<i>464</i>	<i>16,605</i>	<i>11,388</i>
Scheduled Caste	247	8,315	6,011
Muslim	47	8,680	8,200
Total	757	13,410	8,791

This group is the aggregate of Jain, Other caste, OBC and Nomadic Tribe.

The incidence of households with incomes less than the expenditure poverty line was highest among Dalit households (53.4 per cent). For all other caste groups, the corresponding proportion was less than the average for the village (Table 10).

Table 10 *Proportion of households with incomes below expenditure poverty line, by caste group, Nimshirgaon, 2006-07, in per cent*

Caste group	Proportion of households
Jain	22.0
Other caste	32.2
OBC	28.3
Nomadic tribe	12.8
Scheduled caste	53.4
Muslim	32.6
All households	34.5

Table 11 shows the distribution of households in each caste group across per capita income deciles for Nimshirgaon. Scheduled Castes were clearly over-represented in the two lowest deciles. By contrast, all households other than Scheduled Castes and Muslims were over-represented in the top three deciles. As mentioned earlier, getting in to the top income deciles is very difficult for households in the deprived social groups, Scheduled Castes and Muslims in this case.

Table 11 *Distribution of households, by caste groups, by per capita income deciles, Nimsbirgaon, 2006-07*

Per capita income decile	Number of households				As per cent of all households within caste group			
	Other Caste/OBC	Scheduled Caste	Muslim	All	Other Caste/OBC	Scheduled Caste	Muslim	All
Poorest	26	49	0	75	5.6	19.8	0.0	9.9
2	26	52	0	78	5.6	21.0	0.0	10.3
3	44	26	6	76	9.5	10.5	12.8	10.0
4	51	15	9	75	11.0	6.0	19.1	9.9
5	27	39	10	76	5.8	15.7	21.3	10.0
6	55	9	10	74	11.9	3.6	21.3	9.7
7	39	27	12	78	8.4	10.9	25.5	10.3
8	65	13	0	78	14.0	5.2	0.0	10.3
9	74	0	0	74	15.9	0.0	0.0	9.7
Richest	57	18	0	75	12.3	7.3	0.0	9.9
All	464	248	47	759	100.0	100.0	100.0	100.0

Decomposition of income inequality by caste

Using data from eight village surveys conducted by the Foundation for Agrarian Studies, Rawal and Swaminathan (2011) attempt to decompose aggregate inequality by caste group in each village. First, they use the generalised entropy measure $GE(\alpha)$ with $\alpha=2$ and decompose total inequality into between-group and within-group components. From this, the contribution of between-group inequality to total inequality is obtained. They also calculate maximum between-group inequality, as recommended by Elbers et. al., (2008) and estimate the share of between-group inequality in the maximum value (or ELMO value).

Their results for Warwat Khanderao and Nimshirgaon are reported in Table 12. The results indicate that with the standard decomposition, the contribution of between-group inequality to total inequality was small: 1.4 per cent in Warwat Khanderao and 5.9 per cent in Nimshirgaon. Within-group inequality was lowest among Scheduled Caste, Muslim and Nomadic tribe households and highest among OBCs in Warwat Khanderao and Jain households in Nimshirgaon.

Table 12 *Estimates of inequality decomposition (within-group and between-group components of inequality) by caste group using GE(2) measure of inequality, Warwat Khanderao and Nimshirgaon villages*

	Warwat Khanderao	Nimshirgaon
Scheduled caste	0.0125	0.0913
Muslim	0.0764	0.0009
Nomadic tribe	0.0507	0.0118
OBC	4.2799	0.0036
Jain	--	1.1672
Other caste Hindu	--	0.2907
(a) Total within-group inequality	4.4195	1.5654
(b) Between-group inequality	0.0648	0.0986
Total inequality (a+b)	4.4843	1.6640
Maximum Between group inequality (ELMO)	0.2700	0.3763
Between-group inequality as a percentage of ELMO between-group inequality	24.0	26.2
Between-group inequality as a percentage of total inequality	1.4	5.9

Source: Rawal and Swaminathan (2011), Table 16, p 130.

However, with the use of the alternative ELMO measure, estimated between-group inequality was around one-fourth of the maximum value (the value obtained when income and caste rankings are perfectly correlated).

Their conclusion was that “not only is income inequality very high in village India, but also that caste still matters.”

6. *DISPARITIES IN INCOMES ACROSS CLASSES*

To understand the distribution of income across socio-economic classes, we use the categorisation made by the Project on Agrarian Relations in India. Using three criteria, namely value of asset ownership, extent of use of family labour and levels of incomes, the following categorisation of households was made.⁶

In Warwat Khanderao, nine categories were identified: the class of landlords, three peasant classes, hired manual workers of two types (some with significant cultivation), households engaged in business, those with salaried persons, and finally, households dependent on remittances, pensions, rents, etc. As we move from Peasant 1 to Peasant 2 and Peasant 3 categories, the value of productive assets declines and the use of family labour rises.

Table 13 shows the mean income of households in each class as well as the share of each class in total incomes.

In Warwat Khanderao, the landlord class commanded the largest share of incomes (24 per cent) even though their share in total population was only 3.3 per cent. Landlord households in the village were households who historically owned the largest extent of land, and exerted substantial economic and social influence in the village. There were three such households in Warwat Khanderao and all three belonged to the Kunbi caste. At present these households obtained large incomes not only from agricultural sources, but from other non-agricultural sources as well. The income shares and mean incomes of landlord households were significantly higher than all other classes. The rich peasants reported the second highest incomes, with annual per capita income of Rs. 24,276 on average. Small peasants who formed 34.6 per cent of the population received only Rs. 9,116 per capital per annum, on average, while the class of hired manual workers constituting 29 per cent of the population received the lowest levels of income. It is important to note that the non-agricultural classes, including the salaried and the self employed received substantially lower incomes than landlords and rich peasants. These households were engaged in petty trade and in small jobs in the public and private sector. Thus we see in Warwat Khanderao, there is high differentiation within the peasantry, with different sections of the peasantry receiving very different levels of incomes. At one end of the

⁶ Based on Ramachandran (2011).

distribution, we find a few landlords and rich peasant households with high income levels similar (or even more lucrative) to well-paying urban jobs. At the other end, we find households with small and marginal land holdings deriving low incomes from cultivation and complementing their incomes with manual labour activities. The non-agricultural classes are also diverse, both in terms of their sources and levels of income. On average, the per capita income of a person in a landlord household was 16 times that of a person in a manual worker household.

