Study Number - 192

VILLAGE SURVEY STUDY IN WEST BENGAL

(SAHAJAPUR VILLAGE IN BIRBHUM DISTRICT)

Bidhan Chandra Roy
Debanshu Majumder

Study sponsored by Ministry of Agriculture and Farmers Welfare
Government of India, New Delhi

Agro-Economic Research Centre
(For the States of West Bengal, Sikkim and Andaman & Nicobar Islands)
Visva-Bharati, Santiniketan
West Bengal
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Preface

The present study entitled “Village Survey Study in West Bengal (Sahajapur village in Birbhum District)” was undertaken at the instance the Directorate of Economics and Statistics, Ministry of Agriculture and Farmers Welfare, Government of India, Krishi Bhawan, New Delhi as a coordinated study, where the task of coordination has been entrusted with the AERC, Visva-Bharati, Santiniketan and the undersigned was responsible for formulating the study, preparation of the questionnaire, tabulation and chapter design.

Villages in general have witnessed a great deal of social, political and economic transformation in course of the post independent development practices. However, a strait jacket development plan did not materialize into a booming development of the rural sector for the very fact that each village had its own specificities and diversity and reacted to all these development impetus with a complex reality. It became clear that the complex relations within a village society could not be captured effectively by the data generated by the various government departments and data collecting organizations such as NSSO. Small scale and intensive primary village surveys were called for to get the feel of village dynamics. It is in this context the present village study attempt to enquire into the dynamics of the village with the passage of time taking into account both the endogenous and exogenous factors that influences the rural dynamics.

The study has been primarily entrusted with Mr. D. Majumder along with the undersigned, while Munshi A. Khaleque, Mr. D. Mondal, Mr. S. Chakraborty, Mr. S. Adak, Mr. R. Mukherjee, and Mr. M. Hassan provided immensely valuable assistance in data collection and tabulation under the active supervision of the undersigned. Extensive support was obtained from Mr. N. Maji and Munshi A. Khaleque in course of data digitization. Mr. D. Mondal and Mr. D. S. Das provided logistic and secretarial services. I offer my deepest thanks to all of them.

On behalf of this centre, the undersigned takes the opportunity to thank all the participating centres for undertaking such an important study. Last but not the least; we thank all our respondents in Sahajapur who ungrudgingly responded to our toiling queries in course of the survey.

Sd/-

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Date: 31.12.2021

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Backdrop

India's villages are living repositories of ancient, diverse traditions that have survived down the ages through a combination of constancy and adaptation to changing circumstances that has no valid option but to protect the interests of its villages because they will remain important and highly populated for a long time to come. Villages constitute the nucleus of our society and in West Bengal, two-third of the population is residing in villages. The progress of the state, hence, depends on the wellbeing of the rural society. Villages in West Bengal, however, have witnessed a great deal of social, political and economic transformation in course of the post independent development practices. Contribution of agriculture as a source of livelihood is declining and rural peoples are now diversifying their livelihood portfolios into various non-farm and off-farm activities. Over the years since independence, both the state government as well as central government has formulated various schemes that have helped the rural people to improve their economic situations. Since villages are terrain where development policies and schemes are tested, continuous village survey is capable of pointing out the efficiencies and efficacies of such schemes (Himanshu et al, 2016). A continuous village survey thus can provide a clear picture about diagonally opposite view regarding success or failures of development schemes, besides providing panel data for policy formulations. It also helps in measuring the changes in villages over time.

Despite several efforts on the part of state, civil societies as well as by the villagers themselves, the rural areas are still submerged in the problems of lack of education, poverty, unemployment, malnourishment, etc. How are the interventions reaching down to the village level? Are the resources and administrative machinery too inadequate to achieve rapid changes? What is the pattern of changes in village economies? What is their process? What further possibilities are indicated by the process of actual change? These are some of the questions which the present study attempts to tackle. It is in this context the present village study is an attempt to enquire into the dynamics of the village with the passage of time taking into account both the endogenous and exogenous factors that influences the rural dynamics.

Objectives of the present study

The overall objectives of the study are -

1. To create a longitudinal panel dataset, to capture the socio-economic dynamics of the villages. The purpose is to assess the pace, process and pattern of rural change by means of repeated survey in the selected villages followed by re-surveys of the same villages at an interval of 5 years.
2. The focus would be on agricultural change and changing pattern of rural livelihoods and its implication for future development. The study also evaluates the efficacy of government interventions in rural areas and key drivers of changes in village economy.

Methodology and coverage

This particular study is a resurvey conducted in Sahajapur village in Birbhum districts of West Bengal during 2019-21 which had been first studied in the 1950s by AERC, Visva-Bharati under the series 'Rural Change' and again re-surveyed in 1972-73 (Mondal et al, 1974); 1982-83 (Sen and Sengupta, 1983) and again in 1987-88 (AERC, 1990). The study is

based on both primary and secondary data. It also takes into account the unconventional or informal opinions and views in respect of social, political, cultural and ecological issues which cannot be recorded through formal household surveys. Therefore, the present survey was conducted at three levels: Village Level, Group Level; and Household Level. Accordingly, information was collected from the official records; stake holders' meetings; secondary sources, focus group discussions, and household surveys. The household level primary data has been collected through complete enumeration of all the 355 households residing in the village. Focus group discussion (FGD) and stakeholder meetings were also used to gather information at village or group level. The study covered various dimensions of social, economic, agrarian, farming, ecological parameter. Being a re-survey, it also focuses on the socio-economic changes that have taken place between the two periods. The study also attempts to identify the driving forces of such change.

Profile of the village Sahajapur

The village shows all the characteristics of the representative rural community in terms of social, economic and ethnographic diversity of the district of Birbhum. The village is situated at a distance of 41.9 kilometers from the district head-quarter Suri with a total 355 households. The nearest town, Bolpur is eight kilometers away and is connected by a metal road. The nearest railway station is in Bolpur and nearest domestic and international airports are at a distance of 65 and 158 respectively. The climate of the village is generally dry, mild and healthy. The village receives a moderately high rainfall, the annual average being 1430 mm. The village comes under the Red and Laterite agro-climatic zone, with porous soil. As the area is arid there is no forest cover in close vicinity.

The gross cropped area in the village is 391.97 acres with cropping intensity of only 130.24. The rice-based cropping pattern is dominant in the village. Paddy in the only crop being cultivated by the farmers both during Kharif as well as in Summer with little area under potato, oil seeds, and vegetables in Rabi. Though the village comes under Mayurakshi canal irrigation system, agriculture is mostly rain dependent as the availability of canal water is limited to the rainy season. Over the years rearing of cattle, particularly bullock for cultivation, have declined. The farmers prefer to hire tractors or power tillers for tilling the land rather than maintain a pair of draft animals. On the contrary, rearing of goats, poultry birds both indigenous and of improved broilers and ducks has emerged as a growing business among a section of villagers mainly from the scheduled caste and scheduled tribe communities. Rearing of pigs is also very common among the tribal families.

Social dynamics in Sahajapur

There have been notable improvements in respect of educational, medical, social and nutritional aspects in the village as well as in checking population growth particularly during last two decades. The population of the village considerably grew till late 1990s. Thereafter, a reversal of fertility rate is observed. The age structure of population of the population changed substantially in favour of middle-aged peoples. Other important social changes are fast spread of female literacy, significant reduction in child mortality, and eradication of malnutrition among all section of the society. However, sex ratio got reversed against female and there is a breaking down of joint family system. This is a matter of serious concern.

Literacy among the residents of Sahajapur has improved substantially over the years from a mere 13.4 per cent in 1955-56 to 85.4 per cent in 2019-20. Over 96 per cent of children are enrolled and used to go to school regularly, but basic learning is an issue. There is a substantial learning deficiency across all the classes in terms of both reading competency as well as arithmetic ability. Overall, only 37 per cent students in the age-group of 5-15 years can read a story and only 23 per cent of the school going students can do simple divisions. It is surprising to note that two third of the Standard-I student cannot even recognize letters and as high as 83.3 per cent of them are unable to recognize the digits. This is a matter of serious concern as most of such students are first generation learners from the scheduled caste and scheduled tribe categories. So far as child nutrition is concerned, Sahajapur presents a satisfactory picture. By and large more than 90 per cent of the children in Sahajapur, across the caste and gender, are within the normal range of BMI and there is not a single incidence of severely underweight or in obesity category in the whole village. Further, in terms of child nutrition, no more there exists any gender or caste bias which was very common till 1980s.

Economic system in Sahajapur

There has been number of significant developments, in the economic system. Road, electrification, rural housing, health facilities, provision for safe drinking water and communication facilities have improved a lot. Average household income, consumption and productivity of crops have also increased substantially. The demand for consumer durable goods like two-wheelers, cell phones, television, refrigerator, etc. seems to be rising rapidly resulting in to higher cost of living. Construction of pucca residential houses certainly shows a tremendous growth and is, perhaps, the only major avenue in which physical investment seems to be taking place in the village. However, no significant improvements are noticeable in respect of development in agricultural infrastructure or livestock enterprises.

The feature of landlessness seems to be very high in the village. As evident from the Lorenz Curve and Gini co-efficient (0.79), the distribution of cultivable land in the village is highly skewed and increasing over time. It's not only that more than 63 per cent households are land less but also the average size of holding is very low (2.32 acres) that possess difficulties in using modern farm technologies. As a result, agriculture is no more a preferred enterprise among the villagers and for only 6.5 per cent of the villagers it is main source of their earning. They are primarily dependent on wage-earning, petty business, bamboo crafts, and backyard poultry/piggery keeping. In the absence of secured and dependable source of irrigation the farmers seem to bank on kharif paddy which is cultivated both during monsoon as well as in summer. There seems to be little avenue for extensive crop diversification. Over the years, the varietal diversification too has reduced substantially. Rearing of cattle, particularly bullock for cultivation has declined while keeping poultry, goat and pigs has increased. As a more cost-effective method the farmers prefer to hire tractors for cultivation rather than maintain a pair of draft animals.

Ecology, vulnerability and sustainability issues in Sahajapur

The sustainability and resilience of rural economy to a large extent depends on the natural resource base of that area. The village Sahajapur is no exception to this. The soil of the village is well drained but moderately acidic, low in organic matter, phosphorous and medium in potash content. The soil fertility in the village is declining over time due to mono-

cropping of paddy and very little use of organic manures. The villagers are aware about the problem but trying to compensate the loss in soil fertility by using more of chemical fertilizer. What is more disturbing feature is that of imbalanced use of chemical fertilizers. As per soil testing report, the recommended doses of fertilizer use per acres are 13.20, 31.19 and 26.72 kgs of Urea, DAP and MoP, respectively. But the corresponding actual use is 30, 20 and 10 kg per acres, respectively.

The water quality parameters in and around the village shows that water is more or less within the safe category for drinking purposes (free from pollutants like arsenic, fluoride, iron, chloride and heavy metals) and very much suitable for irrigation as the indices like pH, EC, TDS, SAR, etc. are within the permissible limits. However, though the water quality is still within the safe limits, it started deterioration in recent years in terms of several quality parameters. Drought and heat wave are two main natural disasters occurring in the village frequently, though their frequency of occurrence have reduced from once in five years to once in 8 years now. As evident from the long-term rainfall data, a very high degree of inter year fluctuation is there resulting in to frequent drought or water stress. What is alarming is that there is an increasing trend in the fluctuation in annual rainfall as well as in monthly rainfalls during last 10 years. However, the gap between highest and lowest temperature in the year is narrowing down over time.

Policy and governance issues in Sahajapur

During our survey, we could identify 23 to 28 schemes for agriculture and rural development in operation in the village, but in terms of reach and coverage, only around half of such schemes are being implemented very successfully. The performance of all-most all the schemes for agricultural development are very poor. Poverty alleviation programmes made a better performance than the agricultural development programmes. Regarding preference for the schemes, both the villagers and officials are more interested in schemes having immediate tangible material benefit (cash or kind) transfers rather than long term qualitative/intangible benefits. The Gram Panchayat is trying their best to support the livelihood of the villagers but also appeared to take more interest in distributing material and financial benefits to the intended beneficiaries.

By and large, the villagers are satisfied with the functioning of the gram panchayat and other government agencies working towards implementing various schemes. However, there is a conflict between the state government and central government over naming, sharing financial burden, and in operational guidelines issued by the central government for various schemes for agriculture like PM-KISAN, PM-FBY, PM-KMY, etc. As a result, agriculture being the state subject, state government machineries is reluctant to implement such central schemes rather introduced parallel schemes with full financial support from the state government. Implementation of state government schemes (Kanyasree, Bangla Fasal Bima Yojana, Krishak Bandhu, Bangla Awaas Yojana, Rupasree, Sasthya Sathi, etc.) is better coordinated than the corresponding central sector schemes (Beti Bachao Beti Padao, PMFBY, PMKISAN, PMAY, Ayushman Bharat, etc.).

The pandemic Covid-19 and subsequent lockdown impacted the village significantly. The more significant negative impact was on education, non-farm & off farm employment, and supply chain for agricultural inputs as well as outputs. Initially, the daily wage earners tried

to cope up with the situation either through borrowing or on drawing down the inventories. However, with the phased relaxation of restrictions, the severe negative impact was softened after few months. But education sector continues to be badly affected due to prolonged/continuous lockdown since March 15, 2020. This has not only resulted into poor learning but also significant loss of learning among the school going children in the village, particularly the poor and first-generation learners. There is a digital divide and this is a matter of serious concern as the digital divide is layered on the existing socio-economic division in the village.

Policy Recommendations

The analysis of the foregoing sections does not leave any room for doubt that there is an advancement of the economy of Sahajapur during last six decades and more particularly since 1980s. The improvement however, is not in commensurate with the advancement took place in the district or state. There is spectacular improvement in terms of road, telecommunication, residential units, education, health, and nutrition. Unfortunately, very little progress is made in terms of agricultural development, creation of off-farm and non-farm employment opportunities, and thus in eradicating poverty among the vast majority of the villagers. Large number of initiatives has already been taken by the government but still the rate of unemployment and poverty is alarmingly high. Therefore, based on the findings of the study and considering the aspirations of the villagers the following policy recommendations are suggested:

i. The main economic problem in the village is very high level of poverty among the scheduled caste and tribes and lack of employment opportunities for educated youths. So as a strategy to reduce their economic vulnerability, creation of off-farm and non-farm employment opportunities are must.
ii. The tribals, poorest of the poor in the village, are expert in bamboo crafting. Santiniketan, being an international tourist destination and only 8 km away from the village, linking the artisans with market may bring new opportunities for them.
iii. The main problem that hinders the agricultural economy of the village is mono-cropping with kharif paddy due to lack of irrigation facilities during summer and rabi. Considering the availability of water resources and its long-term sustainability, conjunctive use of ground-water along with surface water needs to be promoted. That can ensure sustainable agricultural growth through diversification.
iv. Considering the available resources and demand, goat, duck and poultry farming represent a golden opportunity for off-farm livelihood diversification for unemployed youths in the village.
v. The school and education department need to take special initiatives to reduce the huge learning deficiencies in government schools. Further, the prolonged closure of schools due to Covid-19 aggravated the problem for the students from scheduled caste and tribes who are first generation learners with very poor economic background. So, schools have a greater role to play as such students neither can expect any academic support from their parent nor can afford for private tutor.
vi. Since the mother tongue of the tribal children is different than the medium in which they are forced to take learning in schools and ICDS centres, starting tribal schools or recruiting tribal teachers can be of great help. It is also important in protecting the tribal language (*Mahali*) which is already listed as an endangered language.

vii. Finally, in order to meet the expectation of the villagers following needs to be done on priority:
    a. In order to preserve the endangered 'Mahali' language, ensuring government support for the proposed school "Saheed Sankar Mahali Smiriti Vidyalaya".
    b. Re-opening of the village library which is closed since 1975-76
    c. Construction of a community hall for the village
    d. Construction of canal bridge to facilitate commuters in and around the village
    e. Establishment of a rural bank branch within the village
    f. Ensuring timely distribution of seed minikit and timely availability of fertilizers.
    g. Repairing the government sub-mersible tube wells which are not functioning since long.
    h. Housing for all the BPL families under PMAY/BAY scheme.

Conclusion

From the earlier discussions, it appears that the main driving forces of social and economic change in the village are development in physical infrastructure in terms of road and telecommunication; as well as government interventions through basic health, primary education and child nutrition. Undoubtedly, these changes are having a series of chain reactions within the system. But a sound rehabilitation of the village economy in terms of employment generation and agricultural development seems hardly been taken place. The different forces of change however affect different categories of households differently. There seems to be a general apathy among the village youth for working in the agriculture sector. In fact, they are apathetic towards any self-help or entrepreneurship for employment generation within the village itself rather prefers to work as a wage earner in the nearby town. In general, the people are happy with the politics of doles. Therefore, the development schemes need to re-orient from short term cash transfer to long term employment generation for educated youth.

Chapter I

Introduction

1.1 Introduction

1.1.1 Need and scope of the present study:

Villages constitute the nucleus of Indian society. In West Bengal, in particular, it has been a feature since the colonial rule that a village society and the rural economy had been one of important domain of revenue collection. Till date over two third of West Bengal's population is residing in villages. The progress of the state, hence, depends on the wellbeing of the rural society. Over the years since independence, both the state government as well as central government has formulated various schemes that have helped the rural people to improve their economic situations. Despite such efforts, the rural areas are still submerged in the problems of lack of education, poverty, unemployment, malnourishment etc.

Villages are living repositories of ancient, diverse traditions that have survived down the ages through a combination of constancy and adaptation to changing circumstances. Thus India has no valid option but to protect the interests of its villages because they will remain important and highly populated for a long time to come. Villages in general have witnessed a great deal of social, political and economic transformation in course of the post independent development practices. Earlier, the village society was characterized as a highly static society and village people excessively immobile. However, this kind of common understanding has undergone a tremendous change with the introduction of Five-Year Plans and the revolution in mass media. The earlier village life, which did not have any political and economic power, has now acquired adult franchise, democracy and accelerating transformation. During the last five decades, rural societies have witnessed massive changes. The village life today has reached a stage, where the glamour of urban life has made inroads in villages. It is in this context; it is important to have resurvey of villages surveyed earlier.

However, a strait jacket development plan did not materialize into a booming development of the rural sector for the very fact that each village had its own specificities and diversity and reacted to all these development impetuses with a complex reality. It became clear that the complex relations within a village society could not be captured effectively by the data generated by the various government departments and data collecting organizations such

as NSSO. Small scale and intensive primary village surveys were called for to get the feel of village dynamics.

Agro-Economic Research Centres (AERCs) have a long tradition in conducting village studies in India since their establishments in 1950s. More than 200 village studies were conducted by the AER system during 1950s to 1970s. In fact, AERCs started functioning in the mid-fifties having one of the objectives "to carry on a continuous study of change in the rural economy by means of survey of a number of selected villages each year, the survey to be repeated in the same group of villages in the interval of five years". Like, few other centres, a large number of villages (including this particular village Sahajapur) had been first studied in the 1950s by AERC, Visva-Bharati under the series 'Rural Change'. Most of these villages were resurveyed too with specific objectives. This village too was re-surveyed by AERC, Visva-Bharati in 1972-73 (Mondal et al, 1974); 1982-83 (Sen and Sengupta, 1983) and again in 1987-88 (AERC, 1990). All these re-surveys were not done as village study rather covered few specific dimensions with sample households. For example the research focus of 1982-83 (in collaboration with Amartya Sen) was malnutrition and gender bias in rural areas. The village Sahajapur was also studied by foreign researchers like John Harris (Harris, 1982). Since then several changes have taken place in this village. First, havoc inroad of political parties in the day-to-day affairs of the village took place. Second, a mushrooming of government schemes for different groups of rural peoples is there. Third, the village livelihood is fast diversifying away from agriculture. Therefore, it necessitates a complete resurvey now.

Since villages are terrain where development policies and schemes are tested, continuous village survey is capable of pointing out the efficiencies and efficacies of such schemes. A continuous village survey will also provide a clear picture about diagonally opposite view regarding success or failures of development schemes, besides providing panel data for policy formulations. It also helps in measuring the changes in villages over time.

It is in this context the present village study entitled "*Village Survey Study in West Bengal (Sahajapur Village)"* is an attempt to enquire into the dynamics of the village with the passage of time taking into account both the endogenous and exogenous factors that influences the rural dynamics.

1.1.2 Objectives of the present study:

The specific objectives of the study are-

i. To create a longitudinal panel dataset, to capture the socio-economic dynamics of the villages. The purpose is to assess the pace, process and pattern of rural change by means of repeated survey in the selected villages followed by re-surveys of the same villages at an intervals of 5 years.

ii. The focus would be on agricultural change and changing pattern of rural livelihoods and its implication for future development. The study will also evaluate the efficacy of government interventions in rural areas and key drivers of changes in village economy.

This new resurvey is done with a focus on social, agrarian and environmental conditions of life in the villages today and compares the results of the new surveys with the data from the 1950s. The material presented here is also expected to point to some of the strengths, weaknesses and idiosyncratic charms of "restudies." The purpose is not simply about documenting the evolutionary process of development, but bring new dimensions of ecology and policy impacts on rural households which was altogether missing in the baseline survey.

1.2. Background Information

1.2.1 Background information about the survey:

Sahajapur- a village in Birbhum district of West Bengal was first surveyed in 1955-56 as a part of continuous village survey under the theme of Studies in Rural Change (AERC, 1958). The survey of Sahajapur was then conducted primarily to initiate work along a new line of thought and was, therefore, somewhat of a pilot nature. Rural change, in course of the study, was interpreted as economic and social change taking place as a result of the dynamic forces operating within the country. Some of these changes were thought to be generated from within the village society whereas, there were exogenous forces operating outside the rural economy and influencing the dynamics of the village system. The survey report[1] published in the year 1958 emphasized in its approach 'in the direction of

[1]Sahajapur : West Bengal, Socio-Economic Study of a village, AERC, Visva-Bharati, 1958

recognizing these exogenous forces of change and studying the village system in its structure and functioning against the background of these forces' (AERC, 1958).

It is after an interval of sixty-four years we take up the study of Sahajapur once again.

1.2.2. Brief review of the earlier survey:

The earlier survey (i.e. Sahajapur survey 1955-56) noted a number of extremely significant changes that had taken place since 1950. The most important change, as marked by the survey, was a slight rise in the birth rate along with a sharp decline in death rate consequent on the eradication of malaria and improvement of health standards. Moreover, the study observed that the population upsurge was much greater and acute among the Hindu General Caste cultivators, than among the Scheduled Caste or Scheduled Tribe share croppers and agricultural labourers.

The age structure of population, the survey noted, was becoming more pyramidal and the proportions in the non-productive age groups were increasing. The size and proportion of the labour force were undergoing modifications, the effect of which on the supply of labour, on consumption, saving and investment had begun to make themselves felt.

The opinion survey of the 1955-56 survey showed that the majority of the people, even among the better-off sections thought that their consumption level in respect of most items had deteriorated due to growing size of the households.

In Sahajapur, in 1955-56, it was observed that there had been a notable improvements in respect of educational, recreational, medical and public health facilities in comparison with the earlier years. School enrolment of children increased significantly though spread of primary education among the Scheduled Castes and Tribes had been rather slow. However, on health and disease front the achievements were most striking of which eradication of malaria and other epidemics had ceased to take a toll. Nevertheless, medical care facilities were still far from adequate.

There had been a number of significant developments, as the earlier survey witnessed, in the economic system. Road and communication facilities had improved, canal irrigation was introduced in 1955, the Zamindary estates were taken over by the government and comprehensive land reform legislations had been enacted. Moreover, National Extension

Service had started functioning in the village to help the people improve their agricultural production and output. The introduction of *Mayurakshi* canal irrigation as envisaged by the survey would enrich the productivity potential of cultivable lands, though at the time of the survey the productivity had been rather sluggish.

Agricultural tools and implements, as reported in the earlier survey, which were being used by the farmers of Sahajapur, were of the traditional type. No significant improvement was noticeable in respect of livestock rearing. However, construction of residential houses, mostly mud houses with thatched roof, showed a significant growth during a period of ten years prior to the 1955-56 survey. The survey report, thus, envisioned this change as one of the major avenue in which physical investments were taking place in the village.

There did not seem to take place any fundamental change in the organization of agricultural production. Variations in agricultural output were caused largely by the weather conditions. However, use of chemical fertilizers was on its way of introduction in the agricultural process and the signs of change towards a more formal employer-employee relation were visible. Improved seeds were completely absent.

As the Sahajapur report suggests, the cash and money consciousness seemed to have become the main driving force behind functioning of the economic system. It was noticeable in the attitude and actions of people in respect of hiring labour, marketing of crops and job preferences. The mode of wage payment was shifting towards cash wages instead of kind. The structure of economic organization showed hardly any change. The land holding and financial structures did not change at all. The ownership of land assets were mostly in the hands of Hindu General Caste cultivator families.

The first survey observed that the nature of consumption in the village Sahajapur remained more or less unchanged except for a few consumer durable articles like bicycle, torch lights, kerosene stove etc. Analysis of people's opinion suggested that the consumption level in respect of food and clothing had rather deteriorated, while expenditures towards housing, footwear, medical and recreational services improved. The survey sensed a widespread feeling of impoverishment and frustration among the villagers. The caste structure was

quite strong despite the fact that there was complete absence of untouchability. The state organizations like public schools etc. did not create any social barrier or discrimination.

The Sahajapur survey report of 1958 concluded –

"One of the basic weaknesses of this structure is the existence of a plural society at the rural level. The large and medium land-owning farmers, usually belonging to the 'upper socio-economic groups', form a distinctly separate society from the share-croppers of the scheduled caste or other groups or from the agricultural labourers who again are distinct from the Santals. The different forces of change affect these groups differently….That is why the demographic changes have been of a general nature. In contrast, however, the measures for economic improvement have invariably affected only the so-called 'upper groups'. This sub-society can, therefore, be called in a state of flux; but not so the other segments."

1.2.3 Historical profile of the village:

The village has a fairly long history. While the approximate time of its establishment could not be ascertained from the village people, the village in its present location must have existed for at least 250 years. Some people associate the establishment of this village with a story in the *Ramayana* where *Lompada*, the then king of the area invited the sage *Riswashringa* to perform an oblation of fire and sacrificial rites to invoke the rain god *Varuna* for salvation from a long lasted drought in the region. Sage *Riswashringa* settled in this region for a while and established a hermitage here. The area then came to be known as *Sringanpur* from which the present name of Sian gained popularity. The present village Sahajapur had been a part of Sian area prior to Cadastral Survey (C.S.) of 1928-30[2] (Visva Bharati, 2012). A rock edict of king *Naypal* (1027-43 CE approximately), the then king of *Pal* dynasty, was also discovered from the area. The rock edict describes a war between Naypal and *Karnadeva* (the king of *Prachikote* presently known as Paikar) in which *Naypal* defeated *Karnadeva*.

Around 1935 the British East India Company established a *Nilkuthi* to facilitate the indigo plantation in the vicinity. In fact, these parts of Birbhum district had been a thriving centre

[2]*Sianer Itikatha* - Nandini Saha, Unpublished project on History, Siksha-Satra, Visva-Bharati, 2012.

of indigo plantation under the British East India Company. Prior to the First World War the British Government initiated construction of an airport in close proximity of Sahajapur but it never materialized. A railway line connecting Bolpur with the indigo processing centre at Sian was established.

After the Permanent Settlement of land revenue system was enforced Zamindary system took over as the sole revenue organization in the area. *Baro Morol,* as he was known, was *t*he zamindar of Sahajapur. However, after the abolition of zamindari rights the union board of the time took over as the administrative organization.

1.3 Review of Literature on Village Studies

Dominance of rural people and their diverse livelihoods makes rural India a focal point for research and development issues at both national and international levels. Since socio-economic development in India mostly depends on the performance of Indian villages, village survey studies assume added significance. A large number of development concerns like the impact of government policies and programmes for agriculture and rural development; impact of demographic changes on rural livelihoods as well as on natural resources; lack of sanitation and its impact on health; water pollution from raw sewage and pesticide runoff; soil loss and desertification due to erosion, overgrazing and deforestation; etc. can be addressed through intensive village surveys.

The importance of village studies, in modern India, dates back to 1812 wherein W.F. Firminger submitted his report entitled “The Fifth Report from the select committee of the House of Commons on the Affairs of the East India Company” (1812). The British contributed a great deal in survey as a means to gather information for policy decisions. The first survey department was started in India by Robert Clive in the year 1760 for the purpose of revenue collection wherein village survey was the backbone of revenue administration. It was during British rule that India was first described as a land of village republics (Jodhka, 1998). While, the East India Company (1812) described Indian village as ‘the most basic unit of social organization in India, a sovereign whole, irrespective of the transfer of power from kingdoms to regimes at the national or regional level’ (Srinivas, 1987); 1832, Charles Metcalfe (1832) termed Indian villages ‘little republics’ that were ‘almost independent of foreign relations”.

Village studies, in the past, have enriched the knowledge of the Indian Society in general and rural India in particular. The Punjab Board of Economic Enquiry organized village surveys conducted by individual workers since 1920s while the Bengal Board of Economic Enquiry was setup in 1935 and it conducted village surveys. These have given great encouragement to the growth of rural society. Gilbert Slater in Madras, G. Keatings and Harold Mann of Mumbai, and E.V. Lucas in Punjab initiated intensive studies of particular villages and general agricultural problems. Gilbert Slater was one of the pioneers in village survey studies in India who surveyed some villages in Tamil Nadu in the year 1916 with a systematic approach. The Slater villages have also been re-surveyed at different intervals, the last time in 2010. Harold Mann and Gilbert Slater provided detailed qualitative and quantitative information on land and asset ownership, demography, cropping patterns, and rural credit relations.