Table 13 *Share in total population, share in total household income, and mean per capita income, by class, Warwat Khanderao, 2006-07*

Class	Share in total population	Share in total income	Mean income (in rupees)
Landlord	3.3	24.0	75,091
Peasant: 1 (rich)	7.2	12.7	24,276
Peasant: 2 (middle)	7.2	8.5	15,289
Peasant: 3 (small)	34.6	24.9	9,116
Hired manual workers with significant cultivation activity	12.0	5.0	5,734
Hired manual workers	16.4	5.6	4,537
Business activity/self-employed	12.9	11.8	10,550
Salaried person/s	4.2	6.1	18,331
Remittances, pensions, small rents and handouts	2.1	1.4	11,889
All households	100.0	100.0	10,436

In Nimshirgaon, seven classes of households were identified (Ramachandran 2011). These were landlords, three categories of peasants, hired manual workers, households with business and a final category of households with salaried persons or other sources of income.

The income share of each class is shown in Table 14.

Landlord households in Nimshirgaon constituted less than one per cent of the total population and received less than 5 per cent of the total income in the village. However, the mean income level of landlord households in Nimshirgaon was Rs. 1,56,297 per capita per annum, which was double the amount received by landlords in Warwat Khanderao. Rich peasant households constituted 4.9 per cent of the total population and got one-fifth of the incomes of landlord households. Middle peasants, the self-employed in non-agriculture and salaried households reported similar incomes, constituting about 40 per cent of the population and receiving about 46 per cent of the total income. Small peasants and hired manual worker households earned the

lowest income levels in Nimshirgaon. These two classes constituted 54.2 per cent of the total population in the village and their income share was only 30.5 per cent. Thus, in Nimshirgaon there appear to be four broad groups in terms of income levels. The landlords and rich peasantry form two distinct categories at the top of the distribution. The small peasants and hired manual workers comprise the bottom of the distribution. A diverse group of middle peasants and non-agricultural households constitute the middle of the distribution. On average, the per capita income of a landlord household was 22 times that of a manual worker household.

Table 14 *Share in total population, share in total household income, and mean per capita income, by class, Nimshirgaon, 2006-07*

Class	Share in total population	Share in total income	Mean per capita income (in rupees)
Landlord	0.8	4.6	156,297
Peasant: 1 (rich)	4.9	6.7	32,227
Peasant: 2 (middle)	17.9	23.5	17,721
Peasant: 3 (small)	19.1	10.4	7,916
Hired manual workers	35.1	20.1	6,830
Business activity/self-employed	9.5	16.2	23,513
Salaries, pensions and remittances	12.7	18.5	19,492
All households	100.0	100.0	13,410

The intersection of caste and class shows an interesting picture in both the villages (Tables 15 and 16). The first important point to notice is that the class of landlords came from a single social group in the two villages, Kunbis in Warwat Khanderao and Jains in Nimshirgaon. A relatively small proportion of households from these caste groups (22.4 per cent in Warwat Khanderao and 6.1 per cent in Nimshirgaon) were engaged in hired manual labour work.

Secondly, there were no Dalit households among the rich peasantry in both villages. There were no Dalit households even in the middle peasantry in Warwat Khanderao. In Nimshirgaon, 3.6 per cent of Dalit households were middle peasants. This reflects the poor access of Dalit households to land and agricultural sources of income, a historical fact in India and a major cause of poverty among Dalits. Muslim households also did not find any representation among the rich and medium peasants, only 1.9 per cent of Muslim households in Warwat Khanderao and none in Nimshirgaon belonged to these classes. Thus, Muslim households faced similar types of deprivation in terms of access to land and agricultural incomes as Dalit households.

Thirdly, a large proportion of Dalit and Muslim households were small peasants or hired manual workers. In Warwat Khanderao, 88 per cent of Dalit households and 68 per cent of Muslim households belonged to these classes. In Nimshirgaon 41.5 per cent Dalits and 42.5 per cent of Muslim households were small peasants and hired manual workers. In Nimshirgaon, a large section of Dalit and Muslim households were also self-employed in non-agriculture.

Fourthly, the non-agricultural classes were heterogeneous in nature drawing people from all caste categories.

Lastly, the most caste-heterogeneous category was, of course, that of hired manual workers, not surprising given that this category is the occupation of last resort (Ramachandran, 1990).

Table 15 *Distribution of households, by caste and class, Warvat Khanderao, 2006-07 (in per cent)*

Class	Caste groups					Total
	Kunbi	Other OBC	Nomadic tribe	Muslim	Dalit	
Landlord	2.8					1.2
Peasant: 1 (rich)	4.7		10.0	1.9		4.4
Peasant: 2 (middle)	13.1		4.0			6.4
Peasant: 3 (small)	41.1	26.7	40.0	34.0	24.0	36.8
Hired manual workers	13.1	6.7	22.0	15.1	48.0	18.4
Hired manual workers with significant cultivation activity	9.3	0.0	12.0	18.9	16.0	12.0
Business activity/self-employed	9.3	53.3	2.0	20.8	8.0	12.8
Salaried person/s	3.7	6.7	8.0	3.8	4.0	4.8
Remittances, pensions, small rents and handouts	2.8	6.7	2.0	5.7		3.2
All	100.0	100.0	100.0	100.0	100.0	100.0

Table 16 *Distribution of households, by caste and class, Nimsbirgaon, 2006-07 (in per cent)*

Class	Caste groups						Total
	Jain	OBC	Other caste	NT	Muslim	Dalit	
Landlord	1.2						0.4
Peasant: 1 (rich)	6.5		4.2				2.8
Peasant: 2 (middle)	38.5		17.6	23.1		3.6	17.6
Peasant: 3 (small)	8.1	37.7	22.7	51.3	2.1	17.7	17.7
Hired manual workers	6.1	3.3	11.8		40.4	23.8	14.3
Business activity/self-employed	10.9	26.2	19.3	12.8	53.2	38.3	25.1
Salaries, pensions and remittances	10.9	16.4	20.2		4.3	3.2	9.3
All households	17.8	16.4	4.2	12.8		13.3	12.7
	100	100	100	100	100	100	100

7. SOURCES OF INCOME

Rural household derive incomes from diverse farm and non-farm sources. A majority of households receive income from multiple sources. There is a growing literature in India on the importance of the non-farm sector in rural income and employment generation. In spite of the growing significance of non-farm incomes, it must be emphasised that a very high percentage of rural households depend on crop production and related activities.

In Warwat Khanderao, 94.8 per cent of the households were engaged in agriculture, animal husbandry and related activities (Table 17). The primary sector contributed 60 per cent of the estimated total household income of resident households of the village. Crop production was the single largest economic activity, in terms of employment and income generation.

Table 17 *Proportion of households receiving incomes from source and distribution of total household income by income source, Warwat Khanderao, 2006-07 (in per cent)*

Income source	As percentage of all households*	Share in total household income
Crop production	73.2	42.1
Animal resources	58.8	6.7
Agricultural labour earnings	67.6	9.2
Earnings from long term labour	4.4	0.8
Rental income from agricultural land	4	1.1
Primary sector	94.8	60.0
Non-agricultural casual labour earnings	28	2.8
Non-agricultural monthly labour earnings	4.4	0.7
Government salaried jobs	6.4	6.6
Private salaried jobs	2.4	0.6
Business and trade earnings	26.8	24.2
Rental income from machinery	5.2	2.1
Rental income from other assets	1.2	0.0
Artisanal work and work at traditional caste calling	0.8	0.1
Secondary and tertiary sectors	61.6	37.1
Pensions scholarships and insurance claims	10.4	0.8
Remittances	5.6	1.4
Other sources	4.4	0.7
All other sources	16.8	2.9
All households	100	100.0

The proportion does not add up to 100 as households receive incomes from multiple sources.

Within the non-farm sector, 32.4 per cent of the households were engaged in non-agricultural labour. However the wages received from such activities were low and incomes from non-agricultural labour formed only 3.5 per cent of total household incomes. The largest component of non-farm income was business and trade earnings. In Warwat Khanderao, 26.8 per cent of households received incomes from business and trade and 24.2 per cent of total household income was generated from these activities. Thus, business and trade constituted the second most important sector in the village.

The contribution of the formal public sector to employment and incomes was low. Only 6.4 per cent households in the village had workers with government jobs.

Nimshirgaon village is situated in an industrially developed region of Maharashtra. There are a number of factories, particularly cotton mills and sugar mills in the region. Ichalkaranji town and the surrounding region were known for textile production during the later part of British rule in India. The industrial development of the region has made a significant impact on incomes and the employment structure in Nimshirgaon. A large proportion of households in the village (65.3) were engaged in secondary and tertiary sector activities and 46.7 per cent of household incomes came from such activities. It is interesting to note that 26.2 per cent households were engaged in non-agriculture work at monthly wages. These included contract workers in factories, commercial establishments, and transport agencies in nearby towns such as Jaisinghpur, Ichalkaranji, Kolhapur and Shirol. Another 17.4 per cent of households had persons with government or private salaried jobs. Thus, the urbanisation and industrialisation of the region contributed in the form of greater opportunities for wage and salaried employment for the workforce of Nimshirgaon. Nonetheless, crop production formed the single largest source of income in the village. As mentioned earlier, agriculture in Nimshirgaon is diversified and includes high value crops like sugarcane and grapes and other fruit and vegetables.

Table 18 *Proportion of households receiving incomes from source and distribution of total household income by income source, Nimsbirgaon, 2006-07 (in per cent)*

Income source	As percentage of all households	Share in total household income
Crop production	62.1	27.3
Animal resources	77.1	11.7
Agricultural labour earnings	43.3	4.8
Earnings from long term labour	8.1	1.8
Rental income from agricultural land	7.3	1.1
Primary Sector	96.8	46.6
Non agricultural casual labour earnings	16.2	3.3
Non agricultural monthly labour earnings	26.2	9.5
Government salaried jobs	10.3	10.6
Private salaried jobs	7.1	5.0
Business and trade earnings	18.2	15.7
Rental income from machinery	6.3	2.7
Secondary and tertiary sectors	65.3	46.7
Pensions scholarships and insurance claims	11.4	6.1
Remittances	3.3	0.2
Other sources	2.0	0.3
All other sources	16.6	6.6

The proportion does not add up to 100 as households receive incomes from multiple sources.

Figure 6 *Distribution of total household income by income source, Warwat Khanderao, 2006-07 (in per cent)*

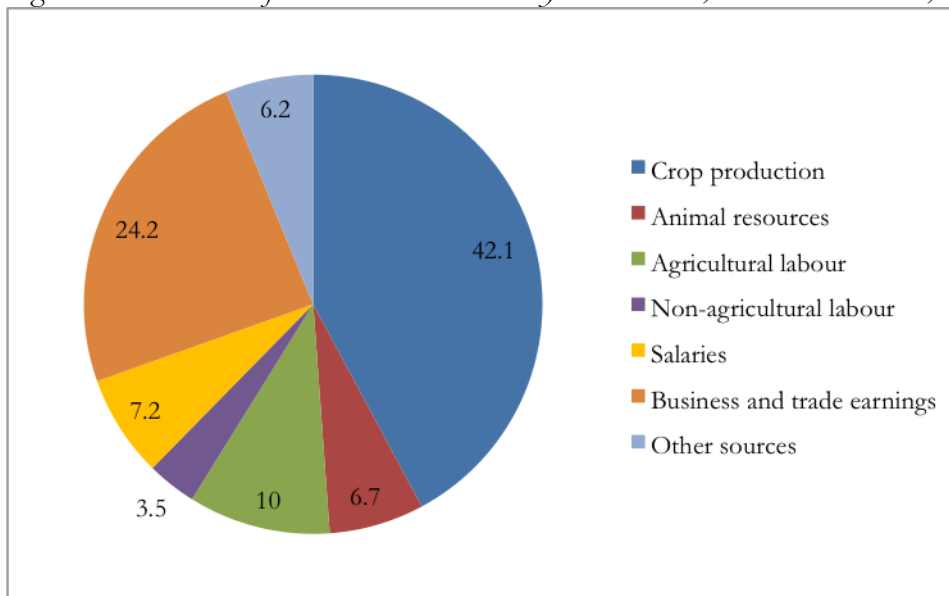
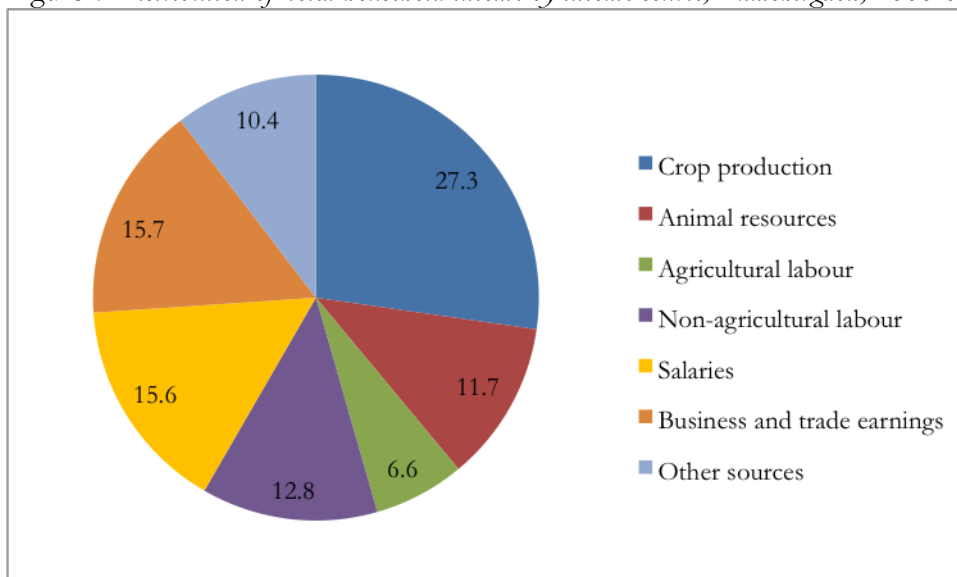