The tradition has continued over the years, with many researchers using comprehensive village surveys to understand the process of change in rural India. After Independence, the number of students of social anthropology and economics carrying out village studies in the country increased substantially. Two separate sets of questions dominated village studies in the 1950s, 1960s, and 1970s (Jodhka 1998). While sociological studies analyzed the village as a unit of social and cultural moral order, a new sub-discipline of agrarian studies focused on economic and rural power structures. However, many studies do not fit either category. Beteille (1974), for instance, falls somewhere between the “functionalist” tradition of peasant village studies and the “political economy” tradition of agrarian studies. On the other hand, Harris (1982, 2008) argues that a distinction should be made between the study of caste relations and agrarian class relations. Village studies as a methodology must engage with the dynamics and contradictions of a society, and adopt an inductive-inferential and value-accommodating approach rather than a deductive-positivistic and value-neutral one (Mukherjee 1976).

Village studies are meant not only to create longitudinal data base for a particular village but also to further a distinctive understanding about the village society and culture (Thakur, 2013). After independence, planners in India realized that unless Indian villages were properly studied, no real progress could be made. Besides, providing useful knowledge about rural societies in India, these studies are extremely useful in planning rural

reconstruction. The erstwhile Planning Commission gave maximum attention to solve the social problems of rural India by the help of village studies. The availability of macro level secondary data has not diminished the role of village surveys but, in fact, has helped in improving the understanding of the process of rural change. At a time when there are conflicting trends emerging from the national accounts on the state of the economy, it is interesting to look at the village surveys once again to understand the changing nature of villages and rural India.

Village studies are useful but also suffer from certain limitations. Village survey studies are difficult and complex in nature. It requires clear idea regarding village society, their livelihood, faith and beliefs. In many instances, the scholars tried to study village community in a biotic frame of reference. They practically ignore a basic reality that Indian village is a synthesized community. Further, village studies are often influenced by the alien concepts (of the researchers) and in many cases are not representative in nature. Village studies also have a tendency to exaggerate the unity and self-sufficiency of the village.

1.4 Scheme of the Chapters

The present report is prepared in eight chapters. The first chapter discusses the rationale of the present study, objectives, background information including a brief outline of the earlier study, historical profile of the village and a brief review of literature. The methodology including conceptual framework of survey and coverage, sampling design have been discussed in the second chapter. The third chapter deals with the overview of the study village that includes demographic and other livelihood profiles of the residents of the village. The social dynamics of village are presented in the fourth chapter. This chapter also addresses the issues of food security in the village. Economic system and status of the households with focus on occupation and employment pattern, agrarian economy and income composition are presented in chapter five. The issues related to ecology, vulnerability and sustainability are presented in the sixth chapter. In chapter seven, we discuss the issues of policy and governance with special emphasis on the implementation of various Government schemes for rural economy particularly with a focus on agriculture, rural development and rural livelihood. The last chapter, however, presents the concluding observations and policy implications of the study.

Chapter II

Methodology

2.1 Definitions and Concepts

This chapter deals with the details of methodology adopted in the process of the study in regard to selection of sample households and the data sets used for the present analysis. The concepts used in the report and definition of variables used are also listed below.

Village:

Village is considered as the basic area of habitation under one revenue unit. In West Bengal, the smallest revenue unit is known as *Mouza* and represented by separate Judiciary List (JL) numbers. In most of the cases *Mouza* and village are coterminous. The village may have one or more hamlets.

Household:

The household is defined as the person/s that lived together and ordinarily cooked at the same kitchen.

Literacy:

Literacy is commonly understood as an ability to read, write and use numeracy in at least one method of writing.

Operational Holding:

All land which is used for agricultural production and is operated as one technical unit by one person alone or with others is treated as operational holding for the present purpose.

Size classes of Operational Holdings:

Marginal – Equal or below 2.5 acres/ 1 hectare
Small – Above 2.5 acres/ 1 hectare and equal or below 5 acres/ 2 hectares
Medium - Above 5 acres/ 2 hectare and equal or below 25 acres/ 10 hectares
Large – Above 25 acres/ 10 hectares

In the area of present survey 1 *bigha*=20 *katha*=0.33 acre, i.e., 1 acre= 3 *bigha*s of land.

Workers, Cultivators, Agricultural labour (Terms used by labour Bureau[3]):

Workers:

Workers are classified as main and marginal workers on the basis of their days of employment. Those workers who had worked for the major part (i.e., 183 days or more) of the year are called 'main workers', while those who had not worked for the major part of the year (i.e., less than 6 months or 183 days in a year) are termed as marginal workers.

Non worker:

A person, who does not work, not employed for a salary, dues or wages; not producing or generating income.

Cultivator:

A person is considered working as cultivator if s/he is engaged either as employer (also supervisor), single worker or family worker in the cultivation of land owned or held from Government or from private person or institution for payment in money or in kind or on the basis of sharing of crops. A person who has leased out land to another person or persons for cultivation in lieu of money, share of crop or any kind receipt or a combination of all the mentioned forms of receipt and who does not even supervise the cultivation of land, is not treated as cultivator.

Agricultural Labour:

A person who works on another person's land for wages in money, kind or share of crop or a combination of all is treated as an agricultural labour.

Primary occupation and secondary occupation:

Among the different occupations, primary occupation has been considered as one, from which a household earns maximum amount of income, *i.e.,* more than 50 per cent of total households' income. Secondary occupations have been considered as those among the listed occupations from which a household earns a reasonable amount of income not exceeding 50 per cent of total household income.

[3]http://labourbureau.gov.in/WL%202K5-6%20Chap%201.htm

2.2 Data Base

This study is based on both primary and secondary data. The secondary data were collected from the government publications, online databases and published reports and research papers and related websites. The required secondary data on demography, climate, land use pattern, etc. were also collected from the village and block level government departments and institutions. The household level primary data has been collected through primary survey with structured questionnaires in respect of various aspects of livelihood of households. Focus group discussion (FGD) and stakeholder meetings were also used to gather primary information at village or group level.

2.3 Sampling Design

2.3.1 Criteria for selection of the village:

The present study is undertaken by the Agro-Economic Research Centre, Visva-Bharati and is confined to the State of West Bengal as decided by the Ministry of Agriculture and Farmers Welfare, Government of India. The village Sahajapur is purposefully selected in view of the fact that this particular village was extensively studied by the AERC, Visva-Bharati in 1950s; 1960s; 1970s; and in 1980s, the last being a study by Prof. Amartya Sen (Sen and Sengupta, 1983). Dr. John Harris also studied the village in 1980s (Harris, 1982). The selection procedure was finalized in the methodology workshop for this study held in IEG, New Delhi, as well as at AERC, Visva-Bharati where it was decided to take up Sahajapur village for resurvey. However, it needs to be mentioned here that among all the past studies in this village, the 1955-56 survey was most comprehensive one and was based on complete enumeration of all the households. It was a complete village survey study, whereas subsequent studies were on specific issues based on sample households only. Therefore, we required to resurvey the entire village again after 1955-56 as a village survey study. The village is located within the Bolpur-Sriniketan block of Birbhum district, West Bengal (Fig. 2.1, 2.1 & 2.3).

Figure 2.1: Location of the district Birbhum in West Bengal

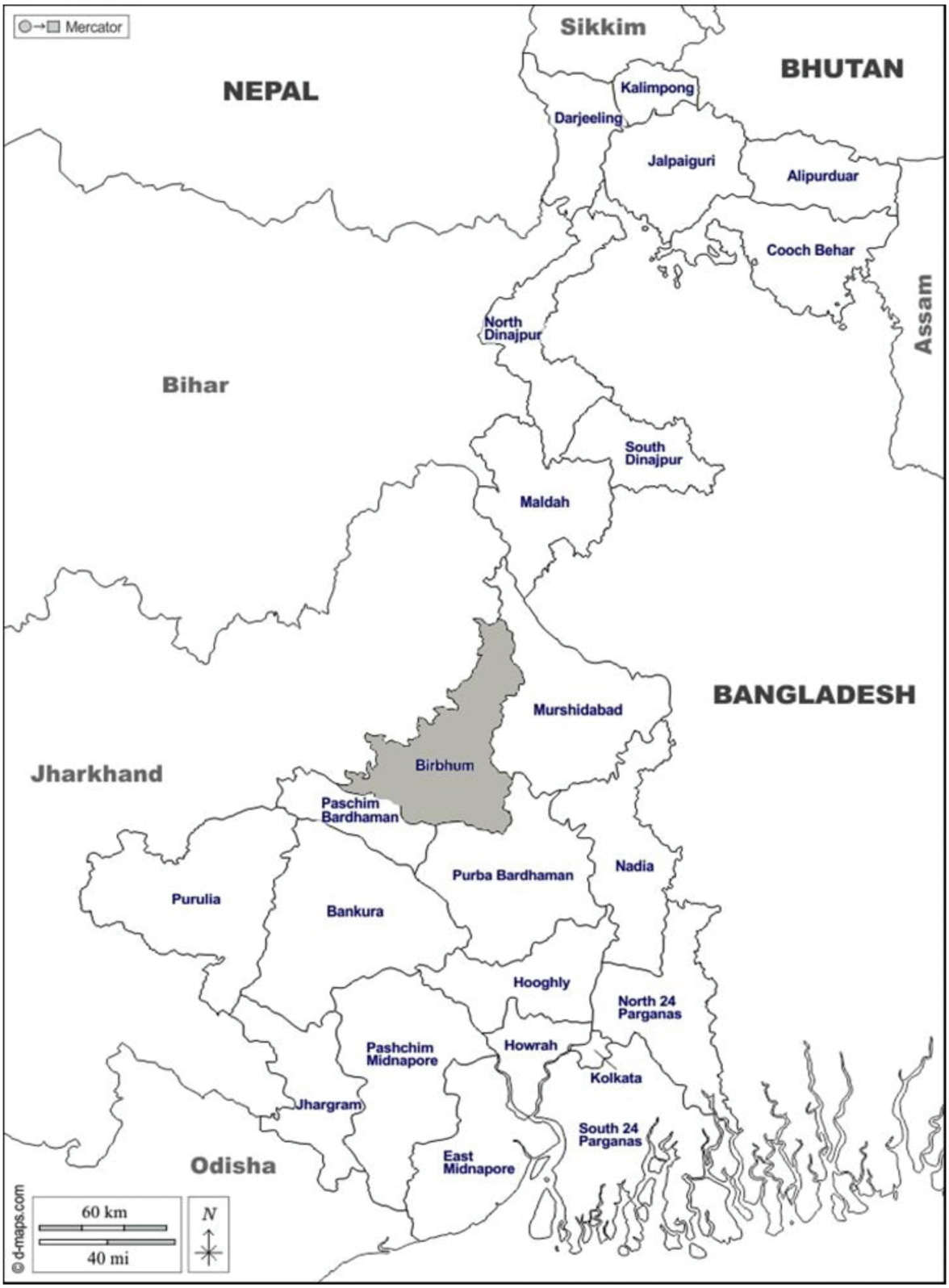


Figure 2.2: Administrative map of Birbhum district

(Location of Bolpur Block)

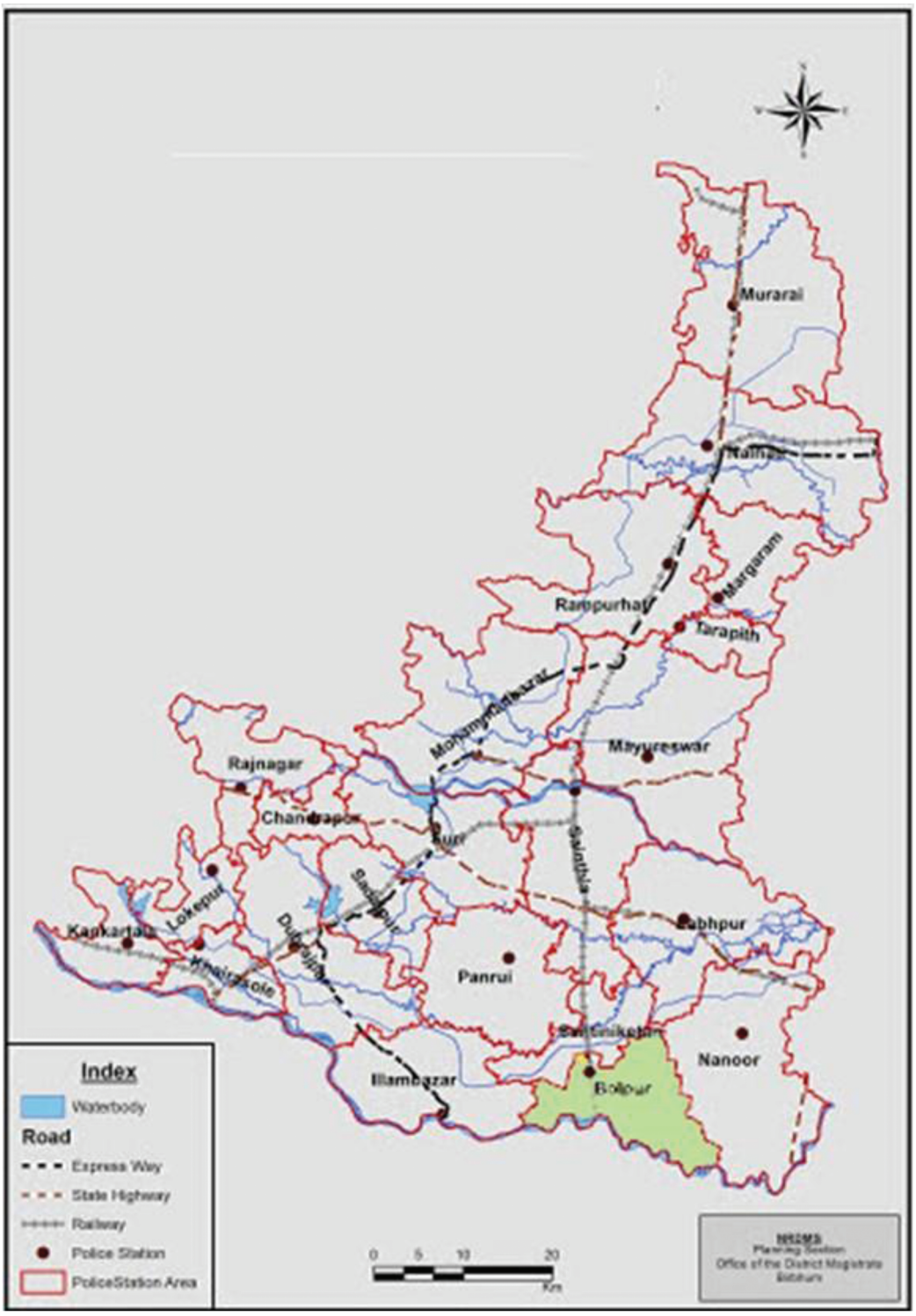
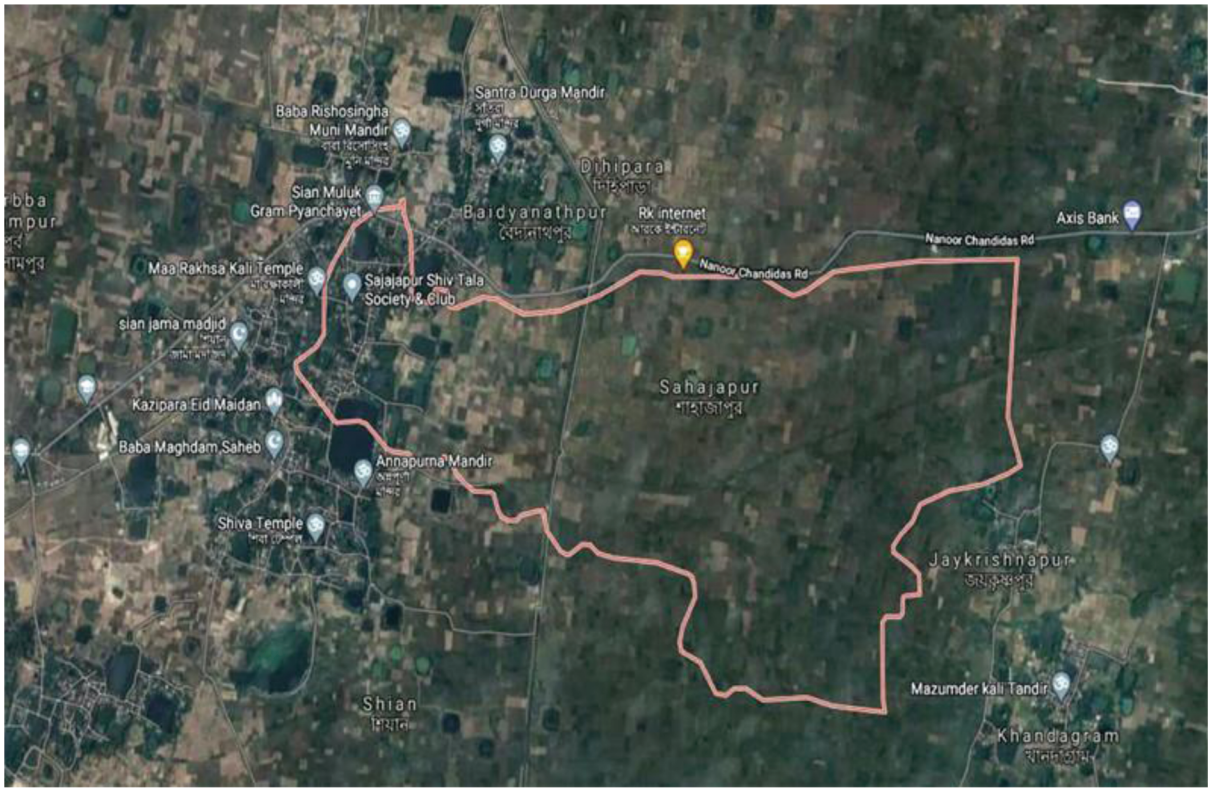


Figure 2.3: Terrain map of Sahajapur village



2.3.2 Criteria for selection of households:

As the total number of households in Sahajapur is 372, we adopted a complete enumeration technique for the primary survey. However, in course of the primary survey we could locate only 355 households who were found residing in the village. Rest of the households i.e., 17 in number, have either migrated or shifted their residence to some other village and to the nearby town Bolpur and hence, are non-residents. Nonetheless, they do have and maintain their ancestral property in the village of Sahajapur.

2.4 Survey Approach

The very nature of village survey studies must ensure that it takes into account the unconventional or informal opinions and views in respect of social, political, cultural and ecological issues which cannot be recorded through formal household surveys. Therefore, the present survey was conducted at three levels: Village Level, Group Level; and Household Level. Accordingly, information was collected from the official records; stake holders' meetings; secondary sources, focus group discussions, and household surveys. At village level, information about the village was also gathered through interactions with different

stakeholders as well discussion with aged peoples. Focused group discussions (FGD) were conducted to gather information on issues pertaining to different social, demographic and livelihood groups. In order to gather household level information, household survey using a structured survey schedule, was undertaken.

It should be noted here that the resurvey of Sahajapur village was started in 2019-20. But in view of the COVID 19 pandemic and subsequent lockdown across the state the continuity of the survey had been disrupted for nearly about a year. After March 2020, we could resume the survey only in early 2021. Hence, some data relating to agricultural enterprise in Kharif and Summer seasons is for the year 2019-20 while for the Rabi it corresponds to the year 2020-21. Similarly, we did conduct focus group discussions (FGD) and stakeholders' meetings both in 2019-20 as well as in 2020-21. But the reference period of the present survey has always been referred as 2019-20.

2.4.1 For village level information:

In course of the resurvey during the year 2019-20, important functionaries of Village Panchayat such as the Secretary and Pradhan, teachers of the local primary school, Aaganwadi workers of ICDS Centre, Krishi Prayukti Sahayaka (KPS) and Assistant Director of Agriculture, Bolpur-Sriniketan block, etc. were consulted and data pertaining to different attributes were collected from the records. A part of the village level information was also collected from the census reports. Personal observations of the study team during field survey helped a lot to get village level information.

2.4.2. For group level information:

Group level information was acquired through group discussion with the different stakeholders including those mentioned in the previous sub-section and using the survey schedules prepared for the groups (Group Discussion Schedule-I, II & III as enclosed in the Annexure). In course of the survey, we have also received valuable information from the members of different self-help groups functioning in the village and mostly run by the women members of the family. The group meetings with the stakeholder gave us valuable insight as to the degree of hardship faced by them in the event of various economic and natural adversities. We talked about the coping strategies that are sought to for mitigation such hardship. Women members of the self-help groups expressed their eagerness towards

achieving more empowerment and expressed a keen interest towards education of their children. Information was also collected in respect of drinking water availability and quality of the water that is being available to them.

2.4.3. For household level information:

Household level information relating to socio-economic status of the households, demography, employment, agricultural enterprise, asset ownership, etc. were collected with the help of structured questionnaire prepared for the survey after piloting (Household Schedule: Part-I & Part-II as enclosed in the Annexure). The questionnaire also included a perception study as regards to people's perception about the rural change.

2.5 Dimensions Covered

The study covers various dimensions of social, economic, agrarian, farming, ecological parameters. Being a resurvey, it also focuses on the socio-economic changes that have taken place between the two periods more particularly demographic change, social change, agrarian change, livelihood change, economic change, and ecological change. The study also attempts to identify the driving forces of such change.

2.6 Analytical Tools

Simple tabular analysis was used for presentation of primary data analysis. The statistical packages like MS EXCEL and SPSS 17.0 were used during processing of field data. Simple statistics were used in course of the analysis. In order to address the various objectives and issues of the study, apart from the simple tabular analysis, several mathematical and statistical tools and techniques were also used as detailed below:

2.6.1 Growth rates:

In order to trace the extent of changes compound annual growth rate is estimated for the two different period of study using the following formula.

$$Y_n=Y_0[(r-1)/100]^t$$

Where:
Y_n=Observed value of parameter in nth. Year
Y_0=Observed value of parameter in the initial year
r=Rate of growth
t=Number of years

2.6.2. Percentage change:

The percentage change is worked out with the help of following formula:

Percentage change= {(New Value-Old Value)/Old Value}*100

2.6.3. Livelihood sensitivity matrix:

Livelihood sensitivity matrix is an important tool used in livelihood analysis and developed by United Nations' Environment Programme (UNEP). It provides a first order vulnerability assessment based on FGDs (Khatun and Roy, 2012). This method works best if focused on livelihood groups against the events of shocks in a particular region. The purpose of the matrix is to identify the major livelihood shocks; and to know who is vulnerable and to what extent different groups are sensitive to each livelihood shocks.

2.6.4 Diversification indices:

Diversity in crop and livelihood should not be measured only in terms of number of crops or activities but on the degree of reliance on each of such activities. Diversification index is an important tool to measure the extent or degree of diversification. In the available literature, six different indices are being used to measure the degree or extent of diversification (Khatun and Roy, 2012; Chand, 1995; Shiyani and Panda; 1998). They are Herfindahl index, Simpson index, Ogive index, Entropy index, Modified entropy index and Composite entropy index. Each of these measures has its advantages and limitations. In this study livelihood diversification is measured by using the Simpson Index (SI). In fact, SI is derived from the Herfindahl Index (HI) as given below:

SI =1- HI

Herfindahl index (HI) is computed by taking sum of squares of acreage (income) proportion of each crop (income sources) in the total cropped area (household income) as given by the following formula:

$$\text{H.I.} = \sum_{i=1}^{N} P_i^2$$

Where, N is the total number of crops (income sources) and Pi represents acreage (income) proportion of the i-th crop (income) in the total cropped area (household income). Its value is bounded by zero and one. With the increase in diversification, the Herfindahl index would

decrease. The index value is one when there is a complete specialization and approaches zero as N gets large, i.e., if diversification is perfect. In fact, HI is a measure of concentration rather diversification. The major limitation of HI is that it cannot assume the theoretical minimum, i.e., zero for smaller values of N (number of activities). Therefore, as widely used, we have converted Herfindahl Index into Simpson Index as a measure of diversification.

2.6.5 Gini co-efficient & Lorenz curve:

Both Gini co-efficient and Lorenz curves are used to measure the degree of inequality in the distribution of wealth (Land) or income among the population. A higher value of Gini index specifies greater inequality, where proportion of high-income individuals receives much larger share of the total income (or wealth). Hence, the value of the index ranges from 0 to 1, with 0representing perfect equality and 1 representing perfect inequality. The Lorenz curve is a graphical representation of the Gini co-efficient where the degree of inequality is measured by the area under the curve. Away the Lorenz curve from the line of equality, high is the magnitude of inequality.

2.6.6 Body mass index (BMI):

The Body Mass Index (BMI) is an accepted tool to study/compare individual's level of nutrition/malnutrition. It is the ratio between a person's weights in kilograms divided by the square of his height in meters. Both a high as well as a low BMI can be an indicator of malnutrition. It is a helpful tool to estimate the degree of nourishment of an individual depending on his/her body weight and height. Neither a very high nor a very low BMI is desirable. A high BMI indicates body fatness and a low BMI means underweight.

BMI is categorized into five groups viz. severely underweight, underweight, normal weight, over weight and obesity. BMI is defined as the body weight of an individual upon the square of his/her height. It is measured in kg/m^2. The categories are as follows:

1. Severely underweight = Less than 16.5 kg/m^2
2. Underweight = Equal or above 16.5 $kg/m^2$to less than 18.5 kg/m^2
3. Normal weight = Equal or above 18.5 $kg/m^2$to less than 25 kg/m^2
4. Overweight = Equal or above 25 $kg/m^2$to less than 30 kg/m^2
5. Obesity = Equal or above 30 kg/m^2.

However, for the infants up to 5 years of age we have used World Health Organizations' growth chart being followed in the ICDS scheme. This growth chart is gender specific as well as age specific. In course of the survey, we have compiled/calculated the BMI of 194 children from different categories of households. It includes all the 94 infants enrolled with the two ICDS Centres in the village and another 100 children (50 male children and 50 female children) randomly selected from 6-14 years of age group.

2.6.7. ASER toolkit for reading and arithmetic competency:

As suggested by the representatives of Pratichi Trust (A trust working with learning competency among the age groups of 5-15 years) in the methodology workshop for this study, the study used ASER (Annual Status of Education Report) tool kit by developed by PRATHAMA to assess the learning competencies. The survey aims to provide dependable annual estimate of children's schooling status and basic learning competency at different levels.

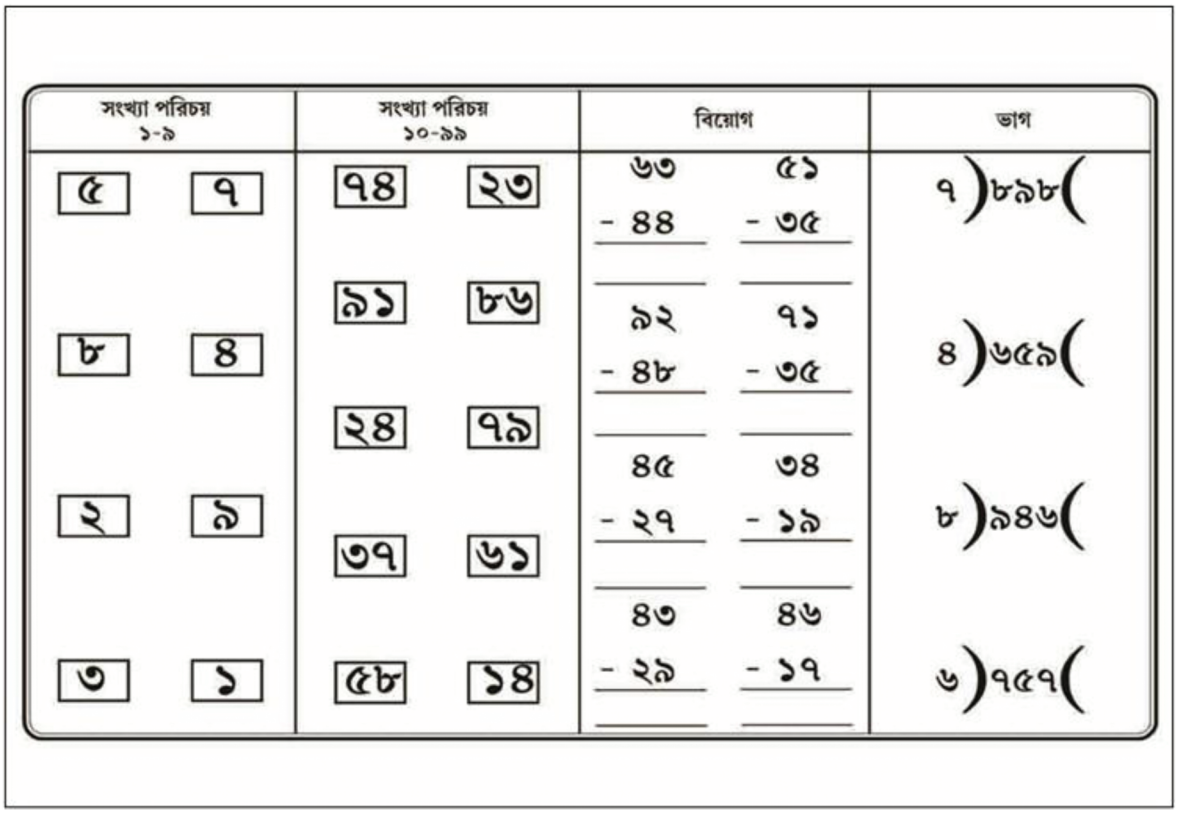
Reading and basic arithmetic are fundamental building blocks of learning. Without these children cannot make progress in school. Therefore, the learning outcomes of basic education have been examined with the help of ASER Toolkits for Standard-II level text and arithmetic. Both the sample toolkits consist of 5 different levels of learning (from L0 to L4) namely:

L0=No learning
L1=Can recognize letters/single digits (0 to 9)
L2=Can recognize words/double digits (10 to 99)
L3=Can read simple sentence/do simple subtractions
L4=Can read paragraphs or story/do simple divisions.

Since all the students (barring four students who are mostly living in nearby town Bolpur) in the village studies in Bengali medium government schools, in course of the present study the competency levels in respect of reading of Bengali language and competency in arithmetic ability of the children (age group of 5-15 years) were studied with the help of ASER test toolkit. For this, we have randomly selected 100 school going students (50 male & 50 female) in the village. Each student was examined separately and the highest level he/she is able to achieve in reading and mathematics is recorded.