Figure 7 *Distribution of total household income by income source, Nimsbirgaon, 2006-07 (in per cent)*



7.1 Composition of household incomes across caste groups

Income inequality between different caste groups is often the result of caste-based segregation of occupations and lack of occupational mobility among some caste groups. The relations of production of an old social order are reproduced within new modes of production in the absence of redistribution of the means of production such as land and capital assets and the failure of the state to achieve universal literacy and education. Thus, the composition of incomes too differs, as expected, across caste group. In Warwat Khanderao, Kunbis and other castes with access to agricultural land derived a major share of their household incomes from cultivation and a small part from agricultural rents (Table 19). Persons from these caste groups rarely engaged in manual labour and only 8.6 per cent of household incomes were from agricultural wages and another 2.2 per cent from non-agricultural wages. Non-farm incomes for Kunbis and other castes came from business and trade and salaries.

Dalit and Muslim households, by contrast, were small cultivators and obtained roughly one-fourth of their incomes from cultivation. The major sources of income for Dalit households were agricultural labour that contributed 29.1 per cent of household incomes and business and trade that contributed 30 per cent of household incomes. Dalit households did not have much access to non-agricultural wage labour and salaried employment. Muslim households depended less on agricultural labour and had more diversified income portfolios, with incomes from non-agricultural labour (10.4 per cent), salaries (16.7 per cent) and business and trade (23.8 per cent) being important components of total income. Many Muslim workers were engaged in specific non-agricultural wage and self-employment activities such as tailoring, construction work and masonry. Dalit workers appear to have limited access to such specialised forms of labour and hence were unable to diversify their sources of income.

Table 19 *Composition of household income, by caste groups, Warvat Khanderao, 2006-07, in per cent*

Caste group	Agricultural self employment	Agricultural labour	Non-agricultural labour	Salaries	Business and trade	Agricultural rent	Transfers, remittances	Other sources
Other caste/OBC	54.5	8.6	2.2	5.6	23.9	1.3	1.3	2.6
Scheduled Caste	23.9	29.1	3.3	3.5	30.0	0.7	6.2	3.4
Muslim	25.2	12.5	10.4	16.7	23.8	0.3	5.9	5.2
All households	48.8	10.0	3.5	7.2	24.2	1.1	2.2	3.0

The composition of incomes in Nimshirgaon shows that while non-dalit non-Muslim households received the largest share of their incomes from agricultural self-employment (45.8 per cent), the share of agricultural self-employment in the income portfolio of Dalit households was only 17.1 per cent and even lower for Muslim households, 5.5 per cent (Table 18). We had noted earlier that because of the pattern of industrialisation in the region surrounding Nimshirgaon, non-agricultural wage employment, particularly long-term contractual wages and salaried employment, was an important source of incomes for the people of the village. It is very interesting to note that Dalit households in Nimshirgaon have taken significant advantage of such employment opportunities. Dalit households received 27.6 per cent of their incomes from non-agricultural wages and 23 per cent of their incomes from salaries. The share of income from agricultural labour was low (15.9 per cent). Muslim households, on the other hand, were dependent on agricultural wage employment and 62.6 per cent of their incomes came from this source. No Muslim household obtained income from salaried employment.

The composition of household incomes in the two villages gives interesting insights into choices and opportunities for income diversification among specific communities and social groups. The lower participation of Dalits in agricultural self-employment activities was due to their limited access to land resources. This is of course well established with data from secondary sources (see Thorat, 2009). This is also largely true for Muslim households in rural India. Our village data also conform to this pattern. Diversification to non-agricultural occupations depends on the availability of such employment opportunities, and access to such forms of employment. Specific skills and social networks often become important determining factors for households' access to non-agricultural employment. To the extent that caste and community relations have an important role in acquiring such skills and gaining access to networks, we find specific patterns of income and occupation diversification across caste groups. While Dalit and Muslim households appeared to have some common characteristics, the composition of incomes differed across the two groups in both villages.

Table 20 *Composition of household income, by caste group, Nimshirgaon, 2006-07*

Caste group	Agricultural self employment	Agricultural labour	Rental income from agricultural land	Non-agricultural labour	Salaries	Business and trade	Transfers and remittances	All other sources
Other caste/OBC	45.8	2.1	1.3	8.7	14.3	19.2	4.8	3.9
Scheduled caste	17.1	15.9	0.0	27.6	23.0	3.2	13.2	
Muslim	5.5	62.6	1.1	23.0		7.7		
Total	39.0	6.6	1.1	12.8	15.6	15.7	6.3	3.0

Composition of household incomes across classes

The classes used in our analysis were constructed using data on labour use, incomes and asset holdings. Hence, the composition of incomes in a way defines the class that the household belongs to. However, there are some interesting patterns to be observed across classes.

Warwat Khanderao is a predominantly unirrigated village. The landlord families in Warwat Khanderao have substantially diversified in to business and trade and obtain more than half their income from such activities. In fact, the largest land owning family also trades in agricultural inputs and exercises considerable economic influence in the village through such trade. In Nimshirgaon, agriculture itself is diversified and profitable. The landlord families earn large incomes from agriculture (82.8 per cent), though a small part of their incomes also come from business and trade. The major source of non-agricultural incomes for rich peasant households in both the villages was salaries.

Small peasants in both villages earn a significant part of their incomes (16.2 per cent in Warwat and 27.4 per cent in Nimshirgaon) from agricultural and non-agricultural wage employment. Access to non-agricultural incomes from business and salaries is low for small peasants. This is also true for hired manual worker households in both villages.

Table 21 *Composition of household incomes, by class, Warvat Khanderao, 2006-07 (in per cent)*

Class	Agricultural self employment	Agricultural labour	Non-agricultural labour	Salaries	Business and trade	Agricultural rent	Transfers, remittances	Other sources
Landlord	41.8			0.1	51.1	1.5		5.6
Peasant: 1 (rich)	77.7			10.4	1.1	1.7	4.4	4.7
Peasant: 2 (middle)	80.9	0.5	0.2	6.2	8.4	2.7	0.6	0.6
Peasant: 3 (small)	73.4	13.1	3.1	1.1	4.0	0.9	2.6	1.9
Hired manual workers with significant cultivation activity	21.8	47.1	25.7		3.9		0.9	0.6
Hired manual workers	9.7	60.6	19.2		5.3	1.4	1.7	2.1
Business activity/self-employed	13.0	5.9	2.1		77.5	0.2	0.2	1.2
Salaried person/s	9.3	0.8	0.9	82.6	6.4			
Remittances, pensions, small rents and handouts	6.0	12.0	0.7	1.7	5.2	1.7	56.4	16.3
All households	48.8	10.0	3.5	7.2	24.2	1.1	2.2	3.0

Note: Each row adds to 100.

Table 22 *Composition of household income, by class, Nimsbirgaon, 2006-07 (in per cent)*

Class	Agricultural self employment	Agricultural labour	Rental income from agricultural land	Non-agricultural labour	Salaries	Business and trade	Transfers and remittances	All other sources
Landlord	82.8				3.4	13.5	0.1	0.1
Peasant: 1 (rich)	65.7				15.0	11.3	3.4	4.7
Peasant: 2 (middle)	61.3	0.5	0.1	5.5	8.5	6.9	9.9	7.3
Peasant: 3 (small)	67.7	6.5		21.9		1.3	0.7	1.9
Hired manual workers	10.8	84.0	0.9	2.3			2.1	0.0
Hired manual workers (with substantial non-agricultural wages)	8.3	22.0	0.5	68.2	0.5	0.4	0.2	0.0
Business activity/self-employed	18.3	0.9	2.8	6.1		69.5		2.4
Salaries, pensions and remittances	8.2		2.7		64.8	3.0	19.6	1.7
All households	39.0	6.6	1.1	12.8	15.6	15.7	6.3	3.0

Note: Each row adds to 100.

8. LEVEL OF FARM BUSINESS INCOMES

We have noted that income from crop production is still the most important component of aggregate incomes of households in the two survey villages. In this section, therefore, we provide further detail on crop incomes.

8.1 Farm business incomes from crops and crop cycles

Agriculture in Warwat Khanderao was primarily unirrigated and cotton was the major crop grown in the village during the year 2006-07 (Table 23).⁷ Cotton was grown on 83.2 per cent of total operational holdings. Both BT and non-BT cotton was grown in the village. In our analysis we further classify non-BT cotton in to premium non-BT and traditional varieties. Premium non-BT seeds are sold in 750 grams packets in the market and may be illegal Bt seeds, genuine hybrids without Bt or crosses between transgenic and other varieties. Traditional non-Bt seeds were either home produced or purchased from the market. Cotton was grown as a standalone crop on only 16.8 per cent of the cropped area. In the remaining part cotton was intercropped with pulses (urad, tur, moong) and in few cases with jowar. Traditionally intercropping is practiced in cotton cultivation in large parts of India. Farmers even while accepting transgenic seeds retain traditional farming practices of intercropping. The share of standalone cotton in total cotton area cultivated was much higher among landlord households as compared to all other cultivator households.

Wheat, pulses, oilseeds (sesamum) and fruits and vegetables were grown in the rabi season. However rabi crops constituted only 5 per cent of total cropped area due to unavailability of irrigation facilities.

Table 24 shows the average per acre gross value of output, cost A2 and net income for crops other than cotton grown in Warwat Khanderao. Net income per acre was high for pulses in the kharif season and watermelon in the rabi season. But pulses were grown on only 3.4 per cent of operational holdings and fruits were grown on less than 1 per cent of operational holdings.

⁷ This section draws on Swaminathan and Rawal (2011b).

Table 23 *Proportion of different crops in total operated land, Warwat Khanderao*

Season	Crop	Seed type	% of holding
Kharif	Cotton (standalone)	BT	10.7
Kharif	Cotton (standalone)	Premium Non-BT	2.3
Kharif	Cotton (standalone)	Traditional Non-BT	3.8
Kharif	Cotton (intercropped)	BT	35.8
Kharif	Cotton (intercropped)	Premium Non-BT	20.9
Kharif	Cotton (intercropped)	Traditional Non-BT	9.7
Kharif	Cotton (total)	...	83.2
Kharif	Millets	...	9.8
Kharif	Pulses	...	3.4
Kharif	Oilseeds	...	0.6
Kharif	Fodder crops	...	0.1
Kharif	Other crop mixes	...	1.5
Rabi	Wheat	...	1.9
Rabi	Pulses	...	0.9
Rabi	Oilseeds	...	1.6
Rabi	Fruits and vegetables	...	0.7
All	Operational holding	...	100

Table 24 *Average GVO, cost A2 and net income per acre, major crops, Warwat Khanderao (in rupees)*

Season	Crop	GVO per acre	Cost A2 per acre	Net income per acre
Kharif	Jowar	6,084	3,852	2,232
Kharif	Pulses	14,900	5,877	9,023
Kharif	Oilseeds	10,864	6,739	4,125
Rabi	Pulses	3,707	2,949	758
Rabi	Oilseeds	6,181	4,277	1,903
Rabi	Wheat	11,830	7,312	4,518
Rabi	Watermelon	27,375	7,457	19,918

Table 25 shows the costs and returns from different types of cotton cultivation practices in Warwat Khanderao.