Figure 2.4: ASER kit for competency in Bengali language

Figure 2.5: ASER kit for competency in Mathematics



2.7 Limitations of the Study

The present study is based on survey conducted during 2019-20 & 2020-21. Outbreak of COVID 19 pandemic and subsequent lockdown during the period has heavily affected the smooth resurvey of the village and was delayed. It turned out little difficult for the field surveyors to get in touch with the respondents for the household survey. Despite this difficulty it was the perseverance of the enumerators, that we were able to complete the primary survey. Moreover, all the schools, ICDS (Aaganwadi) centres, clubs etc. we're not in operation, and thus we had to visit the village several times and organize a large number of small meetings or FGDs to get the required information. We also required depending on the official records of these institutions as well as telephonic records for several information.

We have mentioned earlier, that this study has been conceived as a resurvey of the village to capture the social dynamics that have been in resulting in the change in the rural economy. The earlier survey, as mentioned, was conducted in 1955-56. The survey of 1955-56 had focused mainly social, economic and agricultural aspects including the attitude of people toward the change that was taking place on the agrarian sector. However, in the present study a number of issues relating to education, malnutrition, ecology and environment, food security, government assistance etc. have been addressed. In this sense, the two studies are not strictly comparable. Though both the surveys were complete enumeration of the village, nonetheless the methodology that were adopted and the structure of questionnaire used in these two surveys were different. In addition to this, there might be some human factor involved in course of the surveys for the enumerators in charge of the primary investigations after a period over five decades were not the ones who carried out the first survey. Nevertheless, we have tried to address the factors influencing the social change as far as possible. Hence, certain comparisons made in this study can be regarded as only approximate and should be used with caution.

Chapter-III

An Overview of Study Village

3.1. Village Profile

3.1.1 Geographical & administrative location of the village (Including latitudes & longitudes)

Sahajapur, a village within Sian Muluk Gram Panchayat under Bolpur sub-division in Birbhum district, West Bengal is situated within 23.6774°N & 87.7677°E latitude and longitude respectively. The nearest town, Bolpur is eight kilometers away and is connected by a metal road. The nearest railway station is in Bolpur and nearest domestic airport is in Durgapur 65 kilometers away; and the nearest international airport is in the metropolitan city Kolkata, 158 kilometers away. The metal road connecting the village has the facility of frequent public transport service like buses, e-rickshaw, etc. The village is situated at a distance of 41.9 kilometers from the district head-quarter Suri.

Figure 3.1: Administrative map of Sahajapur

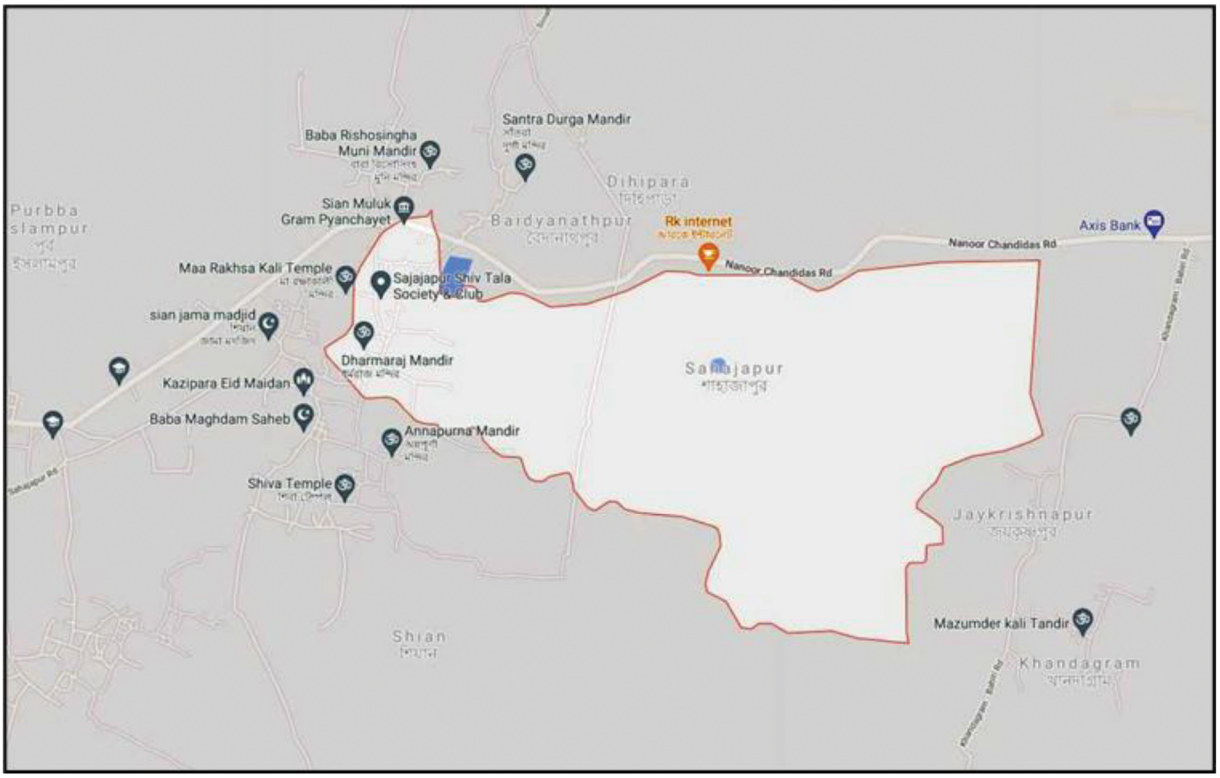


Table 3.1: An overview of the village Sahajapur

Particulars	Census 2011
Location Code (as per 2011 Census)	317855
Geographical area of the village	385.10 acres
Total Households	355
Total Population	1488
Post Office and Pin code	Bolpur (731204)
Gram-Panchayat	Sian Muluk GP
Assembly Constituency	Nanoor AC
Parliament Constituency	Bolpur PC
Block/Tehsil	Bolpur Sriniketan
District	Birbhum
State	West Bengal
Nearest Primary School (with distance)	Sian Angshik Buniyadi Vidyalaya (0 Km.)
Nearest Secondary/Higher Secondary School (with distance)	Sian Yousuf Uchha Vidyalaya (1 Km.)
Nearest College (with distance)	Bolpur College, Purnidevi College (8 Kms.)
Nearest Health Centre/Hospital (with distance)	Sub-divisional Hospital (2 Kms.)
Nearest City or Town (with distance)	Bolpur (8 Kms.)
Nearest Railway Station (with distance)	Bolpur (7 Kms.)
Nearest Domestic Airport (with distance)	Andal/Durgapur (65Kms.)
Nearest International Airport (with distance)	Kolkata (158 Kms.)

As is apparent from Table 3.1 that geographical area of the village is 385.10 acres. It is important to mention here that as per land records the total area of the Mouza is 747.11 acres, but that also contains land of at least three more villages Baidyanathpur, Dihipara and Jaikrishnapur that are located close to Sahajapur. As per 2011 census, it is inhabited by 355 households with a total population adding up to 1488 persons. The village has primary school (Sian Angshik Buniyadi Vidyalaya) within the village itself while the higher secondary school (Sian Yousuf Uchha Vidyalaya) is situated at a distance of a kilometer from the village. However, the nearest collage is at Bolpur town, 8 kilometers away. *S*ahajapur village comes under Nanoor assembly &Bolpur parliamentary constituency.

3.1.2 Climate and rainfall

Sahajapur, being situated near the Sriniketan weather station (10 km), exhibits climate and rainfall pattern similar to that area within the district. The climate of the village is generally

dry, mild and healthy. The hot weather usually last from the middle of March to the middle of the June, the rainy season from the middle of June to the middle of October, and the cold weather from middle of October to the middle of March. However, they do not always correspond to these limits. As a rule, the wind blows from south-east in Summer and from the north-west in winter.

The village Sahajapur experiences dry and hot summers with temperatures often rising above 40°C. Winters in Sahajapur are pleasant and enjoyable, but in January mercury dropping to less than 10°C (50°F) in recent years. The temperature generally varies from 10.0˚C to 28.3˚C in winter and from 25.5˚C to 41.5˚C in summer. The summers usually start from middle of March and lasts till the middle of June. April and May are the hottest months and December and January are the coldest. However, there are spells in winter when the temperature drops well below 10^{o} Celsius. Though the summer season is from March to June, the temperature sometimes remains very high even during the monsoons months also.

The village receives a moderately high rainfall during the year. The average annual rainfall of the village is 1430 mm. The arrival of the month of June marks the onset of monsoon in this part of the district. The major part of annual rainfall is observed during the months of June to September each year, i.e. the monsoon months. There are in between years when the rainfall is scanty. The peculiar feature of the rainfall cycle in this area is that every third or fourth year there is a drought or mal distribution of rains.

3.1.3 Soil

This village is located in an area where the topography changes from the flat deltaic plains to a mildly rolling landscape and the soil has laterite patches. The soils of the area are generally porous and vary from coarse sands in the upper slopes of waste lands to heavy clay at the bottom of the slope. They are, in general, very poor in organic matter and nitrogen, and in phosphate and lime. The village Sahajapur comes under the Red and Laterite agro-climatic zone. The soil structure reveals an undulating soil with mounds of various grades of laterization. Generally, this type of soil is well drained but is vulnerable to excessive soil erosion due to monsoon runoff. Soil is in general acidic in nature.

3.1.4 Communication: Telecommunications

The village Sahajapur, despite its proximity to the urban town Bolpur, had no telecommunication facilities as mentioned in the first survey of 1955-56. Only a branch post office was in existence to cater the villagers and the job of postmaster was part-time and carried on by one of the school teachers. However, the whole situation of telecommunication has undergone a radical change in 2019-20. There are quite a few mobile towers in the village and a lot of people are using mobile phones and smart phones. The younger generation is used to accessing the internet facilities through their smart phones and laptop computers. However, there is still deficiency of broadband internet network in the village.

3.1.5 Transportation facilities: Road/Rail/Others

We come to know from the first survey of the village that there was no metaled road during the time of the survey. People had to commute to Bolpur either through bicycle rickshaws or bullock carts as no public conveyances were available. In 1955, the study observed, that the road from Bolpur passing by the village was constructed under roads development programme of Government of West Bengal. This road links up Bolpur with Nanoor, another trade centre about twenty kilometers away.

Presently, the road in reference has been widened and converted into a four-lane metaled road where there is abundance of public transport plying within and outside the district. The neighbouring districts such as Barddhaman, Murshidabad are well connected by public bus services. However, the railway station is still in Bolpur which a travel of only a few kilometers from the village.

3.1.6 Natural resources: Forest/Rivers/Pond/Wells/Flora & Fauna

There are several water bodies within the jurisdiction of the village, but most of them get dry during the summer season. So, water from these tanks can’t be used for either irrigation purposes during summer. There are a total of 21 ponds in the village and only few of them are used for pisciculture. The sub-soil water table in this laterite terrain is of moderate depth. One has to bore deep to access sub-soil water. Hence, there are not many dug wells in the village. But two submersible tube wells had been bored for potable water. As the area

is arid there is no forest cover in close vicinity. There are patches of barren lands with little grass toppings. Such land is not even suited for pastures.

3.1.7 Demographic profile of the village

3.1.7.1 People

It is evident from Table 3.2 that there has been almost three fold increases in the number of households as well as in the total population in Sahajapur over last six decades. If we calculate in terms of compound annual growth rate, the growth rate in total population is 1.61 per cent per annum.

Table 3.2: Demographic profile of Sahajapur

Particulars	In 1955-56 (during last survey)		In 2019-20 (during current survey)		% change	
	Male	Female	Male	Female	Male	Female
Number of households	128		355		177.34	
Total Population	256	283	775	721	202.73	154.77
Adult	153	166	588	555	284.31	234.34
Child (6-15)	59	58	124	114	110.17	96.55
Child (0-5)	44	59	63	52	43.18	-11.86
Scheduled Caste	117	122	322	290	175.21	137.70
Scheduled Tribe	36	39	125	114	247.22	192.31
Literate population	100 (58*+42**)	39 (19*+20**)	649	530	549.00	1258.97
Illiterate population	112	185	63	139	-43.75	-24.86
Literacy Rate (%)	47.17	17.41	91.15	79.22	NA	NA
Sex Ratio	1105		930		NA	NA

Source: Survey 1955-56 & 2019-20.

*Literates above the age of 15, **Boys & girls in the age group of 0-15 attending school.

Proportion of adult male population has increased more sharply as compared to female population. This gets reflected in the sex ratios of male and female population where the ratio seems to be reversed during present survey in comparison with the earlier one. However, we have an interesting observation in case of child population over the two periods. In the age group of 6-15 there has been increase in the number of both male and

female children though the percentage changes are lower as compared to adults. More interestingly male children in the age group 0-5 exhibits even slower growth rate and in case of female children the number has actually declined from the earlier period. The reduction is strikingly noticeable in the age group of 0-5. It might have been due to the family planning norms and practices, particularly contraception and adopting spacing methods, that has had a strong foundation in the peoples' perception.

Literacy in general, irrespective of gender, reveals a tremendous positive stimulus over time as revealed by the literacy rates. We shall discuss the education scenario in greater details shortly. For the time being, however, the growth in female literacy is spectacular from a mere 17.41 per cent to as high as 79.22 per cent though the gender bias in respect of literacy still exist in the village under the present survey.

3.1.7.2 Religion and caste

In Sahajapur, there has always been a dominance of people from Hindu community. In 1956, the proportion of Hindu families was 97.8 per cent and only a few Muslim families resided in the village (Table 3.3). However, during 2019-20 we do not come across any Muslim families residing in Sahajapur. The general and the scheduled castes comprise the bulk of the population in both the time periods. The scheduled tribes though included within the Hindu community, do claim to be believer of separate religion, of which we shall discuss later.

We find a decline of the proportion of general caste and scheduled caste population over time. On the contrary, the proportion of the OBC has increased sharply. However, the changes in relative share of general caste and OBC population are mainly due to the fact that since 1990s many general category sub-castes have been given the status of OBC. During the survey of 1955-56 there had been no separate classification as OBC and a sect of mystic believers were considered as 'other minority' which currently has been classified under 'other backward castes (OBC)'. Moreover, a number of sub-castes have been listed by the government as part of OBC community. Regarding increase in scheduled tribe population, during last six decades, many tribal families of Mahali tribes settled in this village who migrated from nearby areas of Jharkhand as well as Odisha. The word 'Mahali' is

derived from the Santhali word, *'Maad' (bamboo)*. The Mahalis are artisans and craftsmen who have been excelling in bamboo craft.

Table 3.3: Population characteristics by Caste and Religion

Religion	Social Groups	In 1955-56		In 2019-20	
		Population (%)	Average size of households	Population (%)	Average size of households
Hindu	Caste Hindu	207 (38.40)	4.5	475 (31.75)	4.3
	OBC	6* (1.10)	2.0	170 (11.36)	4.0
	Scheduled Caste	239 (44.30)	4.1	612 (40.91)	4.3
	Scheduled Tribe	75 (13.90)	4.4	239 (15.98)	3.9
Muslim	Minorities (Muslim)	12 (2.20)	4.0	-	-
Total		539 (100.00)	4.2	1496 (100.00)	4.2

Source: Survey 1955-56 & 2019-20.

*OBC population was not counted separately; however, three families of other minority were Baul (a sect of Mystic) who are presently considered to be one of the OBC communities.

3.1.7.3 Village settlement pattern

The village settlement pattern in Sahajapur reveals that different communities have their own clusters of settlements as it has been a common practice in the village society. There are several reinforced concrete cement (RCC) roads crisscrossing through the village and the houses are mostly built by the side of these roads. The different cluster is called *para* in Bengali meaning small village settlement. It is also interesting to find the sub-castes have their own *para* named after their sub-caste names. The survey of 1955-56 observed that 'the houses are most commonly made of walls of mud and roof of straw thatch'[4]. Things have since changed for betterment of the housing condition in Sahajapur. It is evident that in 2019-20, 54.65 per cent of houses are pucca and 28.73 per cent houses are semi pucca (Table 3.4). There are only 16.92 per cent houses that are kuccha houses. It is to be noted that the use of housing materials have changed over the years irrespective of caste and clan, which again is one of aspects of improvement in the living conditions.

[4] Sahajapur: West Bengal, Socio-Economic Study of a village, AERC for East India, 1958

Table 3.4: Type of residential buildings and cost therein (2019-20)

Caste	Type of residence*							
	Kuccha		Semi Pucca		Pucca		Total	
	No.	Average Cost (Rs.)	No.	Average Cost (Rs.)	No.	Average Cost (Rs.)	No.	Average Cost (Rs.)
Hindu Gen. Caste	16 (14.55)	108438	38 (34.55)	292105	56 (50.91)	523273	110 (100.00)	381789
OBC	7 (16.67)	82857	14 (33.33)	312143	21 (50.00)	546667	42 (100.00)	391191
SC	28 (19.86)	274643	19 (13.48)	360000	94.00 (66.67)	470745	141 (100.00)	416879
ST	8 (12.90)	287500	31 (50.00)	364516	23.00 (37.10)	426957	62 (100.00)	377742
Overall	59 (16.92)	208559	102 (28.73)	329510	194 (54.65)	488757	355 (100.00)	396172

Source: Survey 2019-20.

*Kuccha-Mud wall & straw thatched roof, Semi Pucca- Brick wall & iron sheet roof, Pucca- Brick wall & concrete roof

3.1.7.4 Literacy

The total literacy percentage observed in earlier survey was 31.9 per cent while literacy among male and female was 47.2 percent and 17.4 per cent respectively. It is observed in 2019-20 that the literacy has improved significantly for both male and female population. Literacy rates in 2019-20 are 91.2 per cent for males and 79.2 per cent for females with an overall literacy of 85.4 per cent. Thanks are due to the total literacy drive pursued by the government. However, it is also interesting to note that a significant percentage of Mahali population is illiterate. The females of the Mahali community used to get married at an early stage, so, after finishing the primary level of education, they are involved in a marital relation either through marriage by negotiation or choosing a mate of their own. There is not a single unmarried female beyond age group of 21-25 years which shows that most of the females are getting married before 20years of age. Overall, the Mahalis are not in a position to get higher education due to various socio-economic as well as other factors which restrict them in this respect.

3.1.7.5 Poverty

In the absence of any official poverty estimates at the village during the pandemic situation we take the PDS card entitlement as a proxy of such an estimate. It is observed that over two third of total families of Sahajapur are entitled to such a PDS card.

3.2. Livelihood/Employment and Migration Status

3.2.1 Livelihood pattern/types

In the current survey in Sahajapur, we find that agriculture has ceased to be the principal source of earning for most of the households. Primary occupation of a household here is defined as the main source of earning of a household. We observe that for only 6.5 per cent households in Sahajapur, agriculture remains as the principal source of earning (Table 3.5). Though there are 130 farms (36.6% of total households) of different sizes in the village, people in general have sought to other occupations for earning more. Moreover, it is important to note that the in face of marginalization and fragmentation of cultivable land it is quite likely that people have to depend on other occupations other than agriculture itself. Here, we observe that over half of the total households is earning major share of their family income from agricultural labour sources. A little over 10 per cent have been engaged in trade and business and 7.6 per cent mostly depends on non-agricultural wage earnings.

Table 3.5: Distribution of households by primary occupation (2019-20)

Primary Occupation	No. of households	Percent
Cultivator	23	6.5
Agricultural Labour	181	51.0
Animal Husbandry	3	0.8
Govt. employee salaried	28	7.9
Pvt. Employee salaried	16	4.5
Pensioner	3	0.8
Caste based profession	13	3.7
Trade & business	40	11.3
Entrepreneur	1	0.3
Casual labour	27	7.6
Marginal worker	6	1.7
Household work	2	0.6
Others	12	3.4
Total	**355**	**100.0**

Source: Survey 2019-20.

3.2.2 Primary/Secondary/Tertiary livelihoods

We have earlier observed that, so far as primary occupation of households are concerned, over 58 per cent of the families thrive on wage earning either as agricultural labour or as casual labour in non-agricultural sector (Table 3.6). However, among the households having cultivation as their primary source of earning 39.1 per cent pursue wage earning as their secondary source of livelihood. In the face of increasing marginalization of agricultural land, of which we shall be discussing later, dire necessity of earning livelihood for the family compel them to work in both agricultural and non-agricultural sector as labour.

Tertiary occupations of households also centre on cultivation and casual labour along with a section of households depending on few other odd jobs for survival (Table 3.7). It is important to mention here that local asset building and employment generation through MGNREGS scheme have contributed in a substantial way in improving the economic condition of the village society. In addition to that the village Sahajapur is presently well connected with the nearest town of Bolpur and people are able to commute with ease and look for a livelihood on day to day basis particularly in civil construction sector.

3.2.3 Pattern of migration

In course of the survey during 2019-20 we did not observe any migration from the village for livelihood necessity. In fact, due to proximity of the town Bolpur, which is well connected by road and rail with near-by cities and towns, migration is not a common feature among the villagers. However, from the discussion with the people in Sahajapur it appeared that the pandemic of COVID 19 has had an impact on the migratory habit of workers of the village. We came to know that in normal years a few workers (8 to 10 in numbers mostly from poor scheduled caste communities) were used to travel to Chennai as construction labour. But the outbreak of the pandemic has disrupted the out migration from the village in search of job. Moreover, proximity of the town of Bolpur and good roadway connectivity may have attributed to lower out migration from the village. In Bolpur and its surrounding areas including Santiniketan offer ample non-agricultural work particularly in the civil construction sector which is nonetheless remunerative.

Table 3.6: Primary and Secondary occupation wise distribution of households (2019-20) (%)

Primary Occupation	Secondary Occupation												
	Cultivation	**Agril. Lab.**	**Animal Husbandry**	**Govt Salary**	**Pvt Salary**	**Pension**	**Caste based**	**Trade & Business**	**Casual labour**	**Marginal Work**	**House-hold Work**	**Oth**	**Total**
Cultivator	0.0	13.0	8.7	0.0	0.0	8.7	4.3	8.7	26.1	0.0	0.0	17.4	**100.0**
Agricultural Labour	7.7	0.0	0.0	0.0	0.6	0.6	0.6	0.0	80.1	1.1	1.1	3.3	**100.0**
Animal Husbandry	33.3	66.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**100.0**
Govt. employee salaried	42.9	14.3	0.0	0.0	3.6	0.0	7.1	3.6	10.7	0.0	0.0	7.1	**100.0**
Pvt. Employee salaried	31.3	6.3	0.0	0.0	0.0	0.0	12.5	0.0	12.5	0.0	0.0	12.5	**100.0**
Pensioner	66.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**100.0**
Caste based profession	23.1	15.4	0.0	0.0	0.0	0.0	0.0	0.0	30.8	0.0	0.0	0.0	**100.0**
Trade & business	60.0	7.5	0.0	5.0	0.0	0.0	2.5	0.0	10.0	0.0	0.0	10.0	**100.0**
Entrepreneur	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**100.0**
Casual labour	11.1	48.1	0.0	0.0	0.0	0.0	11.1	0.0	0.0	0.0	0.0	14.8	**100.0**
Marginal worker	16.7	16.7	0.0	0.0	0.0	0.0	0.0	0.0	66.7	0.0	0.0	0.0	**100.0**
House-hold work	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**100.0**
Other	8.3	50.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3	0.0	0.0	0.0	**100.0**
Overall	**19.2**	**9.9**	**0.6**	**0.6**	**0.6**	**0.8**	**2.8**	**0.8**	**48.5**	**0.6**	**0.6**	**6.2**	**100.0**

Source: Survey 2019-20.

Table 3.7: Primary and Tertiary occupation wise distribution of households (2019-20) (%)

Primary Occupation	Tertiary Occupation										
	Cultivator	**Ag. Lab**	**Animal Husbandry**	**Pvt. Sal**	**Pension**	**Caste based**	**Trade& Business**	**Casual Lab**	**Household Work**	**Other**	**Total**
Cultivation	0.0	0.0	4.3	0.0	0.0	0.0	4.3	26.1	0.0	13.0	**100.0**
Agrl. Lab	8.8	0.0	0.0	0.0	0.0	0.6	0.0	9.9	1.1	6.6	**100.0**
Animal Husbandry	33.3	0.0	0.0	0.0	0.0	0.0	0.0	66.7	0.0	0.0	**100.0**
Govt Sal	14.3	7.1	3.6	3.6	7.1	0.0	3.6	17.9	0.0	3.6	**100.0**
Pvt Sal	18.8	0.0	0.0	0.0	0.0	0.0	0.0	18.8	0.0	6.3	**100.0**
Pension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**100.0**
Profession	15.4	0.0	7.7	0.0	0.0	0.0	7.7	7.7	0.0	0.0	**100.0**
Trade	10.0	5.0	7.5	0.0	0.0	0.0	0.0	22.5	0.0	5.0	**100.0**
Entrepreneur	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	**100.0**
Casual Lab	11.1	3.7	0.0	0.0	3.7	7.4	0.0	0.0	0.0	3.7	**100.0**
Marg Work	16.7	33.3	0.0	0.0	0.0	0.0	0.0	16.7	0.0	0.0	**100.0**
Hhld Work	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	**100.0**
Other	8.3	8.3	0.0	0.0	0.0	0.0	0.0	58.3	0.0	0.0	**100.0**
Overall	**9.9**	**2.3**	**1.7**	**0.3**	**1.1**	**0.8**	**0.8**	**14.9**	**0.6**	**5.6**	100.0

Source: Survey 2019-20.

3.3 Agriculture Status of the Village

Agriculture of the region is mostly rain dependent. Ground water is not easily and economically harvestable. Since late 1950's *Mayurakshi* irrigation canal has been in operation in the area which is the only source of supplementary irrigation during the Kharif season. Prevalence of moisture stress on standing Kharif crops during the late monsoon period is very common which gets supplemented with canal water irrigation. There is almost no avenue of crop cultivation during Rabi and Summer season, as the canal goes dry in those seasons. Lately, only one submersible tube well has been installed in private entrepreneurship.

3.3.1 Land utilization pattern

The land utilization pattern in Sahajapur is given in Table 3.8. A perusal of the table reveals that the main use of the land in the village is for cultivation. The share of agricultural land in the total geographic area was as high as 92.47 per cent in 1955-56 but reduced to a little more than 80 per cent during 2019-20. There is neither any forest land nor there any pasture or grazing land available within the geographical area (mouza) of the village. The amount of barren land or cultivable waste land are also nil. It is also clear from Table 3.8 that the net sown area has declined (almost 15%) in Sahajapur during last six decades. The main increase is in residential area including area covered by water bodies, and misc. trees and crops.

Though the village received canal irrigation, the water availability has been limited to the rainy season. In other seasons, however, the canal gets dry and there are only two submersible tube wells and 21 small water bodies (ponds) that supplies a little quantum of sub-soil water for irrigation during summer and rabi. The cropping intensity is found 130.24. The major crop is Paddy been cultivated during Kharif season i.e. monsoon. The earlier study found a little of Wheat, Potato, Sugarcane and Black Gram that were present in the crop map of the village though the main crop had been Paddy. During the course of the present survey we find that paddy is still the major crop with little area under potato, oil seeds, and vegetables. The gross cropped area is 391.97 acres. It is interesting to note that the percentage of agricultural area to total geographical area has declined over the years. This may indicate that with increasing urban influence, as Sahajapur is being faced with, more and more land is put to non-agricultural uses.

Table 3.8: Land use pattern in the village Sahajapur

(Unit: Acres)

Particulars	In 1955-56 (during last survey)	In 2019-20 (during current survey)
Geographical Area	385.10	385.10
Agricultural/ Cultivable Land		
Net Sown Area	345.04	300.96
Current Fallow	11.08	10.00
Cultivable Waste	-	-
Non agricultural/Uncultivated area		
Residential, water bodies and others*	28.98	74.14
Barren Land	-	-
Forest Area	-	-
Pasture and Grazing Land	-	-
Misc. Trees & Crops*	-	-
Gross Cropped Area	390.07	391.97
Net Irrigated Area	288.53	285.92
Gross Irrigated Area	324.56	376.93
% area under irrigation	83.6	95.28
Cropping Intensity	110.44	130.24
Irrigation Intensity	112.49	131.83
% agricultural land in geographical area	92.47	80.75
% non-agricultural land in geographical area	7.53	19.25
Main sources of irrigation	Canal	Canal& Submersible

Source: Village Survey 1955-56 & 2019-20. * Misc. tree & crop lands are included within others

3.3.2 Irrigation

As we have said earlier that *Mayurakshi* canal is the main source of irrigation in Sahajapur which generally provides supplementary irrigation in Kharif season. During Rabi and Summer seasons very small part of agricultural land gets irrigation from tube wells and ponds. In course of the present survey, we found only two submersible tube well and 21 ponds are there in the village that is catering only a few acres of land during Summer and Rabi seasons. Out of these 21 ponds, only 5 are of moderate size (*pukur*) and rest are of small size (*doba*).

3.3.3 Cropping pattern

The rice-based cropping pattern is dominant in the village. In Sahajapur, paddy in the only crop being cultivated by the farmers both during Kharif as well as in Summer. The boro paddy cultivation during Summer is coming up during last three decades only. We also observed few farmers are cultivating potato, oil seeds (rapeseeds & mustard) and vegetables (mostly potato, tomato, brinjal, ladies' finger, and few cucurbits) in small plots of land.

3.3.4 Livestock resources (Cattles/Birds/Others)

It is clear from Table 3.9 that over the years rearing of cattle, particularly bullock for cultivation and milch cattle have declined. The farmers prefer to hire tractors or power tillers for tilling the land rather than maintain a pair of draft animals. As the area is by and large mono-cropped and the farmers find it cheaper to hire tractor power rather than owning a pair of bullocks, there are only two pairs of bullock are there in the entire village. Moreover, in view of increasing use of the rickshaw vans and other automobile mode of carriages, bullock carts are hardly in use. Similarly, there are a few households who own milch cattle but almost all of those are indigenous breeds. On the contrary, rearing of goats, poultry birds both indigenous and of improved broilers and ducks has emerged as a growing business among a section of villagers mainly from the scheduled caste and scheduled tribe communities. Rearing of pigs is also very common among the tribal families.