Net income from cotton was highest when Bt cotton was cultivated as a standalone crop (Table 25). The average income from standalone Bt was Rs. 7,059 per acre. When Bt was intercropped with other crops, there was no significant difference between net incomes from Bt or premium non-Bt varieties of cotton. In fact, average net incomes from premium non Bt cotton was marginally higher than from Bt and this was due to lower costs of cultivation for the former. Traditional/local non-BT varieties of cotton had lower per acre costs and lower gross value

added than Bt and premium non-Bt varieties. Hence net income from cultivation of local varieties of cotton was lower than Bt or premium non-Bt varieties.

Table 25 *Average GVO, cost A2 and net income per acre, different varieties of cotton, Warwat Khanderao*

Crop	Variety	GVO per acre	Cost A2 per acre	Net income per acre
Cotton, Standalone	BT	14,928	7,869	7,059
Cotton	Local Non-BT	7,418	3,835	3,583
Intercropped cotton	BT	12,485	6,130	6,355
Intercropped cotton	Premium Non-BT	11,693	4,964	6,729
Intercropped cotton	Local Non-BT	7,652	3,269	4,382

Source: Swaminathan and Rawal (2011b), Table 6.

Based on a detailed analysis of returns from different cotton seeds in Warwat Khanderao, Swaminathan and Rawal (2011b) argue that “when grown alone Bt cotton was the clear and unequivocal leader in terms of yields, production, GVO, and net income. When mono-cropped, the gross value of output from Bt cotton was 101 per cent higher than from local cotton, and despite higher costs, net incomes were 97 per cent higher.” They show further that “When inter-cropped, the relative income advantage of Bt cotton declined. Thus, most marginal and small farmers, for whom it is an inter-crop, did not get the full advantage of the transition to Bt. An important factor for this is the relatively high costs of cultivation associated with Bt cotton.”

Cropping pattern in Nimshirgaon was diverse (Table 26). Sugarcane was the most important crop and covered 31.2 per cent of the gross cropped area. Sugarcane is an irrigated crop. Soyabean and millets were the major kharif crops cultivated in the village, while groundnut was the major rabi crop. Horticultural crops such as grapes, exotic vegetables and flowers are important cash crops in the village and 8.1 per cent of the gross cropped area is under these crops.

Table 26 *Proportion of different crops in gross cropped area and total operated land, Nimshirgaon*

Crop	Area	As % of GCA	As % of operational holdings
Sugarcane (total)	523	31.2	34.1
Fruits, vegetables and flowers	136	8.1	8.9
Cereals (millets)	306	18.2	20
Cereals (Wheat)	38	2.3	2.5
Cereals (paddy)	7	0.4	0.5
Groundnut	121	7.2	7.9
Soyabean	360	21.5	23.5
Pulses	33	1.9	2.1
Intercrops (cereals, pulses and oilseeds)	68	4	4.4
Fodder crops	52	3.1	3.4
Other crops	32	1.9	2.1
Tree crops	1	0	0
All	1677	100	109.3
Operational holding	1534	91.5	100

Average income per acre from sugarcane was Rs. 13,563 in the first year and Rs. 17,363 in the second year in the village. The crop cycle for sugarcane was generally two years in this village. Fruit and vegetables also fetched high incomes (Rs. 16,120 per acre on average), but area under these crops was small. In comparison, average income from soyabean, which was also a cash crop, was very low at Rs. 1,166 per acre. Incomes from wheat and millets, which are grown for home consumption were also low and average net incomes from pulses was negative.

Table 27 *Average GVO, cost A2 and net income per acre, major crops, Nimshirgaon (in rupees)*

Crop	GVO per acre	Cost A2 per acre	Net income per acre
Sugarcane (planted crop)	31,413	17,850	13,563
Sugarcane (first ratoon)	28,248	10,627	17,621
Fruit, vegetables and flowers	37,007	20,887	16,120
Cereals (Wheat)	10,038	6,388	3,650
Cereals (millets)	6,754	2,965	3,789
Soyabean	5,985	4,819	1,166
Groundnut	5,815	5,610	205
Pulses	3,830	4,521	-691

Overall, it is clear and not surprising that incomes from agriculture were higher in Nimshirgaon, a village with multiple sources of ground water and surface water irrigation than in Warwat

Khanderao, a dry unirrigated village at the time of our survey.

8.2 Farm business incomes across castes and classes

Household belonging to different caste groups and classes are likely to obtain different returns from agriculture due to differential access to irrigation, quality of land, credit and overall level of means of production.

Since agriculture is primarily rainfed in Warwat Khanderao, there is not much variation in cropping pattern across households, except for the fact that only a few households with larger landholdings could cultivate standalone Bt cotton, which was more profitable than intercropped cotton. Since these households were largely from Kunbi castes, we find that per acre farm business income was slightly higher for Kunbis than other caste groups (Table 28). For the same reason, the class of landlords and rich peasants were able to get higher per acre incomes from agriculture than other households (Table 29).

Table 28 *Average GVO, Cost A2 and FBI per acre of operational holding by class, Warwat Khanderao*

Caste group	Caste	GVO per acre	Cost A2 per acre	Net income per acre
Scheduled caste	Scheduled caste	8,852	3,582	5,270
Muslim	Muslim	8,007	5,017	2,990
Nomadic tribe	Nomadic tribe	9,332	4,129	5,203
OBC	Kunbi	11,827	5,314	6,514
OBC	Other OBC	6,587	3,786	2,801

Table 29 *Average GVO, Cost A2 and FBI per acre of operational holding by class, Warwat Khanderao*

Class	GVO per acre	Cost A2 per acre	Net income per acre
Landlord	17,647	9,198	8,449
Peasant: 1 (rich)	15,224	6,660	8,564
Peasant: 2 (middle)	11,123	5,273	5,850
Peasant: 3 (small)	10,749	4,574	6,175
Hired manual workers+cultivation	6,258	4,173	2,085
Hired manual workers	7,518	2,293	5,225
Business activity/self-employed	10,152	6,349	3,804
Salaried person/s	10,582	6,019	4,564

In Nimshirgaon, the diversified cropping pattern was linked to access to irrigation and capital for investment and thus we find wide variations in per acre farm business incomes accruing to households from different classes and castes. Other caste households (mostly Jains) and

Nomadic tribe households who had larger than average landholdings and cultivated a diverse mix of food and cash crops obtained significantly higher farm business incomes than Dalit, Muslim and OBC households (Table 30).