Table 3.9: Composition of livestock in the village Sahajapur

(Number)

	Crossbreed	Improved	Indigenous /Desi	Predominant breeds	Type of changes in composition during 2014-2019
Bullock	-	-	4	Indigenous	Declined
Milch Cattle	7	-	85	Indigenous	Declined
Young Stock	4	-	20	Indigenous	Declined
Goat	-	150	961	Black Bengal	Increased
Sheep	-	-	10	Indigenous	Increased
Poultry Birds	-	2000	1728	Broiler& Desi	Increased
Duck	-	-	500	Indigenous	Increased
Pig	-	-	150	Indigenous	Increased

Source: Survey 2019-20.

3.3.5 Land tenure system and land reform measures

Land tenure system in Sahajapur, as is found during the current survey, is dominated by owner cultivators tilling their own land either with wage labour or family labour. The higher caste Hindu families generally employ wage labourers while the Scheduled Castes and Tribes depend on their own family labour. However, there are a 2-3 share croppers operating under a crop sharing contract.

3.4 Developmental Institutions & Infrastructure

3.4.1 Panchayat

The village Sahajapur comes under the jurisdiction of Sian-Muluk Gram Panchayat. The office of the Panchayat is situated within the village itself by the side of the metalled road. The Panchayat is headed by Pradhan with assistance from seventeen elected members from different villages. There are twenty one villages under the Panchayat. The administrative section is headed by the Secretary of the Panchayat.

3.4.2 Co-operative society:

There is no co-operative society in the village.

3.4.3 Schools

There is a government run primary school within the village catering the vernacular primary schooling of the children. Presently, the school has remained closed in view of the pandemic. Hence, we were unable to visit the school and had to depend on the official registers for securing information. The secondary and the higher secondary school are situated at a close proximity of Sahajapur. This is in fact a single school having both secondary and higher secondary sections. This is also a government aided school. Children from nearby villages also attend the school, which we found closed during the time of the survey.

3.4.4 Financial institutions

There is no financial institution within the village but adjacent to the village there is a branch of *Paschim Banga Gramin Bank,* the regional rural bank for this part of the state. Though strictly speaking, it is situated just outside the Sahajapur *mouza*, nonetheless, it caters to the need of people of Sahajapur.

3.4.5 Social organizations (Clubs/Society/SHG/etc.)

There are three clubs in the village that arrange for entertainment of its members. These clubs generally have arrangements of indoor games like carom, chess etc. They also organize seasonal tournaments of football, cricket and *kabaddi*. During the autumn season *Durga* puja is held in these clubs. One of these clubs (Oikyatan) also organizes annual *Kirtan* (a religious musical performance) festival. Another club Sahajapur Sibtala Society established in 2015 is a registered society (vide Registration No. S/2L/3081) with 120 members is actively involved in social work. The village youths always takes the lead role in arranging various programmes and festivals.

There are several self-help groups functioning in the village. These are mainly organized by the women members of families. In course of our survey we found a large number of female members been associated with such self-help groups. These groups are mostly dealing with financial transactions among the members and providing loan against an interest of 10 per cent per annum. Our group discussions with the members, of which we shall be dealing in detail later, revealed that functioning had so far been quite smooth barring a few stray occasions.

3.5. Village Infrastructure

3.5.1 Market/Hat

There is no regular or weekly hat in the village. However, a number of regular shops operate around the main bus stop of Sahajapur. There are vegetable shops, grocery shops, sweet shops, etc., even shops for readymade garments also. The place has, in course of time, has taken the shape of a permanent market buzzing with sellers, purchasers, loiterers throughout the day. In addition to these, there are a few small grocery shops within the village itself.

3.5.2 Post office

It is unfortunate that Sahajapur still suffers from lack of a permanent post office in the village. The post office located in the nearby town Bolpur caters the postal need the villagers.

3.5.3 Health facilities

Residents of Sahajapur are dependent almost entirely on the Sub-divisional Government Hospital with a super-speciality unit in Sian, a village at a distance of only four kilometres.

However, there are also private medical doctors practicing in close vicinity, but people prefer to avail the hospital facilities.

3.5.4 Electricity

It is observed during our current survey that almost all the households barring only one had secured electricity connection for domestic consumption. This is a development during last thirty years, as in 1990 the village was connected to the power supply grid.

3.5.5 Drinking water supply

Sahajapur, as a village has the facility of safe drinking water either from tube wells or potable water supplied through pipeline by the Panchayat. However, being situated in an arid laterite region, it suffers from shortage of safe drinking water during the summer season when the water table goes down. It should be noted here that till 1970s, there was no drinking water facilities were available within the village. Villagers had to fetch drinking water from a dug well from the adjacent village Baidyanathpur.

3.5.6 PDS

The public distribution system, in Sahajapur, seems to be well organized. There is a PDS shops operating within the jurisdiction of the village. As we have seen earlier in Table 3.7, there is complete coverage of households under the PDS system with varied level of entitlements (i.e. different types of PDS cards). Though there are grudges regarding the entitlement levels among a few villagers, but overall coverage seems to be quite reasonable.

3.6 Cultural Profile of the Village

3.6.1 Fairs and festivals

Major festival of Sahajapur is the autumn festival when *Durga Puja* and *Kali Puja* (two Hindu goddess) are celebrated with much grandeur. Another festival on late winter is *Saraswati Puja* (the goddess of learning). These are mainly the celebration of the upper caste Hindus. The Scheduled Caste and Tribes, however, have their own festival like *Dharam Puja* of the Scheduled Caste people or *Bandhna*, *Sohrai* etc. of the tribes. The Mahali tribals do also celebrate *Sarul* (Holi), *Karampuja* (Bhaiaduj), and other festivals. Although the Mahalis celebrates their specific tribal rituals and festivals that include offering prayers to Borpahari and Manasa Devi, they are not typical Hindus. Through generations, the Mahalis have

relocated to different parts of the country over generations and have been flexible to changes, blending with the local culture, rituals and language. In older times the months of August and September used to be a lean period of agricultural activities. In the Bengali month of *Bhadra* (August-September) there used to be celebration of *Bhadu*, the reminiscence of which are still found even these days. In earlier times, there used to be fair during winter in nearby village of Sian where the hermitage of sage *Riswashringa* is situated[5].The magnificence of the ancient fair has lost its old glory nonetheless it is still celebrated. There used to be chariot festival in old times which is now lost. A week long *Kirtan Sammelan* is being held every year in the village. Muslim festivals like Eid or Muharram is celebrated in the nearby villages.

3.6.2 Temples/Mosques/Churches etc

There is *Nabadurga* temple in the village. She is supposed to be the goddess of the village. There are a few *Shani* shrines situated at different places within the village. There is also a temple in the *Riswashringa Asrama*. The mosque is, however, situated in the adjacent mouza Baidyanathpur. It is known as the mosque of *Mukhdum Sahib*[6].

3.6.3 Dress and ornaments

The outfit of the male and female members have undergone a lot of change over time. In earlier times the adult females used to wear sari and blouse and children were dressed up in frocks. The male members, however, used to wear *dhotis* and *kurtas* and the children shorts and vests. In winter times common woollen layer was shawl. Ornaments of gold were used by women from the families who were well-off. Women from the poorer families decorated themselves with silver and brass ornaments. Concept of modernity and contemporary garment design has brought about a lot of change in the human psyche of the people even in the villages. Hence, trousers, jeans and T-shirts are now common outfit of the male members particularly the younger generations. However, there are old people who are still comfortable in their *dhoti* and *kurta*. Young girls are often found in *salwar suit* and imitation ornaments.

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[5]*Sianer Itikatha* – Nandini Saha, Unpublished project on History, Siksha-Satra, Visva-Bharati, 2012.

[6] Ibid

3.6.4 Languages

The main language spoken by the people is a particular dialect of Bengali that is quite common in the district of Birbhum. There is a section of *Santals* who use their mother tongue *Alchiki* as the language of communication. A particular sub-section among the tribes is *Mahalis* who have their own language *Mahali*. Although their mother tongue is Mahali, which is very similar to Santhali, they are apt at adapting the local language and speak fluently in Sadri, Mundari and Bengali. However, the medium of teaching in the schools both primary and secondary is standardized Bengali, not a dialect. The *Alchiki* language does not have any script of its own and Bengali script is used in written language.

3.6.5 Food habits

People of Sahajapur, in general, prefer a Bengali cuisine. The main food consists of rice, pulses, vegetables and protein in the form of fish. Consumption of chicken has also been observed in recent years. Puffed rice along with some deep fried vegetables like brinjal, potato pulp etc. and cucumber with a cup of tea are common in breakfast and evening snacks. People, particularly the older ones, are not in a habit of eating outside in restaurant or eatery. Rather this is a practice, which has developed lately, among the younger generation. However, evening chitchat with a cup of tea in the tea stalls of the market area is quite common among the male members of the village society.

3.6.6 Caste systems & rituals/untouchability

Sahajapur, as a village, has mainly inhabitants of Hindu general caste people with a section of OBC, SC and ST population. However, among the Hindus there are several sub-castes. In earlier times the caste system had been followed strictly. However, during the present study the austerity of the caste system or untouchability seemed to have declined. There are even inter-caste arranged marriages among the Hindu sub-castes. Nonetheless, the general castes, OBC, SC and ST prefer to remain as separate entity within the village community.

3.6.7 Dowry system

Dowry system seems to be still prevalent in the rural society of Sahajapur even when it is unlawful. It is a practice in the society that does not get complained against. A general custom, in the district, is to pay for the reception party of groom's family by the bride's family. However, the unreasonable and enormous demands by the groom's family regarding cash and other articles including ornaments have been mellowed down with the passage of

time. The custom among the tribes had been a reverse dowry, where the groom had to pay for his bride. This tradition is in the process of a transition towards the advantage of the groom. It might have been due to the cultural intercourse of the tribal society with the rest of the large Hindu cultural conventions.

3.6.8 Political establishments & openness

Generally the political parties have their strong base and large followers in the rural society of West Bengal. In 1977 the CPI(M) led left front had a clear majority in the Legislative Assembly of West Bengal and established the three tier Panchayat system in the rural economy with support from mostly the poorer sections of the village society. However, by 2011, the power balance tilted towards the Trinamool Congress Party.

During our survey in Sahajapur, we observe presence of mainly three major political parties namely, Trinamool Congress, CPI (M) and Bharatiya Janata Party. However, there seems to be no bad blood among the followers of different political affiliations.

3.7 Others

3.7.1 Library

There used to be one very good public library with more than 7000 books, *Sian Dwijapada Smriti Library*, in the village of Sahajapur aided by the government. But unfortunately it has remained closed for last half a decade in view of superannuation of the librarian. With no new recruitment thereafter, the library has become non-functional.

3.7.2 ICDS centre

Two ICDS centres are housed in the village to take care of ante-natal and neo-natal service delivery. Moreover, these centres are empowered to look after nutritional status of children up to five years of age and render pre-school education. However, in view of the COVID 19 pandemic and subsequent lockdown, both the centres were closed during the time of the survey.

3.7.3 Tube wells/Piped water supply

We have discussed earlier that all the households avail the benefit of either tube wells or piped water supply of potable water. In a sense people of Sahajapur have the advantage of safe drinking water sources.

3.7.4 Agro-processing (Mills/forms/factories)

There is no agro-processing unit in Sahajapur. The farmers generally take their output (paddy) to the rice mills in Bolpur. As the mills are at close distances from the village the farmers do not face a lot of trouble to carry the paddy to the mills. Husking mill for mustard and flour is also situated at Bolpur. As we have said earlier that the entire cropping pattern of the village is dominated by rice, there is no opportunity, what so ever, for a flour or mustard husking mill. Previously, there used to be avenue of making puffed rice at the household level. Generally, a few women in the village did the work for the farming families in exchange of cash or kind wages. In a span of last 10-15 years, a number of mechanized puffed rice making units have developed in the town of Bolpur. However, there is one ice crème processing factory in the village of Sahajapur which produces non-branded local made ice crèmes for the village people and neighbouring locality. In earlier times there used quite a few to be a few handlooms, installed by the land weaver families in their residence. Unfortunately there is no such handlooms are there in the village at the present juncture.

3.7.5 Play grounds

There are at least three playgrounds in the village where football, cricket etc. are played by the young residents of Sahajapur. The little children do also have their playground too. Football, Cricket and Kabaddi tournaments are arranged annually by the clubs.

3.7.6 Illegal activities

In course of our survey we had discussions with the senior members of the village society as well as the Panchayat members as regards to the law and order situation of the village and incidence of illegal activities in the vicinity. It appears from all these discourse that Sahajapur as a village is a very peaceful village and apart from secret selling and distilling of local alcoholic drinks there is no major illegal activities been traced here.

3.7.7 Government schemes

There are a number of government schemes under implementation for improving the livelihood of the families in Sahajapur of which we shall discuss at length later. The most important of all is the MGNREGS for employment generation. Out of 355 households 335 (93.5%) have received a job card in this respect. Of 222 entitled households for BPL-PDS cards 220 (over 99%) have been in receipt of such card. Another important government scheme has been making provision of LPG sets for cooking under PMUJJALA scheme. A total of 268 households have received LPG cooking sets under the scheme. As for the government

housing scheme under IAY/PMAY/BAY, 136 households have been benefitted. There are a number of other schemes of government assistance for cropping and other areas like ICDS/mid-day meals or widow pension of which the respondents seemed to have been aided. The schemes of SABUJ SATHI, SWASTHA SATHI, RUPASREE and KANYASREE by the state government have also been very popular among the villagers.

3.8 Uniqueness of the Village

As the 1958 study of Sahajapur suggests, 'the village … forms one of the major units of the conglomeration known as Sian. It is, therefore closely interlinked in its life and activities with the other neighbouring villages like Dihipara, Baidyanathpur, Purba Islampur and Dwarkanathpur. It will, however, be wrong to conclude from this that all these units together form one single rural entity. Sociologically as well as economically speaking, Sahajapur is a distinct and separate village, even though physical proximity has resulted in wide contacts and exchanges with the neighbouring villages in the Sian cluster.'[7]The village, however, shows all the characteristics of the representative rural community in terms of social, economic and ethnographic diversity of the district of Birbhum. Sahajapur is, therefore, a distinct village, but not an isolated village.

[7]Sahajapur: West Bengal, Socio-Economic Study of a village, AERC for East India, 1958

Chapter-IV

Social Dynamics

4.1 Population and Households

We have discussed earlier that the village Sahajapur comprises of 355 households with a population to the tune of 1496 (Table 4.1). It is apparent from the table that Hindu general and scheduled caste population is the major constituents of ethnic composition in the village followed by the scheduled tribes and other backward castes. It is evident from the data presented here that the number and proportion of male population is higher than their female counterpart. In a span of sixty-two years, i.e., between 1958 and 2020, the number of households residing in the village as well as the total population has increased nearly 3 folds. The total number of households surveyed was 128 during 1958. During 1972 the average number of household was 132 and in 1982 it was 227 (Mondal et al, 1974; AERC, 1990). Average size of household in 1958 was 4.21 which have remained unaltered during the current survey. However, it is interesting to note that the sex ratio has tilted against the female. In 1958, there was higher proportion of females in comparison with male members (52.5% of females & 47.5% of males).

Table 4.1: Population distribution of households by caste

Caste	Households		Population				
	No	%	Male	%	Female	%	Total (%)
GCH	110	30.99	244	51.37	231	48.63	475 (100)
OBC	42	11.83	84	49.41	86	50.59	170 (100)
SC	141	39.72	322	52.61	290	47.39	612 (100)
ST	62	17.46	125	52.30	114	47.70	239 (100)
Total	**355**	**100**	**775**	**51.80**	**721**	**48.20**	**1496 (100)**

Source: Village Survey 2019-20

It is also interesting to observe that the joint or large family system has declined sharply giving rise to small or nuclear families. In 1955-56 it was found that 3.9 per cent of families had nine or more members whereas, no such family was observed during the current survey (Table 4.2). In fact if we go through data we find that families with seven or more members have decreased over the years. On the contrary there has been an influx of families having three to five members. Hence, we are faced with a situation where the joint family system is on the verge of being extinguished from our rural society and the nuclear family arrangement is emerging (Table 4.3). A nuclear family, for our purpose, is a family group consisting of parents and their children (one or more) in contrast to the larger extended family or a family with more than two couples. It appears that among the Hindu general caste families, who are mostly landed section of rural peasantry, incidence of joint family structure is diminishing. The trend is quite visible among the Scheduled caste families also. The tribes, however, had been practicing such family norms for a long time and such an arrangement is embedded in their cultural practice.

Table 4.2: Distribution of households by family size

Family size	In 1955-56 (during last survey)				In 2019-20 (during current survey)			
	No. of households	% of total	No. of persons	% of total	No. of households	% of total	No. of persons	% of total
1	17	13.3	17	3.2	13	3.66	13	0.87
2	14	10.9	28	5.2	13	3.66	26	1.74
3	19	14.8	57	10.6	55	15.49	165	11.03
4	21	16.4	84	15.6	134	37.75	536	35.83
5	23	18	115	21.3	93	26.20	465	31.08
6	14	10.9	84	15.6	39	10.99	234	15.64
7	13	10.2	91	16.9	7	1.97	49	3.28
8	2	1.6	16	3	1	0.28	8	0.53
9	3	2.3	27	5	-	-	-	-
10 & above	2	1.6	20	3.7	-	-	-	-
Total	**128**	**100**	**539**	**100**	**355**	**100**	**1496**	**100**

Source: Village survey 1955-56 & 2019-20.

Table 4.3: Distribution of households in Sahajapur by family type (2019-20)

Caste	Family Type				Total
	Joint		Nuclear		
	No.	%	No.	%	No.
Gen. Caste Hindu	36	32.73	74	67.27	110
OBC	15	35.71	27	64.29	42
Scheduled Caste	33	23.40	108	76.60	141
Scheduled Tribe	8	12.90	54	87.10	62
Total	**92**	**25.92**	**263**	**74.08**	**355**

Source: Village survey 2019-20.

4.2 Sex Composition and Age Distribution

The age and gender distribution of population of Sahajapur reveals that while the population below the age of 15 years was as high as 40.8 percent during 1955-56 survey, it is only 20.59 percent of total population during the present survey (Table 4.4 & Fig 4.1). It is also interesting to observe that the people living above the age of 55 years have increased sharply in the period under reference (from 6.9% in 1955-56 to 12.83% in 2019-20). This might have been due to an increase in the life expectancy rate and the changes that have taken place in the interim years toward better livelihood practices and medical opportunities. At the same time proportion of population in the working age group (i.e. 16-55) too has increased from 52.3 per cent (1955-56) to 63.57 percent (2019-20).

If one looks into the age distribution of population vis-à-vis their marital status, one cannot but has to appreciate the social changes that have taken place in the rural society in a span of six decades. In the age group below 15 years, where earlier the proportion of married children was 5.00 per cent (12 out of 240 married people), we currently do not find a single married child in the village (Table 4.5). Moreover, in the age group of 16-20 we find only 11 married individuals out of 839 married persons (i.e.1.31%). This could be attributed to the continuous campaign against child marriage that has had an impact on the social perception as regards to marriage in particular and the wellbeing in general in the village society.

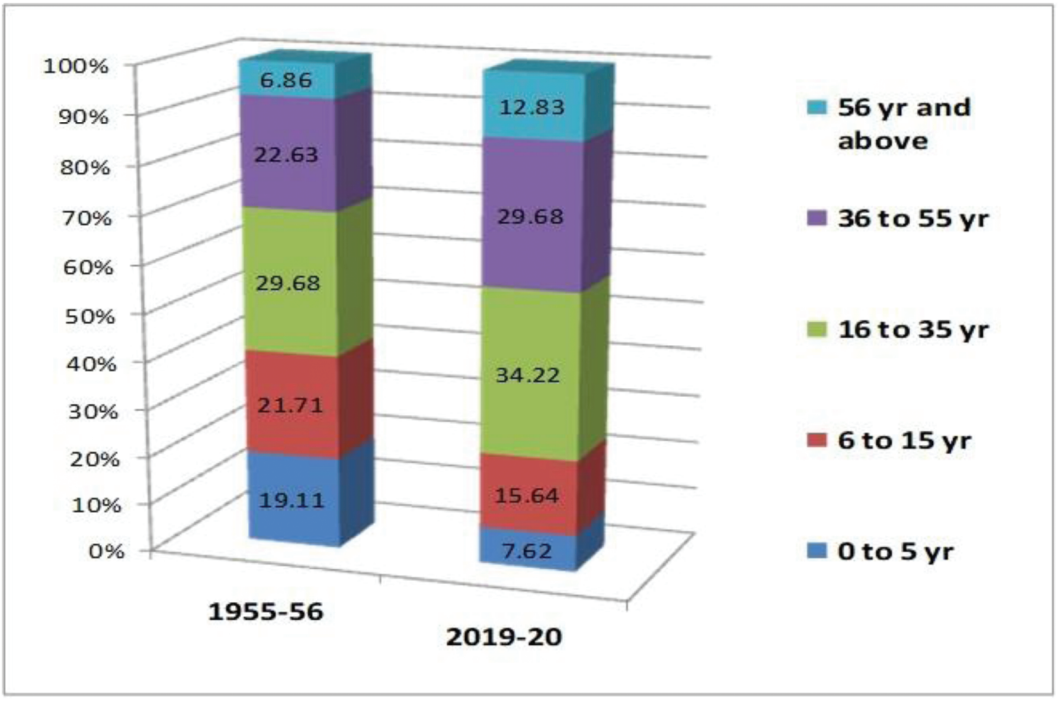
Table 4.4: Age and sex distribution of the population in the village Sahajapur

Age Groups	In 1955-56			In 2019-20		
	Male	Female	Total	Male	Female	Total
0-1	7 1.30%	15 2.80%	22 4.10%	15 1.00%	12 0.80%	27 1.80%
1-5	37 6.90%	44 8.20%	81 15.00%	48 3.21%	40 2.67%	88 5.88%
6-15	59 11.00%	58 10.80%	117 21.70%	124 8.29%	114 7.62%	238 15.91%
16-35	76 14.10%	84 15.60%	160 29.70%	267 17.85%	238 15.91%	505 33.76%
36-55	52 9.70%	70 13.00%	122 22.60%	225 15.04%	221 14.77%	446 29.81%
56 -60	25* 4.60%	12* 2.20%	37* 6.90%	41 2.74%	41 2.74%	82 5.48%
60 and above	-	-	-	55 3.68%	55 3.68%	110 7.35%
Total	**256** **47.50%**	**283** **52.50%**	**539** **100.00%**	**775** **51.80%**	**721** **48.20%**	**1496** **100.00%**

Source: Village survey 1955-56 & 2019-20.

*In the survey during 1958 the age cohort was '56 and above'.

Fig4.1: Changes in age group-wise distribution of population in Sahajapur (%)



The population of the village considerably grew till late 1990s. Thereafter, a reversal of fertility rate can be observed from the population pyramid (Fig-4.2). It also appears from the demographic details that the sex ratio in Sahajapur was heavily favourable towards female population during 1955-56. However, during last 64 years it has been reversed altogether. In 1955-56 the sex ratio was 1105 females per thousand of males but during 2019-20 it is only 930 females per thousand of males. The sex ratio as well as the size of household varies across the castes. The sex ratio is particularly low among the scheduled caste households. Interestingly, the average family size is lowest (3.9) among the scheduled tribe population but highest (4.3) among the scheduled caste population. The comparison of the age group wise distribution of population is also very contrasting. During 1955-56 it was a village with children and youths (aged between 0 and 15). But now in 2019-20, the middle-aged peoples (aged between 16 and 55) are the majority in the village (Fig 4.1).

Table 4.5: Distribution of population by age and marital status in the village Sahajapur

Age Groups	In 1955-56 (during last survey)				In 2019-20			
	Married	Unmarried	Widow/er	Divorced & others	Married	Unmarried	Widow/er	Divorced & others
0-10	1 0.60%	172 99.40%	0 0.00%	0 0.00%	0 0.00%	243 100.00%	0 0.00%	0 0.00%
10-15	11 22.90%	36 75.00%	1 2.10%	0 0.00%	0 0.00%	110 100.00%	0 0.00%	0 0.00%
16-20	30 65.30%	13 28.30%	1 2.20%	2 4.30%	11 9.65%	103 90.35%	0 0.00%	0 0.00%
21-25	36 80.00%	3 6.70%	3 6.60%	3 6.60%	67 49.26%	68 50.00%	0 0.00%	1 0.74%
26-30	38 92.70%	2 4.90%	0 0.00%	0 0.00%	106 81.54%	23 17.69%	0 0.00%	1 0.77%
31 -55	106 71.10%	1 0.70%	41 27.50%	1 0.70%	519 90.89%	17 2.98%	24 4.20%	11 1.93%
56 and above	18 48.60%	1 2.70%	18 48.70%	0 0.00%	136 70.83%	2 1.04%	53 27.60%	1 0.52%
All age groups	240 44.50%	228 42.30%	65 12.10%	6 1.10%	839 56.08%	566 37.83%	77 5.15%	14 0.94%
All Males	119 46.70%	122 47.80%	13 5.10%	1 0.40%	421 54.32%	340 43.87%	9 1.16%	5 0.65%
All Females	121 42.50%	106 37.20%	52 18.20%	6 2.10%	418 57.98%	226 31.35%	68 9.43%	9 1.25%

Source: Village survey 1955-56 & 2019-20.

Fig 4.2: Population pyramid of Sahajapur during 2019-20

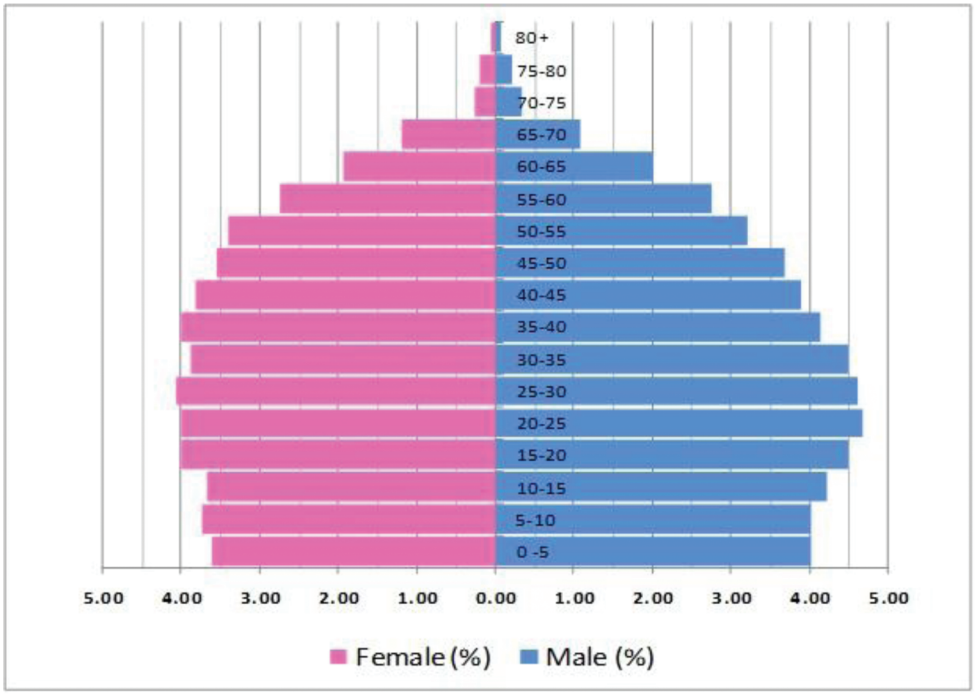


Table 4.6: Population characteristics by caste and religions in the village Sahajapur

Age Groups	In 1955-56					In 2019-20				
	Male	Female	Total	Sex ratio	Average size of households	Male	Female	Total	Sex ratio	Average size of households
General Caste Hindu	98 47.3%	109 52.7%	207 100.0% (38.4%)	1112	4.5	244 51.37%	231 48.63%	475 100.0% (31.75%)	947	4.3
OBC (Hindu)	3* 50.0%	3 50.0%	6 100.0% (1.1%)	1000	2.0	84 49.41%	86 50.59%	170 100.0% (11.36%)	1024	4.1
Scheduled Caste (Hindu)	117 49.0%	122 51.0%	239 100.0% (44.3%)	1043	4.1	322 52.61%	290 47.39%	612 100.0% (40.91%)	901	4.3
Scheduled Tribe (Seri)	36 48.0%	39 52.0%	75 100.0% (13.9%)	1083	4.4	125 52.30%	114 47.70%	239 100.0% (15.98%)	912	3.9
Minorities (Muslim)	2 16.7%	10 83.3%	12 100.0% (2.2%)	5000	4.0	-	-	-	-	-
Total	**256 47.5%**	**283 52.5%**	**539 100.0% (100.0%)**	**1105**	**4.2**	**775 51.80%**	**721 48.20%**	**1496 100.0% (100.0%)**	**930**	**4.2**

Source: Village survey 1955-56 & 2019-20.*OBC population was not counted separately; however, three families of other minority were Baul (a sect of Mystic) who are presently considered to be one of the OBC communities.

4.3 Caste/religion wise Distribution

Population composition in accordance with religion of the people in Sahajapur in 2019-20 clearly reflects a complete absence of Muslim population which in 1955-56 was to the tune of 2.2 per cent of total population (Table 4.6). Moreover, the scheduled tribes that comprised of 13.9 per cent of the total population in 1955-56 and are presently found 15.98 per cent are believer of *Seri* religion which is entirely different from Hinduism in its belief and rituals. *Seri*, among the tribals (mostly Santals in these parts of Birbhum), is supposed to be the true religion. On the contrary, the scheduled castes and the other backward communities generally fall in the lower strata of the Hindu hierarchy. It is observed from the data presented here that the sex ratio (i.e. number of females per thousand males) has declined over the years. The family sizes across the social groups have remained more or less the same barring for the OBCs. As we have discussed earlier that during the first survey we did not have a clear enlistment of backward communities and only three families from *baul* sect were found and were classified under backward community. Since the enlistment of backward communities by the government, a substantial section of Hindu caste hierarchy has presently come under the classification of backward community.

4.4 Literacy Pattern by Sex

Literacy among the residents of Sahajapur has improved substantially over the years from 1955-56. In 1955-56 there were 400 illiterate persons among total 539 residents. Proportion of illiterate was to the tune of 74.2 per cent while the corresponding figure for the literates was 25.9 per cent. The scenario has improved considerably mainly after 1980s. During 1972 the literacy rate was 34.85 per cent and in 1982 it was 40.8 per cent only. However, we observe the literacy rate to be 79.0 per cent. Moreover, the male members of families, as observed in 1958 report, had a clear edge over their female counterpart in terms of educational attainment. Educational attainment up to higher secondary among males was 33.2 per cent while the corresponding percentage for females was meagerly 10.2 (Table 4.7). On the contrary, in 2019-20 we find that literacy and education among women has achieved a take-off and there is little difference among men and women in terms of educational attainment in Sahajapur.

Table 4.7: Educational status by sex

Educational Status	In 1955-56				In2019-20			
	No. of male	% of total	No of female	% of total	No. of male	% of total	No of female	% of total
Illiterate	156	60.90%	244	86.20%	126	16.26%	188	26.07%
Able only to read or write	20	7.80%	12	4.20%	-#	-	-	-
Up to Primary	10+15=25*	9.80%	6+9=15*	5.30%	371	47.87%	312	43.28%
Up to Secondary	25+13=38**	14.80%	1+1=2**	0.70%	196	25.28%	165	22.88%
Up to Intermediate	2	0.80%	0	0.00%	33	4.26%	40	5.55%
Technical	-	-	-	-	4	0.52%	0	0.00%
Graduates	1	0.40%	0	0.00%	42	5.42%	14	1.94%
Post graduates & professionals	-	-	-	-	3	0.39%	2	0.28%
Total	**256**	**100.00%**	**283**	**100.00%**	**775**	**100.00%**	**721**	**100.00%**

Source: Village survey 1955-56 & 2019-20.
#Ability of only reading and/or writing was not considered separately in the present survey
*School going in the age group of 0-5, ** School going in the age group of 5-15

4.5 Enrollment and drop outs in different educational level (gender-wise)

The enrolment scenario also corroborates our previous finding that there has been a widespread improvement in education in the village society. School going habit of both boys and girls of the age group of 5-15 helps us to arrive at such a conclusion. It is observed that 96.61 per cent of children are enrolled and attending schools regularly (Table 4.8) and only 3.39 per cent has been dropout from school. There is a little difference among the boys and girls. The girls, however, are found more regular in attaining schools.

There is, however, only 1 girl and 3 boys reported to have left the school (Table 4.9). All four of them expressed their unwillingness to attend the school in course of our interviews. But no compelling economic reasons could be traced from the conversation with their parents as to the reasons of having been dropped out from school. Rest of the boys and girls i.e., 2 boys and 7 girls has never been enrolled in school. So far as type of school is concerned; only four male children (all from caste hindu category) go to private English medium school in the nearby town Bolpur. For rest of the students, Bengali medium government schools are the only option.

Table 4.8: Enrolment level of children (6-15) in schools by caste, sex and type of school

Children categories	Govt. school		Private school		Out of school	Total
	Vernacular	English	Vernacular	English		
Male Children	**118**	**-**	**-**	**4**	**5**	**123**
	92.68%			**3.25%**	**4.07%**	**100.00%**
Caste Hindu	35	-	-	4	1	40
	87.50%			10.00%	2.50%	100.00%
OBC	8	-	-	-	1	9
	88.89%				11.11%	100.00%
Scheduled Caste	48	-	-	-	2	50
	96.00%				4.00%	100.00%
Scheduled Tribe	23	-	-	-	1	24
	95.83%				4.17%	100.00%
Female Children	**110**	**-**	**-**	**-**	**3**	**113**
	97.35%				2.65%	100.00%
Caste Hindu	31	-	-	-	1	32
	96.88%				3.12%	100.00%
OBC	8	-	-	-	0	8
	100.00%				0.00%	100.00%
Scheduled Caste	46	-	-	-	2	48
	95.83%				4.17%	100.00%
Scheduled Tribe	25	-	-	-	0	25
	100.00%				0.00%	100.00%
All Children	**224**	**-**	**-**	**4**	**8**	**236**
	94.92%			**1.69%**	**3.39%**	**100.00%**
Caste Hindu	66			4	2	72
	91.67%			5.56%	2.78%	100.00%
OBC	16				1	17
	94.12%				5.88%	100.00%
Scheduled Tribe	94				6	100
	94.00%				6.00%	100.00%
Scheduled Caste	48				1	49
	97.96%				2.04%	100.00%

Source: Village survey 2019-20.

Table 4.9: Gender wise dropout in various educational levels

Dropout at level	Male No.	Female No.
I	-	-
II	1	-
III	1	-
IV	1	-
V	-	-
VI	-	1
VII	-	-
VIII	-	-
IX	-	-
X	-	-
Total	**3**	**1**

Source: Village survey 2019-20.

4.6 APL/BPL wise Distribution

It is evident from Table 4.10 that in aggregate about 62.0 per cent of households in Sahajapur are BPL (below poverty line) PDS card holders. In absence of an accurate poverty estimate at the village level this is treated as a proxy of such an estimate. It is found that all of the Scheduled tribe families and majority (94.33%) of the Scheduled caste families are having BPL card for public distribution system while a large section of Hindu general caste and OBC population is classified under APL (above poverty line) entitlement. The upper/general caste Hindu families are mostly land owning and better educated households. And as is expected, they have sought for some white collar jobs and trade and business for augmenting the family income and livelihood.

Table 4.10: PDS card type by caste

Caste	Types of PDS card			Total
	APL	BPL	Others	
Hindu Gen. Caste	89 80.91%	16 14.55%	5 4.55%	110 100.00%
OBC	33 78.57%	9 21.43%	0 0.00%	42 100.00%
Scheduled Caste	8 5.67%	133 94.33%	0 0.00%	141 100.00%
Scheduled Tribe	0 0.00%	62 100.00%	0 0.00%	62 100.00%
Overall	**130** **36.62%**	**220** **61.97%**	**5** **1.41%**	**355** **100.00%**

Source: Village survey 2019-20.

4.7 Birth and Deaths

During 1951-56 survey, the crude birth rate (number of births per year per 1000 population) in Sahajapur was 49.7 (i.e. 0.05 per household per annum), while the corresponding figure for death rate was 13.8 (i.e. 0.02 per household per annum). This means annual growth rate in the total population of Sahajapur during 1951-56 was as high as 3.59 per cent.

However, in the current survey we find that both the rates have declined significantly over the decades (Table 4.11). The decline in birth rate is more prominent mainly due to wide spread adoption of family planning measures and discontinuation of child marriages that were very common during the first survey period. The reason for decline in death rates is due to decrease in child mortality and substantial increase in the life expectancy along with improved medical facilities for the older people. As a result, the annual population growth rate which was as high as 3.59 per cent during 1951-56, is reduced substantially to less than 0.50 per cent in recent years. However, one interesting observation is that both the birth rates as well as death rates are still higher among the poor (BPL) and scheduled caste population.

Table 4.11: Birth rate and death rate by categories of households during 2015-2020

Particulars	Numbers of births/household/annum				Numbers of deaths/household/annum			
	APL	BPL	MAPL	Overall	APL	BPL	MAPL	Overall
General Caste/Caste Hindu	0.02	0.00	0.02	0.02	0.01	0.01	0.01	0.01
OBC	0.01	0.00	NA	0.01	0.01	0.00	NA	0.01
Scheduled Caste	0.03	0.04	NA	0.04	0.01	0.02	NA	0.02
Scheduled Tribe	NA	0.02	NA	0.02	NA	0.02	NA	0.02
All Categories	**0.02**	**0.03**	**0.02**	**0.02**	**0.01**	**0.02**	**0.01**	**0.01**

Source: Village survey 2019-20.

4.8. Quality of Basic Educations (ASER Toolkit)

In Sahajapur, over 96 per cent of children are enrolled in school and till the onset of Covid-19 pandemic (till March, 2020); they used to go to school regularly. But basic learning is an issue. Reading and basic arithmetic are fundamental building blocks of learning. Without these children cannot make progress in school. Therefore, as discussed in chapter-II, the learning outcome of basic education has been examined with the help of ASER Toolkits for Standard-II level text and arithmetic. Both the sample toolkits consist of 5 different levels of learning (from L0 to L4). As discussed in Chapter-II, the test was conducted with randomly

selected 100school going students (50 boys & 50 girls) in the age group of 5-15 years. The results are presented with the percentage of respondents with highest level of reading and arithmetic abilities.

Table 4.12: Level of learning outcomes across the class of study (As per ASER Toolkit test)

(% of students in particular class of study)

Class of study	No of respondents	Reading Competency					Arithmetic Ability				
		L0	L1	L2	L3	L4	L0	L1	L2	L3	L4
Standard-I	6	66.7	33.3	-	-	-	83.3	16.7	-	-	-
Standard-II	14	14.3	42.9	42.9	-	-	-	64.3	35.7	-	-
Standard-III	11	9.1	18.2	27.3	36.4	9.1	-	18.2	54.5	27.3	-
Standard-IV	10	-	-	10.0	60.0	30.0	-	10.0	50.0	30.0	10.0
Standard-V	10	10.0	10.0	10.0	40.0	30.0	-	20.0	30.0	30.0	20.0
Standard-VI	12	-	8.3	33.3	16.7	41.7	-	8.3	8.3	58.3	25.0
Standard-VII	12	-	8.3	8.3	33.3	50.0	-	8.3	16.7	58.3	16.7
Standard-VIII	12	-	8.3	-	25.0	66.7	-	8.3	8.3	33.3	50.0
Standard-IX	7	-	-	-	28.6	71.4	-	-	-	57.1	42.9
Standard-X	6	-	-	-	-	100.0	-	-	-	-	100.0
All	**100**	**8.0**	**14.0**	**16.0**	**25.0**	**37.0**	**5.0**	**18.0**	**23.0**	**31.0**	**23.0**

Levels: L0=No learning; L1=Can recognize letters/single digits; L2=Can recognize words/double digits; L3=Can read simple sentence/do simple subtractions; L4=Can read paragraphs/do simple divisions.

The level of learning outcomes across the class of study is given in Table 4.12. A perusal of the table reveals that, there is a substantial learning deficiency across all the classes and in terms of both reading competency as well as arithmetic ability. Overall, only 37 per cent students in the age-group of 5-15 years can read a story and only 23 per cent of the school going students can do simple divisions. It is surprising to note that two third of the Standard-I student cannot even recognize letters and as high as 83.3 per cent of them are unable to recognize the digits. Even 10 per cent of Standard-V students are unable to recognize letters. Similarly, half of the Standard VIII and IX students cannot solve a simple division sum, and one-fourth to one third of them is unable to read a story in their vernacular language. This is a matter of serious concern as most of such students are first generation learners from the scheduled caste and scheduled tribe categories (Table 4.15).It shows large scale learning deficiency in the government schools, which requires immediate attention of the policy makers. The schools as well as parents also need to take special initiatives to reduce the learning deficiencies in the schools. Without a strong foundation, such children will not be able to move ahead in school. We hope that with extra efforts and encouragements from the teachers, these children will be able to compensate their learning

deficiencies. The prolonged closure of schools due to Covid-19 pandemic further aggravated the situation. We will have a detailed discussion on impact of Covid-19 pandemic on learning outcomes in Chapter-VI.

Table 4.13: Level of reading competency of children (age group 5-15 years) by sex (As per ASER Toolkit test)

(% of total in particular category)

Class of study	Boys					Girls				
	L0	L1	L2	L3	L4	L0	L1	L2	L3	L4
Standard-I	50.0	50.0	-	-	-	75.0	25.0	-	-	-
Standard-I I	-	57.1	42.9	-	-	28.6	28.6	42.9	-	-
Standard-III	-	-	-	100.0	-	11.1	22.2	33.3	22.2	11.1
Standard-IV	-	-	-	50.0	50.0	-	-	16.7	66.7	16.7
Standard-V	-	-	25.0	25.0	50.0	16.7	16.7	-	50.0	16.7
Standard-VI	-	14.3	57.1	14.3	14.3	-	-	-	20.0	80.0
Standard-VII	-	16.7	16.7	33.3	33.3	-	-	-	33.3	66.7
Standard-VIII	-	-	-	30.0	70.0	-	50.0	-	-	50.0
Standard-IX	-	-	-	-	100.0	-	-	-	66.7	33.3
Standard-X	-	-	-	-	100.0	-	-	-	-	100.0
All	2.0	14.0	18.0	22.0	44.0	14.0	14.0	14.0	28.0	30.0

Levels: L0=No learning; L1=Can recognize letters; L2=Can recognize words; L3=Can read simple sentence; L4=Can read paragraphs

Table 4.14: Level of arithmetic competency of children (age group 5-15 years) by sex (As per ASER Toolkit test)

(% of total in particular category)

Class of study	Boys					Girls				
	L0	L1	L2	L3	L4	L0	L1	L2	L3	L4
Standard-I	100.0	-	-	-	-	75.0	25.0	-	-	-
Standard-II	-	71.4	28.6	-	-	-	57.1	42.9	-	-
Standard-III	-	-	50.0	50.0	-	-	22.2	55.6	22.2	-
Standard-IV	-	-	75.0	25.0	-	-	16.7	33.3	33.3	16.7
Standard-V	-	-	50.0	25.0	25.0	-	33.3	16.7	33.3	16.7
Standard-VI	-	14.3	-	71.4	14.3	-	-	20.0	40.0	40.0
Standard-VII	-	16.7	16.7	50.0	16.7	-	-	16.7	66.7	16.7
Standard-VIII	-	-	10.0	40.0	50.0	-	50.0	-	-	50.0
Standard-IX	-	-	-	50.0	50.0	-	-	-	66.7	33.3
Standard-X	-	-	-		100.0	-	-	-	-	100.0
All	4.0	14.0	20.0	34.0	28.0	6.0	22.0	26.0	28.0	18.0

Levels: L0=No learning; L1=Can recognize numbers (0-9); L2=Can recognize numbers (10-99); L3=Can do simple subtraction; L4=Can do simple division

Table 4.15: Level of learning outcomes across the class of study (As per ASER Toolkit test)

(% of total in particular category)

Categories of students	Reading Competency					Arithmetic Ability				
	L0	L1	L2	L3	L4	L0	L1	L2	L3	L4
Male										
Caste Hindu	5.3	-	5.3	21.1	68.4	5.3	5.3	5.3	36.8	47.4
Scheduled Caste	-	31.6	21.1	15.8	31.6	5.3	26.3	26.3	21.1	21.1
Scheduled Tribe	-	10.0	30.0	40.0	20.0	-	10.0	50.0	30.0	10.0
OBC	-	-	50.0	-	50.0	-	-	50.0	-	50.0
Female										
Caste Hindu	8.3	-	-	41.7	50.0	8.3	-	8.3	41.7	41.7
Scheduled Caste	10.7	25.0	25.0	17.9	21.4	3.6	32.1	28.6	25.0	10.7
Scheduled Tribe	30.0	-	-	40.0	30.0	10.0	20.0	40.0	20.0	10.0
OBC	-	-	-	-	-	-	-	-	-	-
All children										
Caste Hindu	6.5	-	3.2	29.0	61.3	6.5	3.2	6.5	38.7	45.2
Scheduled Caste	6.4	27.7	23.4	17.0	25.5	4.3	29.8	27.7	23.4	14.9
Scheduled Tribe	15.0	5.0	15.0	40.0	25.0	5.0	15.0	45.0	25.0	10.0
OBC	-	-	50.0	-	50.0	-	-	50.0	-	50.0

Levels: 0=No learning; L1=Can recognize letters/single digits; L2=Can recognize words/double digits; L3=Can read simple sentence/do simple subtractions; L4=Can read paragraphs/do simple divisions.

The level of reading competency by sex is given in Table 4.13 and that of arithmetic ability in Table 4.14. It appears from the tables that, in terms of both reading competencies as well as arithmetic abilities, there is substantial learning gap across the gender as well as class of study. But as compared to boys, the learning deficiencies are more among the girl students. Between reading competency and arithmetic ability, learning deficiencies are more prominent in arithmetic ability than in terms of reading competencies.

Table 4.15 shows the reading competency as well as arithmetic ability across the caste categories of students. A clear picture is emerging from the table that, both in terms of reading competencies as well as arithmetic abilities, the students from the scheduled tribes and scheduled caste categories are lagging far behind the caste hindu and OBC categories of students. This is really a matter of serious concern and during our FGDs with the parents, we found that most of the students from scheduled caste and scheduled tribe categories are first generation learners with very poor economic background. So schools have a greater role to play as such students neither can expect any academic support from their parent nor can afford for private tutor. Further, the mother tongue of the tribal children are different than the medium in which they are forced to take learning in schools, even in pre-school

classes at ICDS centres. In their family the children speaks in Mahali or Santali, but since the age of 3 years they are being taught in Bengali medium. This is an additional burden for the tribal children. Thus as demanded by the tribal peoples, either starting tribal schools or recruiting tribal teachers in the ICDS centres as well as in schools is an urgent requirement. The *Mahali* language is also listed as an endangered language. Thus there is a greater need to save this important tribal language.

4.9. Child Nutrition (BMI)

As discussed in methodology section (Chapter-II), the issues of child nutrition in Sahajapur are examined following two different approaches. For the infants' up to 5 years of age, we have used World Health Organizations' growth chart being followed in the ICDS scheme. This growth chart is gender specific as well as age specific. For this, due to Covid-19 pandemic, we have received information from the two ICDS centres and covered all the 94 infants enrolled with the two ICDS centre in the village. It is to be noted here that there is a possibility that few of the infants may be the residents of nearby villages/hamlets too. But for the children in the age group of 5-15 years, we have strictly conducted the survey along with ASER and used BMI as an indicator of child nutrition. Thus, we covered a total of 194 children from different categories of households. The results are given in Table 4.16.

A close perusal of the Table-4.16 reveals a satisfactory picture about child nutrition in Sahajapur. It is evident from the results that so far as child nutrition is concerned, there exists no gender or caste bias in Sahajapur. By and large more than 90 per cent of the children in Sahajapur, across the caste and gender, are within the normal range of BMI and there is not a single incidence of severely underweight or in obesity category in the whole village. Further, only three infants out of 94 enrolled with ICDS centres, are in yellow category. There is not a single infant is in red category. This is quite encouraging and shows the positive impacts of ICDS and Mid-day Meal scheme in the village. In fact, till early 1980s, malnutrition was rampant among the girl child as well as among scheduled caste and scheduled tribe in Sahajapur (Sen & Sengupta, 1983). But with timely intervention by the government since early 1980s, the problem of malnutrition is no more a threat now. The village Sahajapur had a programme of direct nutritional intervention after 1982 (Sen & Sengupta, 1983). In 1982, the general level of malnutrition among the children in Sahajapur was distressingly high with 8 per cent of them were found to be disastrously

undernourished who required hospitalization for treatment and as high as 49 per cent children were severely malnourished (Sen and Sengupta, 1983). During 1982, children from scheduled caste and scheduled tribe households were the worst victims and the girls were systematically more undernourished across the caste categories. However, the situation altogether changed during the last four decades. The villagers also expressed satisfaction over tackling the food insecurity issues during Covid-19 lockdown. All the families received enough food grain through PDS, ICDS as well as Mid Day Meal schemes.

4.10 Access to Basic Amenities and Changes Therein (Electrification, sanitary toilet, health, safe drinking water, etc)

Almost all the households in Sahajapur have electric connection for domestic purposes (out of 355 households 354 had a legal service connection, Table 4.17). In the survey of 1955-56 we do not find any household using electricity for domestic purposes. However, in span of over six decades the situation has improved considerably. Moreover, there seems to be no difference across the caste as far as domestic power use is concerned. Nonetheless, the regularity of power supply, as reported by the respondents, is somewhat irregular. They suffer from long hours of power cuts particularly during monsoon season. However, the use of electricity for agricultural purposes reveals a very dismal picture. The few submersible tube well that are in operation in the village is run with diesel power.

Table 4.16: Pattern of malnutrition among the children by castes and sex

(%of child in respective category)

Categories of children	Infants (up to 5 years age)				Children (5-15 years age group)					
	Red (Critical)	Yellow (Malnutrition	Green (Normal)	Total	Severely underweight	Underweight	Normal	Overweight	Obesity	Total
Male Children										
Caste Hindu			100.0	**100.0**		5.3	94.7			**100.0**
Scheduled Caste		5.0	95.0	**100.0**			94.7	5.3		**100.0**
Scheduled Tribe			100.0	**100.0**		10.0	90.0			**100.0**
OBC			100.0	**100.0**			100.0			**100.0**
Female Children										
Caste Hindu			100.0	**100.0**			91.7	8.3		**100.0**
Scheduled Caste		4.5	95.5	**100.0**		14.3	85.7			**100.0**
Scheduled Tribe		9.1	90.9	**100.0**		10.0	90.0			**100.0**
OBC		0.0	100.0	**100.0**						**100.0**
Overall										
Caste Hindu			100.0	**100.0**		3.2	93.5	3.2		**100.0**
Scheduled Caste		4.8	95.2	**100.0**		8.5	89.4	2.1		**100.0**
Scheduled Tribe		4.5	95.5	**100.0**		10.0	90.0			**100.0**
OBC			100.0	**100.0**			100.0			**100.0**

BMI categories for children (kg/m2): Severely underweight= less than 16.5; Underweight=16.5 to less than 18.5; Normal=18.5 to less than 25; Overweight=25 to less than 30; Obesity=30 and above.

Table 4.17: Domestic service connection of electricity

Caste	Families having domestic electricity connection	Families with legal connection	Total
Hindu Gen. Caste	109	109	110
	99.09%	99.09%	100.00%
OBC	42	42	16
	100.00%	100.00%	100.00%
SC	141	141	141
	100.00%	100.00%	100.00%
ST	62	62	62
	100.00%	100.00%	100.00%
Overall	**354**	**354**	**355**
	99.70%	**99.70%**	**100.00%**

Source: Village survey 2019-20.

In course of our survey during 2019-20 over 84 per cent households reported having sanitary toilets. A large number of such toilets have been erected with the financial assistance from the state and central schemes. However, a sizeable number of these toilets are still unfinished and hence, non-functional. The total functional sanitary toilets constitute 56.62 per cent (Table 4.18). The households, that are capable in investible resource, have constructed sanitary toilets of their own. In 1955-56 survey, we do not come across of reporting the existence of a single sanitary toilet in the village. There has been a major change in the consciousness and attitude of people regarding these aspects of life for achieving a better living condition.

Table 4.18: Use of sanitary toilets by castes (by number and per cent of households)

Caste	Having sanitary toilet	No. of functional toilets	Total
Hindu Gen. Caste	106 96.36%	105 95.45%	110 100.00%
OBC	40 95.24%	36 85.71%	42 100.00%
SC	106 75.18%	49 34.75%	141 100.00%
ST	47 75.81%	11 17.74%	62 100.00%
Overall	**299** **84.23%**	**201** **56.62%**	**355** **100.00%**

Source: Village survey 2019-20.

As far as the medical facilities, Sahajapur in 1955-56 had to depend on Bolpur for availing allopathic medical treatment for there was no registered medical practitioner residing in the village. There used to be quack doctors for emergency services. There was epidemic of cholera and malaria that took a toll on lives of people. The situation has entirely changed after establishment of the 300 bed sub-divisional government hospital with super specialty units like intensive cardiac care unit (ICCU) etc. in close proximity of the village. Almost all the household depend on the nearby hospital for any sort of ailment. Also there are private chambers of qualified allopathic doctors in close vicinity of the hospital and a number of medicine shops giving 24x7 services. Moreover, over 78 per cent of households are covered by the government health insurance scheme.

4.19: Source of drinking water for households (Number)

Caste	Drinking water source			Total
	Pipe line water	Own tube wells	Road tube well	
Hindu Gen. Caste	73	32	5	110
	66.36%	29.09%	4.55%	100.00%
OBC	21	16	5	42
	50.00%	38.10%	11.90%	100.00%
SC	52	11	78	141
	36.88%	7.80%	55.32%	100.00%
ST	27	3	32	62
	43.55%	4.84%	51.61%	100.00%
Overall	**173**	**62**	**120**	**355**
	48.73%	**17.46%**	**33.80%**	**100.00%**

Source: Village survey 2019-20.

Looking at the source of drinking water that is being used by the households of Sahajapur, it is interesting to find that 120 families out of 355 (i.e. 33.80%) are using road tube wells dug by the Panchayat (Table 4.19). Among them most of the scheduled caste and tribe families have to bank on road tube wells for their potable water. Rest of the families either connected with the pipe line water or having their own bore wells and pumping the water to their overhead storage tanks. The scenario of potable water is not that rosy as it appears from the data. A number of public tube wells and personal tube wells get dry during the summer season. In this arid and laterite region the sub-soil water table is well below the reach of normal shallow/submersible tube wells. It is during every summer the villagers

suffer from acute drinking water crisis. Moreover, the quality of water turns out to be poor. This has been complained by the people time and again during the course of the survey. They are in dire need of a deep tube-well installed by Panchayat or any government agency. In earlier time the situation was even worse. There used to be no tube wells, only a few dug wells. The tanks, major source of water, used to get dry in summer. Only one well dug by the indigo planters had to be used by a large section of population.

4.11 Participation, Inclusiveness and Empowerment

In course of the survey in Sahajapur, we had continuous discussions and a number of group meetings with different sections of population. It appears that the respondents have a clear opinion about parameters of social development such as women empowerment, caste rigidity etc. We observe, as discussed earlier, that a number of self-help groups (SHG) with all women members are functioning in the village. Generally, such group has nine women members upholding its functioning and decision making. In a sense such groups points towards a kind of women empowerment in the village society. In Sahajapur, however, almost all the groups are dealing with credit advance to its members operating as a micro-credit organization. We find that participation of women from Hindu backward caste and general caste families in such an assembly is higher as compared to participation of other castes and community (Table 4.20).On the contrary, it is found that a sizeable proportion of members from SC and ST families are members of Gram Sabha and attending the meetings regularly. This might be a sign that the downtrodden sections of the village society are taking part in the decision making which might again be attributed to the long legacy of Left rule in West Bengal.

It is also interesting to look into the participation behavior of the individuals in connection with their economic position in the social hierarchy. The table 4.21 gives us clear indication that social participation among the poorer sections is substantially higher than that of their 'better off' counterpart particularly in forming self-help groups for their day to day credit needs and asserting themselves in the decision making through participating in gram sabha meetings, irrespective of their caste identity. On the whole, the village of Sahajapur demonstrates an improvement towards shaking off the repression resulting out of social and economic order.

Table 4.20: Membership of village organizations across caste

Caste	Member of SHG	%	Member of Gram Sabha	%	Total
Hindu Gen. Caste	22	20.00%	27	24.55%	110
OBC	10	23.81%	15	35.71%	42
SC	13	9.22%	62	43.97%	141
ST	1	1.61%	29	46.77%	62
Total	**46**	**12.96%**	**133**	**37.46%**	**355**

Source: Village survey 2019-20.

Table 4.21: Membership of village organizations across income

Per capita monthly income of household (Rs.)	Member of SHG	%	Member of Gram Sabha	%	Total
<=1500	7	35.0	7	35.0	20
>1500-<=3000	26	14.2	78	42.6	183
>3000-<=5000	7	9.1	27	35.1	77
>5000-<=10000	4	6.9	16	27.6	58
>10000	2	11.8	5	29.4	17
Total	**46**	**13.0**	**133**	**37.5**	**355**

Source: Village survey 2019-20.

4.12 Perception of Various Groups and Households about Different Changes in the Village

4.12.1 Rigidity in caste system

In Sahajapur village, during recent survey, no bias as to the caste hierarchy is observed. The social scenario is such that the people from lower strata of caste composition can participate in the decision making process. It has to be mentioned separately that among the Panchayat members over forty per cent is from SC, ST and minority community. In course of the survey none of the families complained against caste or gender discrimination.

4.12.2 Gender bias/Women empowerment

As we have just discussed that in Sahajapur, we are unable to identify any incident of gender discrimination against women. It is rather the women are taking part in day to day activities of the family as well as trying to assert and participate in the social decision making process. Presently, the Panchayat body has over thirty three percent of seats reserved for women and in *Sian-Muluk Panchayat Samity* of which the village Sahajapur is a constituent part there are several women members.

4.12.3 Political bias or deprivation

None of the 355 households alleged about any sort of political bias towards a particular political affiliation or complained about any kind of deprivation they face when having different political inclination than the ruling party. We came across four SC household who met the Panchayat member of Pradhan for seeking livelihood advice. And only one respondent from Hindu general caste had discussion with Pradhan of Panchayat as regard to some social advice.

It appears from the above discussion that the social dynamics, over the years, has played a major role in view of eliminating the gender and social domination in the village of Sahajapur.

Chapter-V

Economic System

5. 1 Livelihood and Employment

In earlier chapters we gave an overview of the Sahajapur village and discussed about the social dynamics with the passage of time. In this chapter we shall take up the economic system that prevails in the village.

5.1.1 Labour force and workforce distribution

It is evident from Table 5.1 that among the working population there still remains a clear dominance of male members in the family. This is true for the scheduled tribes too though the number of working women among them registers a higher percentage as compared to the other sections. Among the total working population of 634, over 86 per cent are male and females account for only 13.88 per cent. As we have set aside the work of housekeeping out of the purview of gainful employment, most of the female members of a family remain excluded from the employment scenario and add to the number of non-workers.