Table 30 *Average GVO, Cost A2 and FBI per acre of operational holding by caste, Nimshirgaon*

Caste group	GVO per acre	Cost A2 per acre	Net income per acre
Scheduled caste	10,586	6,505	4,081
Muslim	7,079	6,954	125
Nomadic tribe	22,894	12,452	10,442
OBC	14,330	9,780	4,550
Other caste	23,885	11,928	11,957

Table 31 shows that value of output per acre declined steeply as we moved from landlord households to hired manual worker households. The amount of expenditure (cost A2) also declined steeply as we moved from landlord households to hired manual worker households. On balance, net income per acre of landlords was highest among all classes. For manual worker households engaged in cultivation, net incomes per acre were one tenth of the average for landlord households.

Table 31 *Average GVO, Cost A2 and FBI per acre of operational holding by class, Nimshirgaon*

Class	GVO per acre	Cost A2 per acre	Net income per acre
Landlord	52,692	21,363	31,329
Peasant: 1 (rich)	36,192	22,852	13,340
Peasant: 2 (middle)	23,987	10,740	13,247
Peasant: 3 (small)	17,309	9,597	7,712
Hired manual workers	10,010	6,912	3,099
Business activity/self-employed	28,542	16,763	11,779
Salaries, pensions and remittances	11,141	5,260	5,882

9. COSTS OF CULTIVATION OF MAJOR CROPS

A disaggregated analysis of the items cost of cultivation shows that expenditure on labour is the largest cost component for each of the major crops in Warwat Khanderao. The second largest component of cost for all crops was expenditure on chemical fertilisers and pesticides. After Bt cotton, costs were highest for wheat, which is an irrigated crop.

Table 32 *Average per acre expenditure on different items, major crops other than cotton, Warwat Khanderao (in rupees)*

Item	Jowar	Wheat
Seeds	183	1198
Manure	165	772
Fertilisers	481	1083
Plant protection	68	92
Irrigation	0	362
Casual labour	1575	1507
Long-term workers	61	22
Machines	436	873
Animals	521	522
Rent	127	0
Other costs	35	44
Interest	102	141
Annual costs	101	696
Total cost (A2)	3852	7312

Turning to cotton, expenditure on plant protection chemicals for standalone Bt cotton was higher than for any other crop (Table 33).

Swaminathan and Rawal (2011b) show that “seed costs for Bt were higher than other types of cotton, as expected. What was surprising and not predicted by data from other studies was the high absolute expenditure on pesticides and the high share of pesticides in total input cost of Bt cotton cultivation. On average, on intercropped fields, for example, the expenditure on pesticides was Rs 706 per acre with Bt cotton and Rs 495 per acre with premium non-Bt cotton (that is, 43 per cent higher with Bt cotton). Absolute costs on pesticides were even higher on stand-alone Bt plots. Expenditure on seeds, fertilisers and pesticides together accounted for 37 per cent of total costs of Bt cotton cultivation (whether grown singly or intercropped). For premium non-Bt cotton, these costs amounted to 34 per cent of total costs.” According to Swaminathan and

Rawal (2011b), this may be due to higher investments and risk averseness of farmers, or presence of pests other than bollworms.⁸

Table 33 *Average cost of cultivation of Bt and Non-Bt Cotton, Warwat Khanderao village, 2006-07, by item, in Rupees per acre at current prices*

Item	Bt Cotton (stand-alone)	Local Non-Bt Cotton (stand- alone)	Bt Cotton inter- cropped	Premium Non- Bt Cotton intercropped	Local Non-Bt Cotton intercropped
Seed	1041	121	1002	692	271
Manure	596	241	347	217	164
Fertiliser	847	550	605	583	352
Plant protection chemicals	1014	277	706	495	113
Irrigation	42	0	8	0	0
Hired labour	2629	1267	1959	1902	1320
Machinery	178	283	281	202	238
Animal labour	568	288	536	355	466
Rent	253	337	155	52	114
Marketing expenses	8	0	19	13	14
Crop insurance	4	0	10	1	2
Taxes	17	3	22	29	23
Interest on working capital	283	138	230	182	123
Depreciation	320	298	213	193	61
Maintenance	50	31	28	35	7
Miscellaneous expenses	19	0	10	13	1
Cost A2	7869	3835	6130	4964	3269

Source: Swaminathan and Rawal (2011b), Table 8.

Further, “While there can be many reasons for the high costs of cultivation, the absence of adequate agricultural information from public sector extension workers is clearly one of the important reasons. In Warwat Khanderao village, we found a heavy dependence of cultivators on seed companies and input merchants for information on farming practices. The decline in public extension and information services and their privatisation has been important component parts of the liberalisation and globalisation package in India (*ibid.*).”

Data in Table 34 show the item-wise costs of cultivation of sugarcane, and fruit, flowers and vegetables in Nimshirgaon village. In these crops, a substantial expenditure was incurred on seeds, fertiliser and manure, plant protection, irrigation and on labour. The table shows that the difference between the planted crop and the ratoon crop of sugarcane was on account of savings in cost of seeds, manure, labour and draught power. For sugarcane and other commercial

⁸ For a detailed analysis of Bt cotton cultivation in Warwat Khanderao, see Swaminathan and Rawal (2011b).

crops, the average cost of cultivation and average expenditure on each item is higher than for food crops such as wheat, jowar, soyabean and groundnuts (Table 35).

Table 34 *Average per acre expenditure on different items, major commercial crops, Nimsbirgaon (in rupees)*

Item	Sugarcane (first crop)	Sugarcane (Ratoon)	Fruit, flowers, vegetables
Seeds	2496	0	1588
Manure	1977	1054	1539
Fertilisers	3419	3244	2920
Plant protection	227	145	3148
Irrigation	2351	2676	1344
Casual labour	3633	1209	3608
Long-term workers	101	47	236
Machines	1430	673	683
Animals	136	14	203
Rent	0	0	670
Other costs	118	103	3381
Annual costs	767	826	891
Total cost (A2)	17850	10627	20887

The high cost of cultivation of sugarcane, grapes and other fruit and vegetables discourages small peasants and hired manual workers from cultivating these crops. This is one important reason for the differences observed in per acre farm business incomes received by small cultivator households vis-a-vis landlords and rich and medium peasants, and also households self-employed in non-agriculture. The latter have a higher capacity to invest in cultivation.

For wheat, jowar, soyabeans and oilseeds, the major component of cost was hired labour and machines. In wheat, expenditure on irrigation was also high. Expenditure on irrigation was relatively low for jowar and soyabeans.