Table 5.1: Composition of workers and non-workers across caste and gender

Population	Gender	GCH	%	OBC	%	SC	%	ST	%	Total	%
Worker	Male	165	90.66	65	91.55	231	84.93	85	77.98	546	86.12
	Female	17	9.34	6	8.45	41	15.07	24	22.02	88	13.88
	Total	182	100.00	71	100.00	272	100.00	109	100.00	634	100.00
Non-worker*	Male	79	26.96	19	19.19	91	26.76	40	30.77	229	26.57
	Female	214	73.04	80	80.81	249	73.24	90	69.23	633	73.43
	Total	293	100.00	99	100.00	340	100.00	130	100.00	862	100.00

Source: Survey 2019-20.
*As per the definition of Census 2011.

In this section we have also considered the census definition of main and marginal working population. When a person is employed for a period of 183 days or more (i.e. six months in a year) s/he is classified under main worker and excluding the non-workers the rest is marginal worker. However, the women's housekeeping activities have been kept outside the purview of present classification. It is observed that among the Hindu general caste families only 32.42 per cent of population can be considered as main workers while the percentage of non-worker is to the tune of 61.68 per cent (Table 5.2). Out of a population of 1496 individuals, the overall percentage of main workers is 33.82, marginal workers are8.56and non-workers is 57.62. Here again, we find a sizeable incidence of non-

participating women in the work force. This, as we have mentioned earlier, is due to the methodological problematic of definitions.

Table 5.2: Distribution of population with respect to working status

Caste/ Gender	Main worker	%	Marginal worker	%	Non worker*	%	Total population	%
GCH	154	32.42	28	5.89	293	61.68	475	100.00
OBC	59	34.71	12	7.06	99	58.24	170	100.00
SC	216	35.29	56	9.15	340	55.56	612	100.00
ST	77	32.22	32	13.39	130	54.39	239	100.00
Male	463	59.74	83	10.71	229	29.55	775	100.00
Female	43	5.96	45	6.24	633	87.79	721	100.00
Total	**506**	**33.82**	**128**	**8.56**	**862**	**57.62**	**1496**	**100.00**

Source: Survey 2019-20.
*As per the definition of Census 2011.

5.1.2 Livelihood pattern and distribution (Primary/Secondary/Tertiary)

5.1.2.1 Livelihood pattern

The livelihood pattern in Sahajapur village during the survey year 2019-20, as presented in Table 5.3, is a diversified one with majority of the working population primarily earns their livelihood as agricultural labourer. Due to very small size of holding and landlessness among scheduled caste and scheduled tribe population crop cultivation alone is unable to generate substantial income for the villagers as it is a primary source of livelihood only for 6.5 per cent of the work force. The Mahalis, main tribal people in the village, are artisans and craftsmen who have been excelling in bamboo craft. They have been weaving bamboo baskets and other household items including items like mats, **kulo, jhanpi,** etc. Their conical baskets are used for carrying and square or round bottomed ones for storage. The jhanpi is a traditional sun-shade that continues to be the most well-known of bamboo items. **Kulo** is a bamboo tray used for separating chaff from grain and also used in almost all traditional Bengali festivals and occasions from wedding to pujo, from rice ceremony to **Jamaisasthi**. The Mahalis are equally adept at making stunning and innovative bamboo craft items. There are about 10 to 15 Mahali families, engaged in this bamboo craft. They work in the agricultural sector for sustenance and hold on to their traditional craft. As per one such bamboo craftsperson people admire and praise the bamboo products made by them; they also appreciate their craftsmanship. This is why they make bamboo items not just as a

means of livelihood but also because they love the craft. It gives them a feeling of fulfillment because they are keeping alive an ancient indigenous craft form through their work.

Table 5.3: Occupational distribution of households by caste (%)

Occupation Category	Primary Occupation					Secondary Occupation				
	GCH	OBC	SC	ST	Total	GCH	OBC	SC	ST	Total
Cultivator	15.7	6.3	0.9	0.0	6.5	38.8	18.8	11.9	0.0	19.2
Agrl.Lab.	15.7	37.5	60.6	91.7	51.0	3.0	18.8	22.9	3.1	9.9
Animal Husbandry	1.5	0.0	0.9	0.0	0.8	1.5	0.0	0.0	0.0	0.6
Govt.Salaried	13.4	18.8	4.6	2.1	7.9	1.5	0.0	0.0	0.0	0.6
Pvt.Salaried	9.0	12.5	1.8	0.0	4.5	0.0	0.0	0.9	1.0	0.6
Pension	2.2	0.0	0.0	0.0	0.8	1.5	0.0	0.0	1.0	0.8
Profession	6.7	6.3	2.8	0.0	3.7	5.2	12.5	0.9	0.0	2.8
Business	24.6	6.3	4.6	1.0	11.3	1.5	6.3	0.0	0.0	0.8
Entrepreneur	0.7	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Casual Lab.	6.0	6.3	11.9	5.2	7.6	21.6	43.8	54.1	80.2	48.5
Marginal Work	0.7	0.0	4.6	0.0	1.7	0.0	0.0	0.9	1.0	0.6
Household Work	0.7	0.0	0.9	0.0	0.6	0.0	0.0	0.9	1.0	0.6
Others	3.0	6.3	6.4	0.0	3.4	10.4	0.0	1.8	6.3	6.2
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: Survey 2019-20.

In Sahajapur, however, the land-owning section of population is mostly Hindu general castes. But it is interesting enough to find only 15.7 per cent of such landed households are perusing cultivation as their primary occupation (Table 5.3). A large section among such households has other occupations as a means of primary livelihood. We find 24.6 per cent of families depend on salaried jobs and pension, 25.3 per cent depending on business enterprise and 6.7 per cent on caste based profession while the wage earning households among Hindu general castes was to the tune of 21.7 per cent. On the contrary the proportion of wage earning families is substantially high among other castes and tribes, who are mostly landless and land-poor. The scenario gets reversed when we look into the pattern of distribution of secondary occupation, where over 38 per cent of Hindu general caste families pursue agricultural enterprise as their secondary occupation. However, poorer section of Hindu general caste hierarchy does work as casual labour for livelihood needs.

5.1.2.2 Livelihood diversification

We have discussed earlier that with the passage of time since the first survey the employment opportunities has undergone a change in the village Sahajapur. It may have been partly due to the exogenous influence of the Bolpur town where new avenues of engagement have opened up. At the same time, the development policies of the government have also created possibilities of gainful employment mostly with the help of MGNREGS. Moreover, the desires for a better livelihood in the psyche of people have encouraged them to go for livelihood diversification. In course of the survey we find that 91 per cent of total households are engaged in more than one occupation (Table 5.4). However, across the social groups we find that among OBC community all households are pursuing more than one occupation followed by the SCs and STs. The proportion of families engaged in two or more occupation among SC and ST communities are 94.6 per cent and 93.7 per cent respectively. However, there are over 14 per cent families among Hindu general castes who remains engaged in one source of livelihood. This section is basically the ones who are well educated and land owning. They are mostly engaged in either cultivation or some white collar jobs such as teaching etc.

Table 5.4: Number of occupations pursued by households

Caste	Number of occupation pursued				Total	SI
	1	2	3	4		
GCH	14.90%	41.00%	38.10%	6.00%	110	0.45
OBC	0.00%	43.80%	56.30%	0.00%	42	0.56
SC	5.50%	45.00%	34.90%	14.70%	141	0.62
ST	6.30%	80.20%	13.50%	0.00%	62	0.47
Total	**9.00%**	**53.00%**	**31.30%**	**6.80%**	**355**	**0.58**

Source: Survey 2019-20.

Livelihood diversification should not be measured only in terms of number of activities but on the degree of reliance on multiple sources. Livelihood diversification index is an important tool for measuring the extent of diversification in livelihood options or strategies. In the present study Livelihood diversification is measured by Simpson Index (SI). It is found from the Table 5.4 that the level of livelihood diversification is moderately high across all categories of households. Among different categories of households, the level of diversification is highest among the scheduled caste households as they need to rely on multiple activities for their livelihood. However, their diversification is more towards casual and marginal nature of activities.

5.1.2.3 Shift in livelihood pattern

We have just said that the various employment opportunities have come into existence with the passage of time. Urbanization of the nearby town of Bolpur, which is only a few kilometers away, and improvement of the roadway infrastructure have added impetus to the occupational shift. It is evident from the Table 5.5 that the proportion of households depending of agriculture as their primary livelihood has dropped from 80.3 per cent in 1955-56 to 65.9 per cent in 2019-20. On the other hand the sections engaged in salaried jobs, business, transport and other miscellaneous activities have augmented substantially. A clear shift from cultivation to other occupations is observed. However, there has been an increase in the proportion of agricultural and other casual labourers. Implementation of MGNREGS and increasing opportunities to work as construction labour as a result of urbanization may have had such an influx in wage earning population.

Table 5.5: Changes in occupational distribution (primary occupation)

Occupational Group	1955-56	2019-20
Cultivators	43.2	6.5
Agrl. & other Lab.	30.8	58.6
Rent receiver	6.3	-
Animal Husbandry	-	0.8
Total Agrl Classes	80.3	65.9
Entrepreneur	13.0	0.3
Salaried	-	13.2
Business	0.8	11.3
Transport	-	1.7
Miscellaneous	5.9	7.7
Total	**100.0**	**100.0**

Source: Survey 1955-56 &2019-20.

5.1.3. Pattern of migration and changes therein

In previous chapters we have already said that no one is found to have migrated to other places for employment during the current survey. As the village have a close proximity with Bolpur town and having good road connectivity, it is easy to commute to the town for jobs and be back to home by evening. It may have been the pace of urbanization in near vicinity that has had an effect on the nature of employment and migration behavior of village population. However, we came to know from the FGDs that prior to outbreak of the pandemic few young individuals (around 10-12) from the village used to migrate to Chennai and neighbouring places as civil and electrical construction workers for most part of the

year. In view of the country-wide lockdown and shrinkage of outstation employment opportunity has compelled them to stay in the village currently and look for employment in the vicinity.

5.2. Agrarian System

5.2.1 Distribution of land ownership and changes therein

The land owning pattern in the village Sahajapur exhibits that there has been a little change over the years. In 1955-56 the proportion of landless households was to the tune of 62.50 per cent in aggregate which has remained more or less the same in 2019-20 with percentage of landless households registering 63.38 per cent (Table 5.6). There has been a little change towards landlessness over the years. However, when land ownership is related with the social identity of the households we are faced with the scenario where the Hindu general caste turns out to be the main land owning category with 66.36 per cent of such families still own land of their own. As high as 52.38 per cent OBC households also possess cultivable land. But feature of landlessness seems to be very high among the scheduled castes households, and none of the scheduled tribe family owns any land for cultivation. The scenario of landownership for 1955-56, however, was not very different from the present one. The STs and others were completely landless and non-ownership of land among SCs and Muslims had been quite high.

As evident from the Lorenz Curve and Gini co-efficient, the distribution of cultivable land in the village is highly skewed in nature. It's not only that more than 63 per cent households are land less but also the average size of holding is very low (2.32 acres) that possess difficulties in using modern farm technologies. The Gini ratio for all households in Sahajapur exhibits presence of severe inequality in distribution of land registering the value to the tune of 0.79. This also gets reflected when we present the Lorenz curve for land distribution (Fig. 5.1).

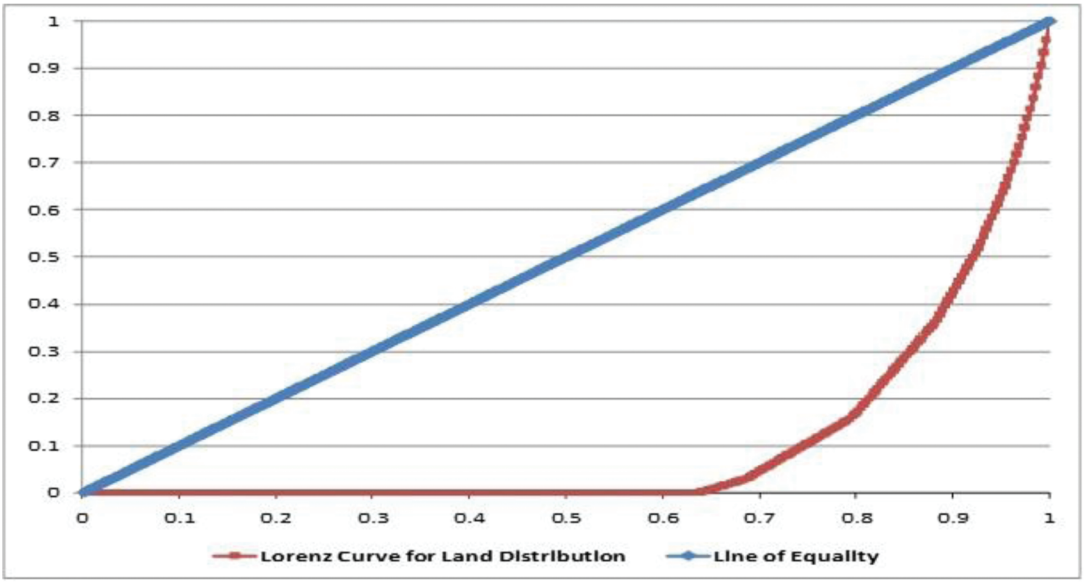
Table 5.6: Pattern of land distribution in Sahajapur across the caste

No of households (%)

Caste	1955-56			2019-20		
	Landless	Owning Land	Total	Landless	Owning Land	Total
GCH	13 (28.20)	32 (69.60)	46 (100.00)	37 (33.64)	73 (66.36)	110 (100.00)
OBC	-	-	-	20 (47.62)	22 (52.38)	42 (100.00)
SC	44 (74.60)	15 (25.40)	59 (100.00)	106 (75.18)	35 (24.82)	141 (100.00)
ST	17 (100.00)	0 (0.00)	17 (100.00)	62 (100.00)	0	62 (100.00)
Muslims	2 (66.70)	1 (33.30)	3 (100.00)	-	-	-
Others	3 (100.00)	0 (0.00)	3 (100.00)	-	-	-
All Households (%)	**80 (62.50)**	**48 (37.50)**	**128 (100.00)**	**225 (63.38)**	**130 (36.62)**	**355 (100.00)**

Source: Survey 1955-56 &2019-20.

Fig. 5.1 Lorenz curve for distribution of land across all the households in Sahajapur



5.2.2 Major land tenure system in the village and changes therein

As the report of 1958 says, 'The local term used for these arrangements [land tenurial system] is *Jote* which covers all types of their lands. There are in this district five recognized *Jotes*, namely, *nij*, *mahindari*, *krishani*, *barga* and *thika*. The *nij jote* covers cultivation and farming by the owner and his family with or without hired labour; the *mahindari jote* is a

variant of the *nij jote* and includes cultivation with the help of *mahindars* or permanent farm servants who are paid a cash sum and clothing on an annual basis and food on a daily basis. The *krishani jote* is a system stands for cultivation and farming by a contract labour (*krishan*) who is provided by the land owner with bullocks, implements, seeds and manure and receives one-third of the main produce. *Barga jote* covers the system of annual leasing for cultivation on a crop-sharing basis. The *thika jote* stands farm tenancy on a fixed produce basis.'[8]

The land tenurial system in the village of Sahajapur has undergone a little change over the years. In course of the present survey we found all the tenurial system in operation barring the b*arga jote*. The Land Reforms Act of 1955 ensured the *bargadars* a permanent occupancy right and 3/5th share of the produce where *bargadar* provides seeds and manures and in other cases only a half share of the produce. In view of the said Act there had been a widespread eviction of *bargadars* from the land. In Sahajapur, however, in 1955-56 about 16.9 per cent area had been cultivated by the *bargadars* being owned by the agricultural rent receivers. The corresponding percentage was 11.2 when the land was owned by the resident cultivators. So, the *bargadars* used to cultivate 28 per cent of the total cropped area. However, in 2019-20, during the present survey no *barga* cultivation was reported.

5.2.3 Operational holding and size distribution (including changes therein)

It is evident from Table 5.7 that the proportion of marginal farmers was only around 19 per cent in 1955-56 owning 2.6 per cent of total operated area. However, the situation in 2019-20 has altogether changed where over 68 per cent of holdings come under marginal land operating category covering 36.8 per cent of area operated. At the same time the proportion of area under medium and large cultivation has decreased substantially from 61.4 per cent in 1955-56 to only 26.6 per cent in 2019-20. Within a span of over sixty years there has been a marginalization in the agrarian economy of the West Bengal as well as in the village of Sahajapur. It is also apparent that the average size of holding has declined at a very fast rate over the years. The law of inheritance along with the land acquisition act might have been partly responsible for such a scenario. It is also possible that the joint

[8] Sahajapur: West Bengal, Socio-Economic Study of a village, AERC for East India, 1958

family system has in course of time given way to unitary family system resulting in partitioning of land holdings.

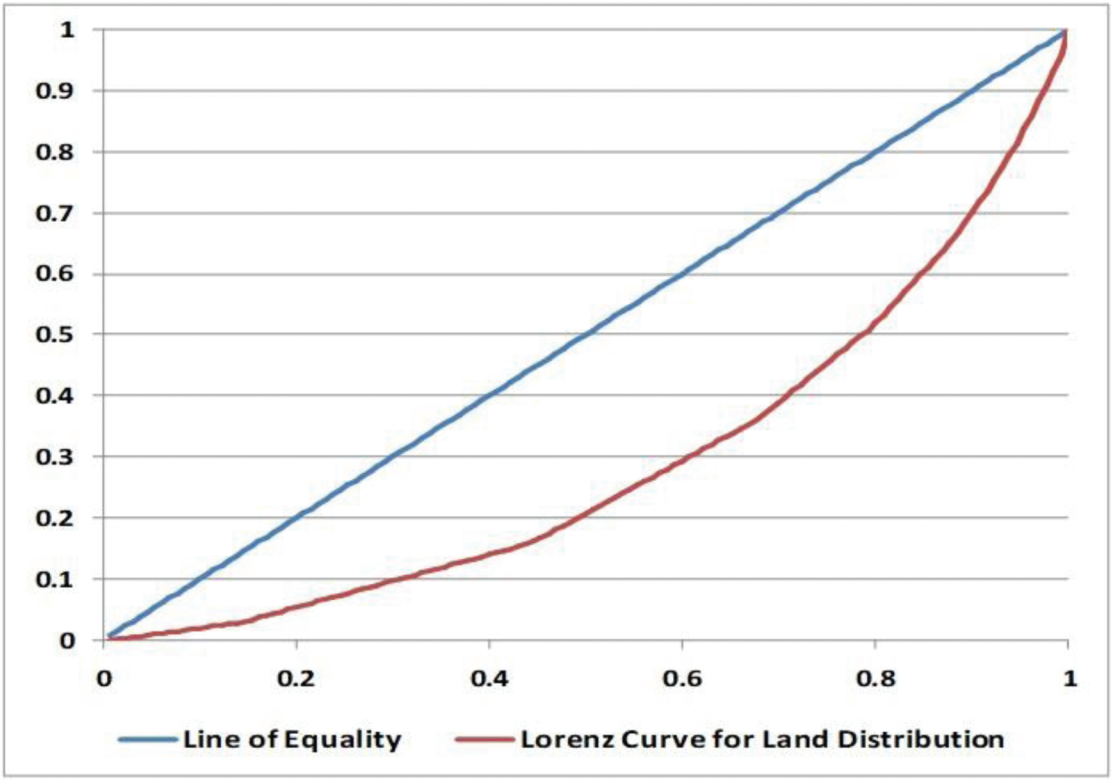
Table 5.7: Distribution of land holdings in the village Sahajapur

(Unit: Acres.)

Particulars	In 1955-56	In 2019-20
Total number of holdings		
Marginal farms	10# (18.90%)	89 (68.40%)
Small farms	33 (62.30%)	30 (23.0%)
Medium & others	20 (37.70%)	11 (8.50%)
All Farms	53 (100.00%)	130(100.00%)
Total area operated		
Marginal farms	9.19 (2.60%)	110.86 (36.80%)
Small farms	128.19 (36.00%)	110.10 (36.60%)
Medium & others	218.74 (61.40%)	80.00 (26.60%)
All Farms	356.12 (100.00%)	300.96 (100.00%)
Average size of holdings		
Marginal farms	0.91	1.25
Small farms	3.88	3.67
Medium & others	10.94	7.27
All Farms	6.72	2.32
Gini co-efficient of land distribution	-	**0.42**

In 1955-56 survey the land size class of marginal farm is 0-2 acres which do not corroborate with the prevailing definition of marginal farm (0-2.5 acres).

Fig. 5.2 Lorenz curve for distribution of land across the cultivators in Sahajapur



It is evident from the Gini ratio (0.42) of operational distribution that there exists high inequality in the pattern of distribution of land. Since more than 73% of land belongs to small and marginal farmers, the average size of holding is also very low (2.32 acres) that poses difficulties in using modern farm technologies. The inequality in distribution of land also gets reflected in the Lorenz curve (Fig. 5.2).

5.2.4 Land utilization and changes therein

We have discussed the land distribution pattern of Sahajapur in details earlier (refer chapter III). It appear that the agricultural land during the first survey in 1955-56 was to the tune over 92.47per cent of total geographical area that declined to a little over 80 per cent during the current survey. The net sown area has also declined from 345.04 acres in 1955-56 to 300.96 acres in 2019-20 (Table 5.8). During last six decades there has been a clear shift in the land utilization from agricultural purposes to non-agricultural purposes mainly due to growth in population as well as economic development.

Table 5.8: Land use pattern in the village Sahajapur

(Unit: Acre.)

Particulars	In 1955-56 (during last survey)	In 2019-20 (during current survey)
Geographical Area	385.10	385.10
Net Sown Area	345.04	300.96
Uncultivated area	28.98	74.14
% agricultural land in geographical area	92.47	80.75
% non-agricultural land in geographical area	7.53	19.25
% current fallow in geographical area	2.88	2.60

Source: Village Survey 1955-56 & 2019-20.

Table 5.9: Total area sown by caste (in Acres)

Caste	Total number of cultivators		Net area operated		Average size of holding
	Number	%	Acres	%	
GCH	73	56.15	188.46	62.62	2.58
OBC	22	16.92	58.50	19.44	2.66
SC	35	26.92	54.00	17.94	1.54
ST	0	0.00	0.00	0.00	NA
Total	**130**	**100.00**	**300.96**	**100.00**	**2.32**

Source: Village Survey 2019-20.

It is also clear from Table 5.9 that the Hindu general castes and OBC category households own most of the cultivable area in Sahajapur while the scheduled tribes are all landless. Scheduled tribes are 17.46 of the total population in the village but surprisingly own no cultivable land. The share of scheduled caste households in the population is as high as 39.72 per cent but they own only 17.94 per cent of the land. This shows very high inequality

in the distribution of cultivable land across the caste categories. It is interesting to observe that the small and marginal operators have very small amount of unirrigated land in their command as compared to their medium and large counterpart (Table 5.10).

Table 5.10: Agricultural land distribution across size classes of operational holding (in Acres)

Farmer type	Un-irrigated owned area	Irrigated owned area	Leased area irrigated	Un-irrigated cropped area	Irrigated cropped area	Net Cropped Area
Marginal	3.59	106.77	0.50	3.59	107.27	110.86
Small	0.00	104.50	5.60	0.00	110.10	110.10
Medium & large	11.00	67.00	2.00	11.00	69.00	80.00
Total	**14.59**	**278.27**	**8.10**	**14.59**	**286.37**	**300.96**

Source: Village Survey 2019-20.

5.2.5 Major farming system in the village and changes therein

The farming system in Sahajapur has undergone a little change from the time of the first survey in 1955-56. The farm tenure system, as mentioned earlier, is still dependent on self-cultivation with employing hired labour, *krishani* system (a form of share cropping) and contractual cultivation in lieu of cash or kind share. Cereal based subsistence nature of crop farming is still prevalent in the village. However, there is significant improvement in use of modern farm inputs and hence in the productivity of all the crops. Average size of holding is very low in the village (2.32 acres only) that hinders large scale adoption of improved farm technologies. There are a total of 130 farm households in the village but not a single household belongs to large farm category. Only 11 farmers are of medium size category in the village and 91.54 per cent of the farmers are either marginal farmer or small farmer. Paddy-fallow-fallow; Paddy-rapeseed mustard-fallow; Paddy-potato-fallow, Paddy-vegetables-fallow & Paddy-fallow-paddy are the common crop sequences being followed in the village. The cropping pattern has also experienced a change over time, of which we shall be discussing later. Majority of the land is owned by the Hindu general caste and OBC households who prefer to cultivate their own land with hired labour from the scheduled caste and scheduled tribe households. Though more than 96 per cent cultivable land in the village is under canal irrigation, but it provides supplementary irrigation during kharif season only. During rest of the year the canal remains dry. As there is lack of controlled and secured irrigation, the cropping intensity is quite low.

5.2.6 Cropping pattern and changes therein

5.2.6.1 Cropping pattern

In course of our village survey in Sahajapur in 2019-20 we find a predominance of Kharif paddy in the crop rotation cycle of the village. In the absence of secured and dependable source of irrigation the farmers seem to bank on kharif paddy which is cultivated during monsoon. Though the agricultural land of the village is covered under the command area of the *Mayurakshi* irrigation canal passing by the side, however, it is capable of providing supplementary irrigation only during the monsoon season. In other crop seasons, as we have said earlier, the irrigation canal gets dry and fails to provide any water for irrigation. There is only a few submersible tube well running in the village catering for40.60 acres of land in summer season (Table 5.11a). However, in Rabi season 20.33 acres under potato and 24.71 acres under rapeseed and mustard get irrigation mainly from sub-soil sources while 5.36 acres of land under vegetables and other crop get irrigation from village ponds and tanks. There are several reasons behind the poor functioning of the canal irrigation system in the area. The *Mayurakshi* canal irrigation system has been deteriorating over the years. One of the main reasons might be the high siltation in the main reservoir in *Masanjore* that has reduced the water storage capacity. However, in the upper command reaches of the channels the flow of water remains more or less adequate in both kharif and summer seasons. But in the lower reaches, where Sahajapur is situated, the quantum of water seems to be quite inadequate. Particularly, during the rabi and summer crops these villages are never provided with irrigation water through the canal. Moreover, the sub-soil water table in the area remains very difficult to access without deep boring that necessitates big investment and hence the cultivation seems to be restricted mainly to kharif paddy.

The cropping pattern of the village is dominated by paddy. Kharif paddy accounts for 76.78 per cent of the total cropped area of Sahajapur in 2019-20 while boro paddy accounts for 10.36 per cent. Rapeseed mustard and potato are the two main crops being cultivated during rabi season. Rapeseed and mustard accounts for 6.30 per cent and potato, the only cash crop being cultivated in the village, accounts for 5.19 per cent of GCA. These three crops (paddy, rapeseed-mustard and potato) together accounts for as high as 98.63 per cent of the GCA (Fig. 5.3). Other minor crops are brinjal, tomato, ladies finger, and few cucurbits.

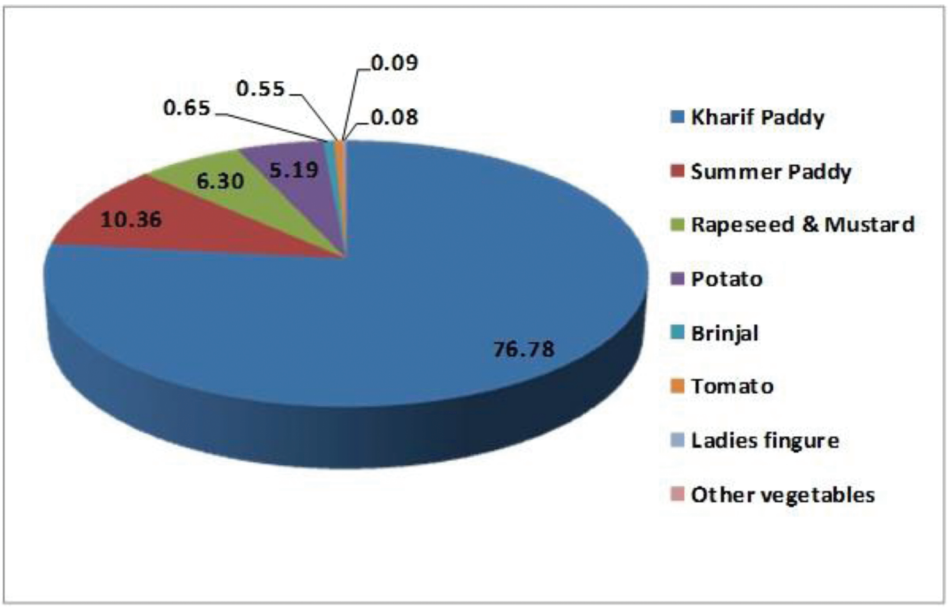
Table 5.11a: Cropping Pattern in the village Sahajapur in 2019-20

(In Acres)

Category	Particulars	Crops	Kharif	Rabi	Summer/ Boro	Perennial crops	Total
Irrigated	1. Cereal Crops	Paddy	286.37	-	40.60	-	326.97
	2. Oilseeds	Rapeseed & mustard	-	24.71	-	-	24.71
	3. Fruits & vegetables	Potato	-	20.33	-	-	20.33
		Tomato	-	2.15	-	-	2.15
		Brinjal	-	2.54	-	-	2.54
		Ladies Finger	-	0.35	-	-	0.35
		Other vegetables	-	0.32	-	-	0.32
Rainfed	1. Cereal Crops	Paddy	14.59	-	-	-	14.59
TOTAL			300.96	50.40	40.60	-	391.97

Source: Village Survey 2019-20.

Fig. 5.3 Cropping pattern in Sahajapur during 2019-20 (% of GCA)



5.2.6.2 Crop diversification

As is evident from the Table 5.11 and Fig. 5.3, the farmers of Sahajapur have little opportunity of extensive crop diversification and are depending mostly on kharif and boro paddy as the staple crop. There is complete specialization towards paddy both in kharif as well as summer season. All the 130 cultivators cultivated kharif paddy and only 40 cultivators do cultivate boro paddy during summer. However, it is only during rabi season

around 25-35 per cent farmers (32 to 47 in numbers) do cultivate other crops like rapeseed mustard, potato, brinjal, tomato, ladies finger and other vegetables.

Table 5.11b: Number of crops grown by the farmers across farm size categories

Size category	Number of crops grown					Total farmers	Avg. numbers of crops grown	SI of crop diversification
	1	2	3	4	5			
Marginal	36	35	16	2	0	89	1.82	0.27
Small	3	10	15	2	0	30	2.53	0.36
Medium	0	0	1	6	4	11	4.27	0.71
Total	**39**	**45**	**32**	**10**	**4**	**130**	**2.19**	**0.33**

Source: Survey 2019-20.

The level of crop diversification is also measured through number of crops grown as well as Simpson Index of crop diversification (Table 5.11b).It is evident from the Table 5.11b that the level of crop diversification in the village is quite low. A perusal of the table reveals that the level of crop diversification increases with the increase in size of holding. Both in terms of average number of crop grown as well as Simpson Index of crop diversification, medium farmers are far ahead of marginal and small farmers in diversifying their crop portfolio. But the number of such medium farmer is only 11 in the village.

5.2.6.3 Shift in cropping pattern

We present here, in this section, the cropping pattern of Sahajapur in 1955-56 and 2019-20. The cropping pattern of the village is dominated by paddy during both the period but there has been a clear cut shift in terms of area allotted to non-paddy crops. It is evident from the Table 5.12 that during the first survey the farmers used to cultivate some other crops such wheat, sugarcane, onion, sugarcane and a number of pulses in addition to their major crop paddy which they altogether discontinued. There is a shift in cropping pattern in favour of rapeseed mustard, summer paddy, potato and winter vegetables away from wheat, sugarcane, pulses, and onion. Though during the first survey paddy was the main crop accounting for 91.6 per cent of the gross cropped area and other crops accounted for the rest. But during the current survey we find that cereal crop under irrigated conditions have increased to the tune of 26.47 per cent and this is mainly due to introduction of summer paddy since late 1980s. On the contrary there is complete absence of wheat, sugarcane, onion and pulses. However, area under potato has increased by 386.36 per cent. Also there

has been tomato, brinjal, ladies finger etc. that were not cultivated during the first survey in 1955-56 but now being cultivated by few farmers. As we have mentioned earlier, that the vegetables are mostly grown with irrigation from village tanks while potato and oilseeds, that require assured and controlled irrigation, are catered by sub-soil water from submersible tube wells. But in Sahajapur there is scarcity of controlled and perennial irrigation for crop enterprise and hence acreage under crops other than kharif paddy does not register a substantial part in the cropping map of the village. On the other with the increase in input prices and the wage rate the crop cultivation, as reported by the farmers, is being less profitable. Moreover, Sahajapur with its proximity to the urban centre offers various non-agricultural pursuits that might be turning out to be more lucrative that the crop enterprise. In terms of crop groups, the share of cereals in the gross cropped area has declined while cash crop like potato has increased over the years. Pulses have been replaced by oilseeds. There has been substantial increase in the area under potato (cash crop) and vegetables (Table 5.13).

Table 5.12: Changes in cropping pattern in the village Sahajapur

(In acres)

Category	Particulars	Crops	In 1955-56	In 2019-20	% Changes
Irrigated	1. Cereal Crops	Paddy	258.53	326.97	26.47
		Wheat	5.87	-	-100
	2. Pulses	Pulses	22.16	-	-100
	3. Oilseeds	Rapeseed mustard	-	24.71	100
	4. Fruits & vegetables	Potato	4.18	20.33	386.36
		Onion	0.40	-	-100
		Tomato	-	2.15	100
		Brinjal	-	2.54	100
		Ladies Finger	-	0.35	100
	5. Others	Sugarcane	3.20	-	-100
		Others	3.56	0.32	-91.01
Rainfed	1. Cereal Crops	Paddy	81.83	14.59	-82.17
		Wheat	-	-	-

Source: Village Survey 1955-56 & 2019-20.

5.2.7 Irrigated area by sources and changes therein

From the report on Sahajapur survey of 1955-56 we find that 85.4 per cent of kharif crop area could avail canal irrigation while 14.6 per cent was catered by village tanks (Table 5.14). In 2019-20, however, we observe that during kharif season 92.8 per cent of cropped land receives canal irrigation and 7.2 per cent receives irrigation from sub-soil sources. Moreover, the first survey reported that all the rabi crops were cultivated with irrigation

from village tanks but during the course of the current survey we find 89.4 per cent of rabi crops (i.e., potato, rapeseed and mustard) receive sub-soil irrigation. The paddy cultivation in summer season has been introduced since the submersible wells were installed and summer paddy cultivation necessitates controlled and assured irrigation that is received from these sources.

Fig. 5.4 Shift in cropping pattern in Sahajapur between 1955-56 and 2019-20 (% of GCA)

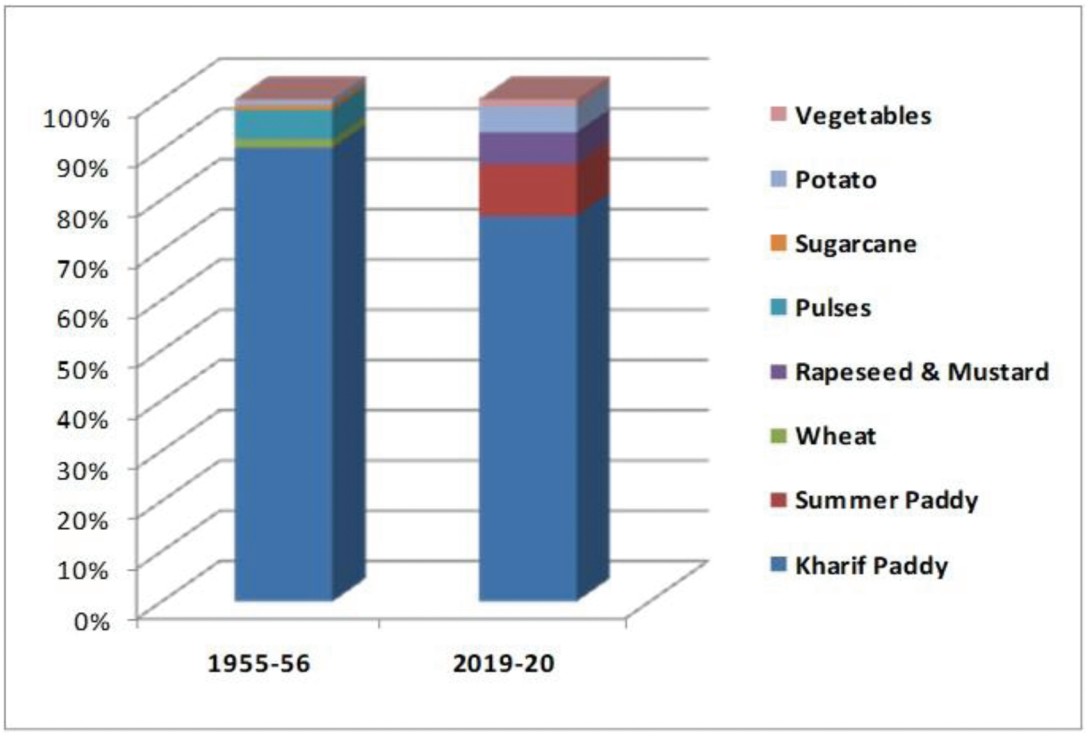


Table 5.13: Change in cropping pattern in Sahajapur during 1955-56 to 2019-20

Crop groups	Share in total cropped area (%)	
	In 1955-56	In 2019-20
Cereals	91.18	87.13
Pulses	5.83	0.00
Oilseeds	0.00	6.31
Cash crops	1.94	5.19
Vegetables	0.11	1.37
Others	0.94	0.08
Total	**100**	**100**

Source: Village Survey 1955-56 & 2019-20.

Table 5.14: Irrigation facilities by source (% of area irrigated)

Sources of irrigation	In 1955-56			In 2019-20		
	Kharif	Rabi	Summer	Kharif	Rabi	Summer
Tank	14.6	100.0	-	-	10.6	-
Canal	85.4	-	-	92.8	-	-
Sub-mersible TW	-	-		7.2	89.4	100.0

Source: Village Survey 1955-56 & 2019-20.

5.2.8 Average yield of different crops and changes therein

The productivity of crops has increased over time from the first survey of Sahajapur. Even though the present survey reveals a complete specialization towards one crop paddy during kharif and summer nonetheless the productivity per acre of paddy has improved substantially. From average yield of 5.68 quintals per acre in 1955-56 the productivity of paddy per acre has gone up to 23.91 quintals in 2019-20 (Table 5.15).This hike in productivity might be attributed to increasing use of high yielding varieties of seeds, chemical fertilizers, pesticides and micro nutrients. Continuous agricultural research in the country in view of producing better quality of seeds has had its influence on the use of high yielding seeds by the farmers. The Green Revolution in the mid 60's had its impact on mostly wheat producing areas. However, in Bengal since mid 80's there has been an all-round increase in the productivity of rice with widespread use of sub-soil water with the help of shallow tube wells. It is, thus, revealed in the present data that in a span of over sixty years the average yield of paddy registers over four fold increase. The yield of almost all the crops have increased in the country so is the case with this particular village. But the increase in yield in potato is highest.

5.2.9 Average input use per acre and changes therein

Here we take up the comparison of input use in agriculture in two periods of survey. As we have already stated that paddy has been the main crop being cultivated by all the farmers during both the period thus the comparison is made here only for paddy (Table 5.16). Particularly, kharif paddy during monsoon is the main crop with a substantive area under cultivation. The summer paddy, however, is grown in a very small area and of recent origin. Hence, we take up kharif paddy for comparison of input costs. Per acre cost of inputs reveal that in 1955-56 here was almost no use of chemical fertilizers for cultivation registering only 1.5 kgs. per acre while in 2019-20 the average quantity of fertilizer application has increased

to 60 kgs. per acre. Fertilizer that was in use in 1955-56 was only Ammonium Sulphate, a composition of Nitrogen. Presently we find use of various combinations of NPK fertilizers like Urea, SSP, DAP as well as Ammonium Sulphate suitable for different crops and soil types. Also for some crops micronutrients are also used for enhancing productivity. Earlier it was farm yard manure and oil cakes that were used to rejuvenate soil fertility. It is also evident from the table that the practice of intensive cultivation of high yielding varieties necessitates higher use of seeds and plant protection chemicals per acre of land. The seed rate has been doubled from 30 kgs/acre in 1955-56 to 60 kgs/acre in 2019-20. Earlier there was no use of plant protection chemicals but now on an average paddy crops require three times application. Previously, it required 20 bullock hours for tilling an acre of land, but presently the soil tilling is being done by tractors on contract. Intensive cultivation has had its impact on increasing the labour use for de-weeding, fertilizer application and application of insecticides from time to time in course of cropping. Moreover, crop cutting, harvesting and carrying the produce to farm yard requires more labour than before. It is interesting to observe the change in wage rate of hired labour. In 1955-56 the wage rate for a man-day's work was Rs. 1.50 to Rs. 2.00 that has increased to Rs. 250.00 to Rs. 300.00 within a span of sixty-six years.

Table 5.15: Yield of major crops in the village Sahajapur (Unit: Qtl/acres)

Particulars	In 1955-56	In 2019-20	% Changes
Irrigated			
1. Cereal Crops			
Paddy	5.68	23.91	320.95%
Wheat	2.00	-	NA
2. Pulses	1.88	-	NA
3. Oilseeds	-	4.43	NA
4. Fruits & vegetables			
Potato	13.68	112.50	722.37%
Onion	11.88	-	NA
5. Sugarcane	21.72	-	NA
6. Others*	10.88	70.35	546.60%
Rainfed			
1. Cereal Crops			
Paddy	4.48	20.86	365.63%

Source: Village Survey 1955-56 & 2019-20. Note: *mostly vegetables

5.2.10 Distribution of livestock resources and changes therein

We have discussed earlier in chapter III that with the passage of time from the initial survey rearing of cattle, particularly bullock for cultivation have declined. As a more cost effective method the farmers prefer to hire tractors for cultivation rather than maintain a pair of

draft animals. The bullocks earlier were also used for drawing the cart that used to transport the harvest from field to farm yard and then to either market of processing units. But with introduction of motorized rickshaw vans and other automobile mode of carriages, bullock carts are rarely observed in the villages. Similarly, there are only a few households in Sahajapur who own milch cattle primarily for their own consumption of milk. Rather, rearing of goats and poultry birds has emerged as a growing business among a section of villagers, particularly among the scheduled caste and scheduled tribes.

Table 5.16: Input use in agriculture (paddy) per acre and changes therein

	1955-56		2019-20	
Agricultural Inputs	Quantity	Value (Rs)	Quantity	Value (Rs)
Seed (kg)	30	5.70	60	930.00
Farm Yard Manure (cart load)	9.4	4.90	3.0	435.00
Fertilizer (Kg)	1.5	6.20	60	2100.00
Oil Cake (Kg)	6	3.20	-	-
Insecticide (Lt)	-	-	3	525.00
Irrigation (Canal)	-	-	-	30.00
Bullock/Tractor power (Hrs)	20	14.20	Contract*	4500.00
Hired/Family Labour (man-day)	31	62.50	66	16500.00
Wage rate per man-day	1.50-2.00		250.00-300.00	

Source: Village Survey 1955-56 & 2019-20.
*Tractor hiring charges was Rs.4500 per acre of land

5.2.11 Tools, implements and machinery use in agriculture

The most important change has been in respect of draft power that is used in farming. In 1955-56 survey no modern implements was observed. The common implements included *deshi* plough, spade, hoe, scythe and sickle harrow. Modern tools such as tractors, power tillers, and sprayer or thresher machines were not in use and the draft power was entirely depended on pairs of bullocks or buffalos. The main source of transport of output too was bullock cart. However, the scenario has changed completely and during present survey we observe the frequent use of tractors, sprayers, threshers etc. in the process of agricultural enterprise. Only two household is found to have a pair of *deshi* bullocks for the purpose of cultivation. Rest of the farming households are hiring in tractor power on hourly basis for land tillage. Sprayers are frequently used for spraying insecticides and micronutrients while threshers are commonly seen in the farming households. Transportation of output from the

field or to the processing unit is generally carried out in the trolley van attached with the tractor or in motor driven rickshaw van.

It appears from the Table 5.17 that in 1955-56 the farming families of Sahajapur depended entirely on the traditional tools and implements for cropping activities that has undergone a major change in 2019-20. We find that the number of plough has declined to only 2 while 6 tractors are now found in the village. In course of the present survey we did not look for traditional implements possessed by the households. We considered the modern implements only. However, traditional tools like spade, scythe, sickle etc. are still owned by almost all the farming household. Moreover, pump machines, threshers and sprayers are quite common nowadays.

Table 5.17: Agricultural tools and machineries

Implement type	1955-56			2019-20		
	No.	Total value (Rs.)	Average value (Rs.)	No.	Total value (Rs.)	Average value (Rs.)
Desi plough	106	803	7.58	2	8500.00	4250.00
Spade	88	449	5.10	-	-	-
Hoe	34	41	1.21	-	-	-
Scythe & sickle	112	97	0.87	-	-	-
Harrow	42	40	0.95	-	-	-
Water lift	21	805	38.33	-	-	-
Tractor				6	3850000.00	641666.67
Bullock cart	30	3825	127.50	2	12700.00	6350.00
Pump	-	-	-	14	399000.00	28500.00
Thresher	-	-	-	9	47500.00	5277.78
Sprayer	-	-	-	33	147000.00	4454.55

Source: Village Survey 1955-56 & 2019-20.

5.2.12 Production and disposal of farm outputs

In analyzing the production of crops during the 1955-56 survey we are faced with the situation where the marginal farmers sell minimum proportion of the staple crop paddy. Only 2.29 per cent of total output was sold by the marginal farmers in 1955-56 and the share of sales by the small farmers for the same crop was to the tune of 18.44 per cent (Table 5.18). It appears that the farmers under smaller operational classes keep the output for home consumption while the larger ones sell a third of their produce. The data relates to kharif paddy, which in the village society, is the staple food for the family. But with increase in productivity over the years the present survey exhibits higher proportion of all the crops

being sold by the farmers. However, it is clearly visible that the pattern of increase in the proportion of sale increases with the farm size. It is interesting to observe that the entire produce of summer rice is sold by the farming households in all categories. Next in order is the potato where 97 per cent of the output is sold in the market. This is the only cash crop grown in the village now. The findings of the table clearly reveals the subsistence nature of farming for the staple food kharif paddy both in 1955-56 as well as in 2019-20 but over the years market orientation has changed substantially particularly for summer paddy, potato, rape seed mustard and vegetables.

5.2.13 Prevalent marketing channels and procurement arrangements

Main dominant marketing channel that take care of produce marketing in Sahajapur is the procurement agent or the middlemen. Only one family is found to have gone to the local market for sale of paddy. Out of 130 farming families 70 families depended on the local agents for selling their output (Table 5.19). It seems quite natural that the farmers prefer agents to procure the output from their own farm yard. In such cases the farmers themselves do not have to bother about the transportation of produce and the cost involved in transportation. It has become a widespread practice in the agrarian sector of West Bengal. In view of the all-round cost hike for agricultural inputs this has been a common psychology among the farmers and moreover, they could bypass the hazards of direct marketing, though the price they receive for their output remains on the lower side.

5.3 Income, Consumption and Asset Profile

5.3.1 Distribution of households by income level

We observe certain interesting but trivial features while discussing about the composition of income across various livelihood groups in Sahajapur in 2019-20. It is expected that the cultivators would have maximum farm income per capita per annum in comparison with the other livelihood groups but in course of the analysis we find that the highest farm income is being derived by the only household with an entrepreneurial activities in addition to crop cultivation closely followed by households pursuing animal husbandry as their primary occupation and income from animal husbandry been treated as a component of farm income (Table 5.20). The cultivators are also receiving substantial income from farm

sources. On the contrary the wage earning households particularly the agricultural and casual labourers have more off-farm income than the rest of the households.

Table 5.18: Production and disposal of output (Quintals)

Size-class of farmers	Crop	1955-56			2019-20		
		Total Output	Output Sold	% Sold	Total Output	Output Sold	% Sold
Marginal	Paddy	87.20	2.00	2.29	2627.10	596.35	22.70
	Sum paddy	-	-	-	198.53	198.53	100
	Potato	-	-	-	55.12	38.12	69.16
	Rapeseed mustard	-	-	-	35.99	23.49	65.27
	Vegetables	-	-	-	230.75	201.75	87.43
	Pulses	0.35	0.00	0.00	-	-	-
	Gur (From Sugarcane)	1.46	0.40	27.40	-	-	-
Small	Paddy	555.34	102.40	18.44	2621.90	900.88	34.36
	Sum paddy				284.27	284.27	100.00
	Potato	8.80	0.00	0.00	761.60	737.60	96.85
	Rapeseed mustard	-	-	-	32.56	27.56	84.64
	Vegetables	-	-	-	87.23	74.23	85.10
	Pulses	7.85	0.00	0.00	-	-	-
	Gur (From Sugarcane)	7.90	2.80	35.44	-	-	-
Medium & above	Paddy	1554.74	585.80	37.68	1839.00	1051.54	57.18
	Sum paddy				477.63	477.63	100.00
	Potato	49.58	14.00	28.24	1460.24	1430.24	97.95
	Rapeseed mustard	-	-	-	40.91	34.91	85.34
	Vegetables	-	-	-	59.09	50.09	84.77
	Pulses	39.72	6.40	16.11	-	-	-
	Gur (From Sugarcane)	56.86	26.60	46.78	-	-	-
Total	Paddy	2197.28	690.20	31.41	7088.00	2303.60	32.50
	Sum paddy	-	-	-	960.43	960.43	100.00
	Potato	58.38	14.00	23.98	2276.96	2205.96	96.88
	Rapeseed mustard	-	-	-	109.47	85.97	78.53
	Vegetables	-	-	-	377.08	326.08	86.47
	Pulses	47.92	6.40	13.36	-	-	-
	Gur (From Sugarcane)	66.22	29.80	45.00	-	-	-

Source: Village Survey 1955-56 & 2019-20.

Table 5.19: Marketing channels for paddy in Sahajapur 2019-20

Size class of farmers	Output sold to whom	No. of farmers	Output price kharif paddy (Rs./Qnt)	Output price summer paddy (Rs./Qnt)
Marginal	Home consumption	56	NA	NA
	Direct marketing	1	1300.00	-
	Both village agents & aratdars	26	1296.15	-
	Village agents	5	1304.00	1486.67
	Others	1	1280.00	-
	Total	89	1296.11	1486.67
Small	Home consumption	2	NA	NA
	Both village agents & aratdars	21	1290.05	-
	Village agents	7	1296.29	-
	Total	30	1291.83	-
Medium & Large	Both village agents & aratdars	10	1291.50	1480.00
	Village agents	1	1275.00	-
	Total	11	1290.0000	1480.00
Total	Home consumption	58	NA	NA
	Direct marketing	1	1300.00	-
	Both village agents & aratdars	57	1293.09	1480.00
	Village agents	13	1297.62	1486.66
	Others	1	1280.00	-
	Total	**130**	**1294.61**	**1485.00**

Source: Village Survey 2019-20;

So do the other workers and the marginal labourers. However, the accrual of non-farm income is highest among the families with white collar jobs like government and private service and pensioners retired from government services. It is interesting to observe that in aggregate the maximum income per capita per annum is being derived from non-farm sector followed by off-farm employment. Per capita income from farming activities seems to be the lowest among the three major sources of income. One of the reasons for such a scenario might have been due to the fact that in face of increasing cost and rather non-remunerative output prices the profitability from agricultural enterprise is diminishing with the passage of time. In the absence of cash or high valued crops, agriculture won't be a lucrative activity. Farmers in West Bengal in general and in Sahajapur in particular are mostly depending on the traditional crop rotation practices. It's call of the hour that the farming community should seriously think about and adopt alternative and high valued crops to make the crop enterprise more profitable.

Table 5.20: Composition of income of households in Sahajapur by livelihood groups

(Rupees per capita per annum)

Livelihood Groups	Farm Income	Off-farm Income	Non-farm Income	Total
Cultivator	12047.29	9187.04	11333.33	32567.66
Agricultural labour	3705.09	21782.12	6815.07	32302.27
Dairy/Fishing/Poultry keeping	14376.02	13783.33	-	28159.35
Government Salaried	10503.45	10253.17	73061.05	93817.68
Private Salaried	6178.83	9678.79	42729.17	58586.78
Pensioner	5708.80	-	35333.33	41042.13
Caste based profession	10728.11	12435.00	15908.33	39071.44
Trade & business	8805.30	11391.40	47786.32	67983.02
Entrepreneur	14560.00	3600.00	43200.00	61360.00
Casual labour	3969.72	21853.24	7488.00	33310.96
Marginal labour	5285.07	11847.22	15333.33	32465.63
Household	2656.50	14500.00	18750.00	35906.50
Others	6206.25	20504.76	13690.48	40401.49
Overall	**7928.80**	**18230.11**	**36624.19**	**62783.09**

Source: Village Survey 2019-20

Table 5.21: Composition of income in Sahajapur by castes.

(Rupees per capita per annum)

Caste	Farm Income	Off-farm Income	Non-farm Income	Total
Hindu General Caste	7957.70	11282.16	44014.49	63254.36
OBC	10317.11	16681.67	51360.42	78359.20
Scheduled Caste	6653.16	20020.09	19180.13	45853.38
Scheduled Tribe	1750.00	24297.58	23700.00	49747.58
Overall	**7928.8**	**18230.11**	**36624.19**	**62783.09**

Source: Village Survey 2019-20

When per capita income is analysed across social groups we are faced with a situation where the households from OBC categories earn more from farm sector while scheduled tribes and castes from the off-farm sector (Table 5.21). Though Hindu general castes are mostly land owning farming families they earn less from farm sector. On the contrary the households of other backward communities derive more non-farm income closely followed by the Hindu general caste population.

Table 5.22: Average number of income sources across livelihood groups and castes

Caste	Hindu General Caste	OBC	SC	ST	All
Cultivator	2.47	2.60	3.00		2.52
Agricultural labour	1.79	1.38	1.47	1.16	1.39
Dairy/Fishing/Poultry keeping	3.00	3.00	2.00		2.67
Government Salaried	2.69	3.60	2.80	2.00	2.82
Private Salaried	2.60	2.25	3.00		2.56
Pensioner	1.67				1.67
Caste based profession	2.13	2.50	3.00		2.38
Trade & business	2.79	3.60	3.20	2.00	2.93
Entrepreneur	5.00				5.00
Casual labour	2.50	2.00	1.40	1.33	1.70
Marginal labour	2.00		2.80		2.67
Household	3.00		2.00		2.50
Others	1.33	2.00	2.50		2.17
Overall	2.46	2.29	1.75	1.21	1.94

Source: Village Survey 2019-20

Table 5.23: Composition of expenditure of households in Sahajapur by livelihood groups

(Rupees per capita per annum)

Livelihood Groups	**Expenditure on Food Items**	**Expenditure on Non-Food Items**	**Expenditure on Assets Purchase**	**Total**
Cultivator	9489.71	5141.67	759.26	15390.64
Agricultural labour	8829.65	4747.44	520.51	14097.59
Dairy/Fishing/Poultry keeping	10016.67	6233.33	325.00	16575.00
Government Salaried	11293.42	6968.37	770.01	19031.80
Private Salaried	9911.46	7079.69	3608.33	20599.48
Pensioner	5550.00	5888.89	500.00	11938.89
Caste based profession	8017.31	5192.18	871.67	14081.15
Trade & business	11295.42	7558.13	1810.83	20664.38
Entrepreneur	13400.00	4800.00	600.00	18800.00
Casual labour	8839.66	4996.60	496.15	14332.42
Marginal labour	8006.94	4534.72	433.33	12975.00
Household	8312.50	4625.00	375.00	13312.50
Others	8492.56	4691.17	548.57	13732.30
Overall	**9331.32**	**5421.37**	**780.69**	**15533.37**

Source: Village Survey 2019-20

Table 5.24: Composition of expenditure in Sahajapur by castes

(Rupees per capita per annum)

Castes	Expenditure on Food Items	Expenditure on Non-Food Items	Expenditure on Assets Purchase	Total
Caste Hindu	9680.86	6485.04	1892.65	18058.55
OBC	9770.78	5721.85	725.35	16217.98
Scheduled Caste	8735.83	4667.24	424.38	13827.45
Scheduled Tribe	9767.72	5045.68	287.5	15100.9
Overall	**9331.32**	**5421.37**	**780.69**	**15533.37**

Source: Village Survey 2019-20

Access to better education leading to better job opportunity might have been a reason behind. In this context, it is also interesting to observe that on the overall scenario the Hindu general caste people pursue the maximum number of income sources and a close second is the OBCs (Table 5.22). The scheduled castes and tribes remain way behind the two former social groups in terms of the income sources. It may be noted at this juncture that household pursuing entrepreneurship has the maximum number of income sources in family. Close seconds are households with trade and business and white collar job holders.

5.3.2. Distribution of households by consumption level

A similar scenario, as in case of per capita income, gets reflected when we analyse the per capita per annum expenditure of the households. The families having at least one member employed in salaried job or involved in trade and business have higher per capita total consumption expenditure than the rest of the livelihood groups (Table 5.23). At the same time this is also obvious that these sections have higher expenditure on both food and non-food items of consumption. Per capita expenditure on asset purchase, however, is higher among private salaried households. If seen across castes composition it appears trivial to find that for the members of Hindu general caste family's annual per capita expenditure on non-food and asset purchase is substantially higher in comparison with the other sections (Table 5.24).

5.3.3 Asset profile of the rural households

A mixed pattern of ownership of residential land and residential house is observed in the village. While among the Hindu general caste families ownership of high valued residential

land is visible (Average value Rs. 471158.90, Table 5.25a), the scheduled tribes occupy the residential land which are cheaper. On the contrary, the average value of residential houses among the OBCs and SCs are greater than that of the general caste houses. In fact the average value of residential house of the scheduled tribe is comparable with the Hindu general caste people. This might be due to the fact that the OBCs, SCs and STs are most likely to be the beneficiary of government housing scheme or Prime Minister's Awaas Yojna (PMAY) where the construction cost of pucca house (brick wall & concrete roof) is provided by the government. But as far as the ownership of commercial buildings and cultivable land come into question, the Hindu general castes and OBCs dominate the scenario with SCs being close followers. So far as cultivable land is concerned, which in turn is an important asset in the rural society to bank on; the Hindu general caste households and OBCs have an edge over the other sections while the entire ST community is deprived of any land ownership.

Table 5.25a: Asset profile of households in Sahajapur (in Rs.)

Assets	**Residential land**		**Residential house**		**Commercial building**		**Cultivable land**	
Caste	**% of HH**	**Average value**	**% of HH**	**Average value**	**% of HH**	**Average value**	**% of HH**	**Average value**
GCH	38.77	471159	30.79	381789	62.00	731936	56.49	898716
OBC	10.51	271069	11.86	391191	16.00	687500	16.79	756364
SC	41.30	131632	39.83	416879	16.00	675000	26.72	475714
ST	9.42	77654	17.51	377742	6.00	233333	-	-
Total	**100.00 (276)**	**272826**	**100.00 (354)**	**396172**	**100.00 (50)**	**685800**	**100.00 (131)**	**761794**

Source: Village Survey 2019-20

Table 5.25b: Asset profile of households in Sahajapur (in Rs.) (Contd.)

Assets	**Bicycle**		**E rickshaw**		**Two wheeler automobile**		**Four wheeler automobile**	
Caste	% of HH	Average value	% of HH	Average value	% of HH	Average value	% of HH	Average value
GCH	30.02	3732	25.00	75000	45.73	66323	66.67	550000
OBC	12.47	366	-	-	15.85	71905	-	-
SC	42.26	4281	62.50	100000	26.83	67610	33.33	500000
ST	15.24	3316	12.50	120000	11.59	53684	-	-
Total	**100.00 (433)**	**3867**	**100.00 (8)**	**96250**	**100.00 (164)**	**65842**	**100.00 (3)**	**533333**

Source: Village Survey 2019-20

Table 5.25c: Asset profile of households in Sahajapur (in Rs.) (Contd.)