Table 35 Average per acre expenditure on different items, cereal crops and oilseeds, Nimshirgaon (in rupees)

Item	Wheat	Jowar	Soyabean	Groundnut
Seeds	395	117	419	779
Manure	354	146	244	701
Fertilisers	516	239	402	527
Plant protection	187	19	189	51
Irrigation	977	168	85	390
Casual labour	2184	1118	1509	1450
Long-term workers	62	13	15	20
Machines	1279	617	1196	1181
Animals	31	218	211	140
Rent	0	56	66	0
Other costs	38	46	236	56
Annual costs	225	142	136	186
Total cost (A2)	6388	2965	4819	5610

To sum up, in both Warwat Khanderao and Nimshirgaon, we find clear differences in the cropping pattern and costs of cultivation incurred by different classes of households. The question of the association between scale of production and costs of cultivation and returns from crop production were studied in detail by Rawal and Swaminathan (2012) for several crops and villages. They found, for example, that differences in the returns for households in different classes in Nimshirgaon arose “out of differences in crop mix as well as crop-specific returns. The crop choice of households in Peasant 1 category shows that 41 per cent of GCA was sown to sugarcane and 18 per cent to fruit, vegetable and flowers and only 14 per cent to soyabean and 11 per cent to millets. By contrast, small peasants (Peasant 3) devoted 25 per cent of their GCA to soyabean, another 19 per cent to millets and only 18 and 7 per cent to sugarcane, and fruit and vegetables respectively. Thus, a greater share of the cultivated area among rich peasants was sown with relatively profitable crops as compared to poor peasants.”

10. CONCLUSIONS

India has no regular official serial data on household incomes. This is a big lacuna as macro-aggregates do not allow us to study the distribution of household incomes. In this context, the significance of this report on household incomes in two villages of Maharashtra lies in the fact that, although at a micro level, we are able to examine distributional features of household incomes, its variations across caste and class, and sources of income.

In this study, we examined various aspects of household incomes based on detailed household data collected through surveys in two villages by the Foundation for Agrarian Studies as part of its Project on Agrarian Relations in India. The two villages were drawn from two different agro-ecological zones, Warwat Khanderao in Buldhana district from the Vidarbha region, a dry cotton-growing region, and Nimshirgaon in Kolhapur district from an irrigated sugarcane and multi-crop region.

The estimates of incomes reported in this study are based on detailed disaggregated information on household activities and include data on incomes from crop production; incomes from animal resources; incomes from agricultural and non-agricultural wage labour; incomes from salaries; and incomes from business and trade, rent, interest earnings, pensions, remittances, and scholarships. The methodology for collection of data on incomes was carefully developed using an accounting framework.

The study provided estimates of annual household income and per capita income for households resident in these two villages. The first notable finding is that, on average, incomes during the survey year were low. The monthly household income was around five to six thousand rupees or about one hundred dollars.

Secondly, the distribution of incomes was highly unequal. To illustrate, the Gini coefficient for household income was 0.586 in Warwat Khanderao village and 0.549 in Nimshirgaon village. In particular, the pattern of income distribution followed the “winner takes all” model observed in Latin America with the top decile garnering a huge share of total incomes.

The third finding is that incomes varied systematically across social (caste or religion-based) groups. In both villages, average incomes of Scheduled Caste and Muslim households were lower

than corresponding incomes of OBC, Jain and other caste households. For example, the ratio of household income of a Dalit household to non-Dalit, non-Muslim household was 58.7 per cent in Warwat Khanderao and 50 per cent in Nimshirgaon.

Fourthly, there were clear differences in incomes across socio-economic class categories defined by the Project. Landlord households obtained incomes far in excess of those obtained by all other classes. The gap was huge as between landlord households and hired manual worker households in both villages. There was, of course, a close correspondence between caste and class.

A fifth finding is that most households obtained incomes from a variety of sources, agricultural and non-agricultural. At the same time, incomes from crop production continued to be the single most important source of income for households in these two villages. Incomes from crop production accounted for 47 per cent of total incomes in Nimshirgaon and 60 per cent of total incomes in Warwat Khanderao. Given its location in the industrial belt of Kolhapur, non-agricultural incomes were more important in Nimshirgaon than in Warwat Khanderao.

For this reason, we examined crop incomes in detail. The last set of findings pertained to the level of crop incomes by crop and season as well as to detailed expenditure on crop production. Most importantly, farm business incomes or net incomes from crop cultivation not only varied by crop and village but varied significantly by caste and class.

In conclusion, through a detailed analysis of the level and distribution of household incomes in two villages, the study has brought out various aspects of income generation in rural India. For understanding the process of income generation, including the degree to which economic growth has been “inclusive,” it is essential that findings of this study (and other small-scale studies) are replicated on a much larger scale. An understanding of the processes of income generation is, of course, critical in designing policy interventions such as in respect of diversification of incomes. We strongly recommend that the NSSO undertake regular household income surveys.

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13. APPENDIX: WORKSHOP SCHEDULE

The Consultation on Results from Village Surveys in Maharashtra in collaboration with the Foundation for Agrarian Studies was held at the Tata Institute of Social Sciences, Mumbai, on October 8–9, 2011. The consultation was attended by scholars working on the Project on Agrarian Relations in India, other academics, and activists from peasant and worker organisations. The two-day session was used to discuss the methodology as well as preliminary results.

Papers presented and discussions:

Session 1

Introduction to PARI and the Consultation: V. K. Ramachandran, Ashok Dhawale

Introduction to the study villages: Aparajita Bakshi

Some features of the demography of the study villages: Venkatesh Athreya

Session 2

Socio-economic classes: V. K. Ramachandran and Navpreet Kaur

Session 3

Nimshirgaon:

- (1) land and irrigation;
- (2) crop pattern, yields and farm business incomes; and
- (3) labour absorption in agriculture: Vikas Rawal

Warwat Khanderao: (1) land and irrigation;

- (2) crop pattern, yields and farm business incomes; and
- (3) labour absorption in agriculture: Vikas Rawal and Madhura Swaminathan

Session 4

Household incomes: Aparajita Bakshi

Notes on employment: Navpreet Kaur

Wage rates: Madhura Swaminathan and Biplab Sarkar

Session 5

Rural banking in Maharashtra: Pallavi Chavan

Household indebtedness: Madhura Swaminathan and Biplab Sarkar

Household asset holdings: Vikas Rawal

Session 6

Report on village studies: R. Ramakumar

Session 7

Household amenities: Shamsheer Singh

Schooling and education: Venkatesh Athreya

Closing Session

Concluding discussion, observations