Assets	Sewing machine		Television		Computer		Refrigerator/ Washing machine	
Caste	% of HH	Average value	% of HH	Average value	% of HH	Average value	% of HH	Average value
GCH	50.00	3000	30.67	11295	87.50	34286	68.75	14714
OBC	50.00	5000	12.46	11684	12.50	40000	18.75	14167
SC	-	-	39.94	10240	-	-	9.38	14667
ST	-	-	17.57	8200	-	-	3.12	15500
Total	**100.00 (2)**	**4000**	**100.00 (313)**	**10377**	**100.00 (8)**	**35000**	**100.00 (64)**	**14629**

Source: Village Survey 2019-20

It is a fact that in the village society bicycle is still a very popular and efficient mode of local transport of the people. Hence, it is obvious that the ownership of bicycles would be a common feature among the households irrespective of their caste identity (Table 5.25b). Moreover, the Government of West Bengal has taken a policy to distribute bicycles free of cost among the students of schools. In this background possession of at least a bicycle in the family is a common feature. But it is interesting to find a number of two wheelers among all sections of population. In recent years the two wheelers have been very popular particularly among the younger people. Similar is the case of television too, where it has become almost essential durable goods to be possessed by the family ((Table 5.25c). However, refrigerators are being popular among the rural families in the recent years. This might be due to the hire-purchase marketing strategy that is being pursued by the refrigerator manufacturing companies to enhance and expand the market for their product. On the contrary computers are still not that popular among the rural people.

5.3.4. Pattern of savings

As far as the savings behavior is concerned we find two types of savings by the households. One is for emergency need of livelihood which is generally saved with the bank as a savings account. The other is for the future need treated as an investment in the term deposit account with the bank. Keeping a part of the financial resources as a savings account with bank is very popular among the poorer sections viz. scheduled tribes and castes. Average savings in savings account of SCs is Rs. 31476.26while for STs the corresponding quantum is Rs. 16306.45 (Table 5.26). It is worth mentioning here that the method of direct benefit transfer (DBT) in connection with MGNREGS and other various government schemes

necessitates opening bank account by the individuals. This, in course of the process, has motivated the people across all sections to have a bank account.

Keeping money in term deposit account is not at all found among the tribal families. Rather the Hindu general caste families and OBCs, who are relatively better off in resourcefulness do generally opt for term deposits with banks. A small section of SC households seem to save in term deposits. Deposits in the post offices are also not very common among the poorer sections while life insurance with LIC is being assisted by government programme mostly for the poorer sections.

Table 5.26: Mode of savings across social groups in Sahajapur in 2019-20

Caste	Bank savings a/c		Bank Term deposit a/c		P.O. savings a/c		LIC policy	
	% of HH	Average amount	% of HH	Average amount	% of HH.	Average amount	% of HH.	Average amount
GCH	30.37	92293	74.55	408537	85.71	52000	68.92	34716
OBC	12.03	88571	14.55	366250	14.29	9000	17.57	12385
SC	39.83	31476	10.90	466667	-	-	12.16	23889
ST	17.77	16306	-	-	-	-	1.35	15000
Total	**100.00 (349)**	**54124**	**100.00 (55)**	**408727**	**100.00 (14)**	**45857**	**100.00 (74)**	**29209**

Source: Village Survey 2019-20

5.3.5 Food security issues at village level

In considering food security in Sahajapur we find that none of the household have spent a whole day without eating anything due to poverty (Table 5.27) and only 0.3 per cent of households reported to have skipped their dinner arising out of inability to purchase food or 6.8 per cent has worried about insufficiency of food. So, in a sense the acute hunger and destitution seems to be no more in the villages like Sahajapur. But at the same time chronic poverty seems to exist. It strikes us when we find that 7.6 per cent of families ate poor quality of food and 8.5 per cent was unable to eat the kind of food they preferred due to poverty. With continuous efforts by the government to improve the living conditions of people through various development and employment guarantee programmes the abject poverty and destitution seems to have moved out but at the same time poverty still remains in the rural economy.

5.3.6 Production and disposal of off-farm outputs

Off farm products produced in the village have ample market options. Major part (86%) of produced milk is taken from farmer's door step by the vendors, 55.2 per cent of catch of fish is sold to the wholesaler and 94 per cent of poultry birds are purchased by the contractors (Table 5.28). The poultry farming in Sahajapur turned out to be a contract farming where the contractor is providing chicks, feed, medicines and vaccines and lifting the ready birds after maturity from the farmers. Eggs, however, are mostly consumed by the family and only 10 per cent is sold to neighbours in their requirement.

Table 5.27: Food security issues at village level

(% of respondents)

During last 12 months any member of the household	Never	Rarely	Sometimes	Often	Total
a. Went a whole day and night without eating due to poverty?	100.0%	-	-	-	355
b. Went to sleep hungry due to inability to purchase food?	99.7%	0.3%	-	-	355
c. Ever worried that the households would not have enough food?	93.2%	4.8%	2.0%	-	355
d. Ate some poor quality foods that you really did not liked?	92.4%	3.7%	3.9%		355
e. Were not able to eat the kind of food you preferred?	91.5%	9.8%	5.4%	0.6%	355
f. Did you offered food to your neighbors and guests?	-	2.3%	21.1 %	76.6 %	355
g. Went for outside eating in hotel/restaurant?	90.4%	5.1%	4.5%	-	355
h. Are you eating too much packed food/purchased food like ice-cream, cold-drinks, etc?	58.0%	14.4%	22.0 %	5.6%	355

Source: Village Survey 2019-20

Table 5.28: Disposal of major off-farm produces and price realization

Particulars	% of produce sold	Average price received	Units	Sold to whom?
Milk	86.3	33.50	Rs./lit	Vender
Fish	55.2	155.60	Rs./kg	Wholesaler
Poultry	94.0	189.75	Rs./kg	Contractor
Egg	10.0	72.00	Rs./dozen	Neighbours

Source: Village Survey 2019-20

5.4 Indebtedness

The scenario of rural indebtedness reflects that dependence on money lenders is no more in existence. In Sahajapur not a single family is found to have borrowed from village money lenders. However, the self-help groups (SHGs) play an important role in view of emergency credit requirements of the family. It is clear from Table 5.29a that about 13.8 per cent of

total households (49) have availed credit for various purposes from the SHGs. Most of these SHGs operate as an organization of micro credit system among its members. So, to avail credit from these groups, one has to be a member of the group. These groups are generally formed with all women members who monitor the functioning jointly. So, in a sense, these groups could be seen as a step towards women empowerment. However, the scheduled tribes seem to be less interested in taking credit even from SHGs. On the other hand, borrowing from commercial banks is not quite popular in Sahajapur. When borrowing behavior is analysed across land size-classes, the landless households are found to have their borrowings from the self-help groups only while the landed section could depend on the other sources of credit too. Over 50 per cent of the total indebted households taking loan from self-help groups are strictly landless (Table 5.29b) and the marginal farmers accounts for over 28 per cent.

Table 5.29a: Borrowing details during last 5 years across social groups

Caste	Borrowing from commercial bank		Borrowing from Self Help Group		Borrowing from govt. programme	
	% of HH	Average amount (Rs.)	% of HH	Average amount (Rs.)	% of HH	Average amount (Rs.)
GCH	100.00	500000	46.94	22609	60.00	62667
OBC	-	-	20.41	15000	40.00	55000
SC	-	-	30.61	23333	-	-
ST	-	-	2.04	30000	-	-
Total	**100.00 (1)**	**500000**	**100.00 (49)**	**21429**	**100.00 (5)**	**59600**

Table 5.29b: Borrowing details during last 5 years across land size-class

Land size-class	Borrowing from commercial bank		Borrowing from Self Help Group		Borrowing from govt. programme	
	% of HH	**Average amount (Rs.)**	**% of HH**	**Average amount (Rs.)**	**% of HH**	**Average amount (Rs.)**
Landless			50.06	21539		
Marginal	100.00	500000	28.57	20714	40.00	50000
Small			16.33	23125	40.00	69000
Medium& above			2.04	15000	20.00	60000
Total	**100.00 (1)**	**500000**	**100.00 (49)**	**21429**	**100.00 (5)**	**59600**

Source: Village Survey 2019-20

5.5. Perception of Various Groups in the Village about Economic Changes in the Village

Perception of the people about any change is important when an all-round development of a society and economy is taken into consideration. The respondents of Sahajapur survey were asked about their perception about the change that has taken place in Sahajapur in a decade or two. As far as the economic change of the village in general is concerned the scheduled communities totally respond in affirmative and among the Hindu hierarchy the reaction is also very positive (Table 5.30a). Only11.90 per cent among OBC and 3.64 per cent among Hindu general castes think that the situation has actually deteriorated. But when the question comes down to the economic change of the family itself we are faces with a mixed reaction across all sections. However, the general opinion of the villagers is of improvement rather than otherwise with about 68 per cent in favour of improvement of the economic condition of the family.

Table 5.30a: Perception of people about economic changes (%)

Caste	Economic change of village			Economic change of family		
	Improved	Deteriorated	No change	Improved	Deteriorated	No change
GCH	93.64	3.64	2.73	76.36	7.27	16.36
OBC	88.10	11.90	0.00	66.67	11.90	21.43
SC	100.00	0.00	0.00	64.54	2.84	32.62
ST	100.00	0.00	0.00	61.29	0.00	38.71
Total (No.)	**343**	**9**	**3**	**241**	**17**	**97**
(%)	**96.62**	**2.54**	**0.85**	**67.89**	**4.79**	**27.32**

Source: Village Survey 2019-20

Table 5.30b: Perception of people about other changes (%)

Caste	Infrastructural change of village			Agricultural change in village		
	Improved	Deteriorated	No change	Improved	Deteriorated	No change
GCH	96.36	3.64	0.00	74.55	7.27	18.18
OBC	88.10	11.90	0.00	76.19	14.29	9.52
SC	100.00	0.00	0.00	94.33	0.00	5.67
ST	100.00	0.00	0.00	95.16	0.00	4.84
Total (No.)	**346**	**9**	**0**	**306**	**14**	**35**
(%)	**97.46**	**2.54**	**0.00**	**86.20**	**3.94**	**9.86**

Source: Village Survey 2019-20

In respect of infrastructural change and agricultural change in the village the perception of the respondents is also very positive. It should be mentioned here that the improving road connectivity of the villages as well as reinforced cement concrete (RCC) construction of

village lanes have made a lot of change in the livelihood of the people. This probably gets reflected in the responses of the people about their perception. We observe that over 97 per cent of households in aggregate opined that there has been an infrastructural development of the village Sahajapur (Table 5.30b). However, none of the 355 respondents was of the opinion that the village infrastructure has remained unaltered. The opinion around agricultural change in the village is, however, somewhat mixed where 13.8 per cent of families thought that agricultural situation has remained unaltered or actually has deteriorated. With the installations of submersible tube wells, however meager it may be, the cropping intensity has shown signs of improvement. It is now call of the hour that alternative varieties of crop suitable for the arid lateritic condition of Sahajapur be popularized and farmers are initiated with such cultivation with demonstration from the department of agriculture.

Chapter-VI

Ecology, Vulnerability and Sustainability

6.1. Natural Resource Profile of the Village

Agriculture and allied activities, the main source of livelihood in rural area, depends on natural resources like land, water, forest, vegetations, livestock, etc. The sustainability and resilience of rural economy to a large extent thus depends on the natural resource base of that area. The village Sahajapur is no exception to this.

6.1.1 Flora and Fauna in the village and changes therein

Flora:

There are two type of natural vegetation cover in the village, tropical dry deciduous trees and tropical moist deciduous trees. The principal species are bamboo, mango, guava, jack fruit, palm, banyan, people, etc. Other abundant species are neem, peepal, arjun, sirish, simul, sishoo, turmeric, subabool, bel, coconut, arecanut, banana, and papaya.

The village Sahajapur is within the rice plain of West Bengal. Therefore, species of Aponogeton, Utricularia, Drosera, Dopatrium, Ilysanthes, Hydrolea, Sphenoclea and similar aquatic or palustrine genera being abundant in the rice fields. In the non-agricultural fields shrubs and herbs include species of Wendlandia, Evolvulus, Stipa, Tragus, Perotis, Spermacoce, Zizyphus, Capparis and other similar plants affecting a laterite soil.

Fauna:

The village Sahajapur has a wide variety of fauna, including livestock like cattle, buffalo, goat, pig and domesticated animals like dog and cat. Apart from these long-tailed apes, called Hanuman is commonly found. They often damage growing crops in the villages. The birds commonly found in the locality include partridges, green pigeons, wooded hill, doyel, indian robin, drongo, hawk cuckoo, koel, sun bird, parrot, babblers and various water fouls. But their numbers have dwindled considerably due to reckless hunting and growth of settlements. Duck and poultry birds (both desi as well as broilers) are also commonly found in the village. The major verities of fish being cultivated in the village ponds include rohu (rui), katla, mrigel, silver carp, grass carp, black carp, tilapia, american rohu, magur and koi. Other important fauna includes house lizard, chameleon, frog, rat, indian cobra, king cobra,

etc. During 1950s, the carnivores of the village included wolves, wild pigs and other small species. However, with the growth of population and settlements, they have vanished over time. At present, wild elephants from Dumka (Jharkhand) sometimes migrate into the area in search of food.

Crop bio-diversity:

One of the worrying observations is that the level of crop diversification in Sahajapur is quite low and decreased over time. The cropping pattern of the village is now dominated by paddy, with some amount of rape seed mustard, potato, brinjal, tomato, ladies' finger and few cucurbits only. Earlier, farmers used to grow a large number of pulses, onion, wheat, and sugarcane too. But now cultivation of such crops are no more being practiced. Further, even within the limited number of given crops being cultivated; the varietal diversification is not there. In kharif the MTU-7029 (Lal Swarna) variety is the only paddy variety being cultivated by all the farmers. But even few years back quite a large number of paddy varieties like MTU-7029 (Lal Swarna), SS-I, MTU-1001, MTU-1010, IR-42, GB-1, GB-3, Sahbhagi dhan, DRR-44, DRR-42, MTU-1140 were there. In summer, again paddy is the only crop and the dominant variety is MTU-1010. Few farmers do cultivate IET-4786, IR-64, and MTU-1153 varieties. So far rapeseed mustard is concerned B-9 is the only variety now. It has replaced all other varieties like JD-6, PT-303, B-54, Pitambari, Pusa Mustard-28, NRCHB-101, Pant Sweta, Pusa Vijoy, and YS0401. For potato Kufri Jyoti, Kufri Pukhraj, and Kufri Chandramukhi are the only three varieties. The villagers informed that there used to be a large number of local paddy varieties like Jhingesal, Dudh kalma (Choto), Dudh Kalma (Baro), etc were grown in the village till early 1980s. Such varieties had a better insect pest and drought tolerance but lower yield. But the scenario altogether changed after 1980s.

6.1.2 Land, Water, Soil, Forest and Livestock resources in the village and changes therein

Land:

Sahajapur village is located in the southern part of Birbhum district and comes under the Red and Laterite agro-climatic zone. The village has more or less flat topography being covered by quaternary sediments with patches of laterite. Total geographical area of the village is 385.10 acres. Over time there has been a clear shift in the land utilization from agricultural purposes to non-agricultural purposes mainly due to growth in population as

well as economic development. The share of agricultural land in the total geographic area was as high as 92.47 per cent in 1955-56 but reduced to a little more than 80 per cent during 2019-20. There is high inequality in the distribution of land ownership in the village, with most of the land is owned by Hindu general caste and OBC communities. Further, due to sub-division and fragmentation of holdings, the average size of operational holdings is reduced from 6.72 acres in 1955-56 to only 2.32 acres in 2019-20. There are at least three playgrounds in the village where football, cricket etc. are played by the young residents of Sahajapur.

Soil

The soil of the village Sahajapur is well drained but moderately acidic, low in organic matter, phosphorous and medium in potash content. The soil structure reveals an undulating soil with mounds of various grades of laterization. Generally, this type of soil is vulnerable to excessive soil erosion due to monsoon runoff. What is worrying is that, the soil fertility in the village is declining over time due to mono-cropping of paddy and very little use of organic manures. The villagers are aware about the problem but trying to compensate the loss in soil fertility by using more of chemical fertilizer.

Water:

The net sown area under cultivation in Sahajapur is 300.96 acres and out of this as high as 96.77 per cent is covered by irrigation and the main source of irrigation is canal. The village is covered under *Mayurakshi* canal area; however, the availability of canal water is restricted only during Kharif season. The summer and winter (rabi) cultivation mostly depends on ground-water and supplementary irrigation from water bodies (pond). There are only 2 submersible tube well; 7 hand pump tube well and 21 ponds are there in the village but there is no functional dug well. The average area of the ponds is 0.8 to 1.0 acres each. The ground water level in the village is also very good (2 to 20 m bgl) and stable over the years. The quality of ground water is quite good and as per BIS quality standard is safe for drinking purposes. In the subsequent section we will have a detailed discussion on this. The natural drainage system of the village is also quite good and the entire runoff is drained by the *Mayurakshi* canal as well as by Ajoy river.

Forest:

As the area is arid there is no forest cover in close vicinity. There are two type of natural vegetation cover in the village, tropical dry deciduous trees and tropical moist deciduous trees. There are patches of barren lands with little grass toppings. Such land is not even suited for pastures.

Livestock resources:

Livestock rearing is one of the most important economic activities in rural West Bengal but scarcity of feed and fodder is a serious constraint for the development of this sector. Predominance of indigenous breeds with low productivity; and poor reach of livestock extension services adds to the problem. Indigenous cattle and goat dominate the livestock sector in Sahajapur, together they constitute more than 98 per cent of total livestock population in the village. While cattle population is declining, the share of goat accounted for more than 80 per cent of total livestock population.

Goat rearing is very much profitable and has huge economic potentiality. Because of low rearing cost, low initial investment, early maturity (at the age of 10–12 months), short gestation period, and above all delicious meat and high-quality skin, rearing Black Bengal breed of goat is very popular among the poor farmers of the village. Due to severe scarcity of feed and fodder, coupled with increased use of machine power in farming, rearing of cattle in Sahajapur has declined over time. The farmers prefer to hire tractors or power tillers for tilling the land rather than maintain a pair of draft animals. But goat can efficiently survive on household waste, and available shrubs and trees. Of late both poultry is also coming in a big way in this village. Due to presence of large number of ponds, keeping ducks has emerged as a growing enterprise among a section of villagers mainly from the scheduled caste and scheduled tribe communities. Besides fish and rosgolla, West Bengal has an insatiable appetite for goat meat, chicken and eggs. Therefore, goat, duck and poultry farming represent a golden opportunity for off-farm livelihood diversification for unemployed youths in the village.

6.1.3 Ground water level, pollution and changes therein

Groundwater is now one of the most vulnerable natural resources. Of late, it has become an important and dependable source of water supplies for domestic and agricultural sectors in the village. The amount of various dissolved constituents like sodium, carbonate and bicarbonate affects the soil and plant growth and thus reduces crop productivity (Hossain and Patra, 2016).

Geology of a region is directly responsible for its groundwater resources. Occurrence, movement and storage of ground water are influenced by lithology; thickness and structure of rock formations. The Sahajapur village is predominantly a rural and agricultural area with a significant tribal population. Major industries are absent thus groundwater quality mainly influenced by lithology and fertilizers used for agricultural purposes (leached with precipitation). There is no perennial river in the study area. The area is covered by older alluvium and laterite and the lithology in this area changes abruptly from the rest of district. Important granular zone occurs between 250m to 450m below land surface having a cumulative thickness of around 100m to 110m. Ground water occurred under water-table conditions in shallow aquifers and under confined conditions in the deep aquifer. Depth of water-table in the shallow aquifers varies from 2 to 14 m bgl.

Agriculture in this village is mostly rain dependent supported by supplementary canal irrigation from the *Mayurakshi* canal system. Utilization of ground water resources for irrigation is yet to start. Though five numbers of submersible tube-wells were bored by the government, unfortunately none of them are in functioning condition. Of late, only two small submersible tube-well started functioning in the village under private ownership but mainly for providing drinking water and irrigating few acres of summer paddy.

In Birbhum district, ground water level monitoring and water sample testing is being carried out by Central Ground Water Board, Eastern Region from 139 wells covering 96 dug wells (DW), 33 tube-wells with piezometer (Pz), and 10 bore well/tube well (TW). However, not a single such well is located within the village Sahajapur. Though there is Ground Water Monitoring Wells within the Sahajapur village but there are few DW, TW and Pz well around the village. Therefore, the depth of water table and water quality of the village is represented by the Ground Water Monitoring Wells located nearest to the village Sahajapur. Details of these wells are given in table 6.1. For the purpose of water quality

assessment of Dug Wells we have selected both Well No. WBBB36A and WBBB145 as the former one is just adjacent to the village but started only since 2019-20.

Table 6.1. Ground Water Monitoring Wells around the village Sahajapur

Well ID Number	Type of Well	Location of the Well	Distance from the village	Direction from the village	Remarks
WBBB36A	*DW*	*Baidyanathpur*	*0.5 KM*	*North*	Since 2019-20
WBBB145	DW	Muluk (Gayeshpur)	5.0 KM	South-West	Selected
WBBB104	*PZ*	Santiniketan	6.0 KM	West	Selected
WBBB147	*TW*	*Kakunia*	*20.0 KM*	East	Selected

DW: Dug Well; PZ: Piezometer (Tube Well); TW: Tube well/Bore Well/Hand pump

The monitoring of ground water level is being done four times in a year during the month of April, August, November and January every year. Four measurements of depth to water level give an overall idea regarding the ground water level in the state during the year of measurement. The fluctuation in comparison to the same month in the previous year gives an idea about the change in the ground water level for a particular period with respect to that of the level during the same month in the previous year. This gives an idea about the change in the amount of draft and rainfall between the two years. The water level fluctuation during the pre-monsoon period in comparison to previous year gives an idea about the seasonal fluctuation, which ultimately reflects the change in dynamic ground water resources. The average depth of water level for different types of well and the changes therein during last five year is presented in Table 6.2. It is important to note here that the depth of ground water level a particular area changes with seasons. Therefore, the CGWB report provides the same four for different months of a year: April, August, November, and January.

A perusal of table 6.2 reveals that the depth of water level in dug wells is in the range of 2-7 m bgl. The same for Pz well is 1-9 m bgl but for bore well (TW) it ranges between 14-19 m bgl. There is inter-seasonal variation in the depth of water levels but fluctuation in the ground water level between 2015-16 and 2020-21 is within the range of 0-2 meters only. This shows that the ground water level in the region is more or less stable over the years. However, as natural, it varies across the seasons due to rainfall and use of ground water.

Annual fluctuation in water level between April, 2019 and April, 2020 is mostly restricted within the range of 0-2 m with a mixed trend over the years and across the wells. It is to be noted here that in the village Sahajapur receives good amount of rainfall, and the use of ground water is also very limited for agricultural purposes. There are only two submersible tube wells are there in operation in the entire village. Thus, so far as the ground water table depth is concerned, it is quite favorable.

Table 6.2. Average Depth of Ground Water Level in Sahajapur

Depth of Water Level in meter below ground level (m bgl)								
Well ID	**DW *WBBB36A***		**DW WBBB145**		**Pz WBBB104**		**TW *WBBB147***	
Month/Year	2015-16	2020-21	2015-16	2020-21	2015-16	2020-21	2015-16	2020-21
April	NA	4.09	4.45	2.03	9.05	6.91	17.95	18.95
August	NA	7.12	1.60	3.66	0.41	0.87	16.28	16.61
November	NA	2.89	3.20	2.84	4.80	2.30	16.65	17.89
January	NA	5.30	3.00	4.86	5.82	4.64	13.65	17.54

Data Source: Ground Water Year Book 2015-16 & 2020-21 by CGWB, GoI

The water quality parameters of the water samples along with their acceptable and permissible limits are presented in Table 6.3. It is recommended that the desired water quality parameters should be below the acceptable limits. Values in excess of those mentioned under 'Acceptable Limit' render the water not suitable, but still may be tolerated in the absence of an alternative source but up to the limits indicated under 'Permissible Limit' in the absence of alternate source, above which the sources will have to be rejected out-rightly.

The reflections from the overall quality of ground water in Sahajapur shows that the water quality of is quite good. The pH content of ground water varies from 8.02 to 8.26, which indicates that ground water is a slightly alkaline in nature and within the acceptable limit. The quality of groundwater in terms chloride content, fluoride content, nitrate content, etc are within the green category. In terms of total hardness, the ground water is found to be moderately hard but within the acceptable limit. Iron content is also within the safe category except in deep tube well (*WBBB147).* The water is also free from Arsenic as well as from Uranium. The water is also within the safe category in terms of other heavy material

contamination like Copper, Chromium, Zinc, Lead, etc. Thus, in a nutshell, as per CGWB standards, the ground water quality in the surroundings of Sahajapur village is more or less within the safe category. The water samples of this region are very much suitable for irrigation as the indices like pH, EC, TDS, SAR (Na/√(Ca+Mg)/2Na & Ca), SSP ((Na+K)*100/Ca+Mg+Na+K), KI (Na/(Ca+Mg)), PI ((Na+√HCO3-)*100/Ca+Mg+Na), etc. are within the permissible limits. Further, though fluoride and iron concentration are higher in other parts of the district, still the problem is within the permissible level in and around the village Sahajapur. However, though the water quality is still within the safe limits, it has deteriorated in terms of several water quality parameters during last five year. This should be kept in mind before encouraging indiscriminate use of ground water in the village for irrigation as well as for drinking purposes. Therefore, in view of long-term sustainability of water resources, conjunctive use of ground-water along with surface water needs to be promoted.

6.1.4 Input use (fertilizer, FYM, pesticide, etc.) in agriculture and changes therein

As discussed in section 5.2.9, input use in crop production in the village has undergone a tremendous change over time, particularly since 1980s with the large-scale introduction of high yielding varies of paddy, summer paddy and potato as well as due to shifting of cropping pattern from pulses to vegetables and oilseeds. However, agriculture of the village is mostly rain dependent. The use of ground water in agriculture is negligible. Since late 1950's *Mayurakshi* irrigation canal has been in operation in the area which is the only source of supplementary irrigation during the Kharif season. Prevalence of moisture stress on standing Kharif crops during the late monsoon period is very common which gets supplemented with canal water irrigation. There is very little avenue of crop cultivation during Rabi and Summer season, as the canal goes dry in those seasons. Lately, two submersible tube well has been installed in private entrepreneurship.

Table 6.4 Use of chemical fertilizer in Paddy (during 2019-20)

Fertilizers	Recommended dose	Actual average use*	% deficit or surplus
Urea	13.20	30.00	127.27
DAP	31.19	20.00	-35.88
MoP	26.72	10.00	-62.58
Total	**71.11**	**60.00**	**-15.62**

*as per FGDs with the cultivators

Table 6.3. Chemical composition of ground water samples of Sahajapur and changes therein between 2015-16 and 2020-21

Constituents/Parameters	Unit	IS 10500:2012 Limit			Actual Composition						
		Green	Acceptable	Permissible	2020-21 WBBB36A	2015-16 WBBB145	2020-21 WBBB145	Quality change (DW)	2015-16 WBBB147	2020-21 WBBB147	Quality change (TW)
pH	-	7.0	6.5-8.5	6.0-9.7	**8.26**	**8.02**	**8.15**	Deterioration	**7.80**	**8.09**	Deterioration
EC (µs/cm) 25°C	µs/cm	<500	1500	2250	504	589	682	Deterioration	403	408	Improvement
Total Hardness (as CaCO3)	mg/L	<100	200	600	**210**	**210**	**275**	Deterioration	125	145	Deterioration
Calcium (as Ca)		<50	75	200	30	34	56	Deterioration	28	44	Deterioration
Magnesium (as Mg)		<30	30	100	**33**	30	**33**	Deterioration	13	8	Improvement
Sodium		-	-	-	25	42	66	Deterioration	36	45	Deterioration
Potassium		2	-	-	4	1	4	Deterioration	1	9	Deterioration
Carbonate alkalinity		<3	-	-	Traces	Traces	Traces	Unchanged	Traces	Traces	Unchanged
Bicarbonate alkalinity		<180	-	-	116	203	177	Improvement	221	177	Improvement
Total alkalinity		<150	200	600	95	85	145	Deterioration	152	145	Improvement
Chloride		<150	250	1000	138	75	85	Deterioration	14	60	Deterioration
Nitrate		<45	45	45	3	32	40	Deterioration	15	6	Improvement
Sulphate		<100	200	400	11	10	52	Deterioration	Trace	13	Unchanged
Fluoride		<0.5	1	1.5	0.69	0.60	0.32	Improvement	Trace	0.31	Deterioration
TDS		<300	500	2000	322	315	437	Deterioration	277	261	Improvement
Iron		<0.5	1	1	0.25	0.25	0.22	Improvement	7.67	**10.26**	Deterioration
Arsenic	µg/L	<5	10	10	Traces	Traces	Traces	Unchanged	Traces	Traces	Unchanged
Manganese	µg/L	<0.5	0.5	1	0.33	-	0.35	-	-	0.27	-
Copper	ppm	-	-	-	0.01	-	0.01	-	-	0.01	-
Chromium	Ppb	-	-	-	4.13	-	8.09	-	-	6.09	-
Lead	Ppb	-	-	-	0.75	-	0.90	-	-	0.77	-
Uranium	Ppb	-	-	-	Traces	Traces	Traces	Unchanged	Traces	Traces	Unchanged
Zink	ppm	-	-	-	0.44	-	0.49	-	-	0.27	-

Data Source: Ground Water Year Book 2015-16 & 2020-21 by CGWB, GoI; Note: *The Pz wells are not covered for water quality assessment by CGWB.

The level of chemical fertilizer use was less than 1.5 kg/acre in 1955-56 while in 2019-20 it is more than 60 kg per/acre. The use of chemical fertilizer in potato and summer rice is even more. Further, fertilizer that was in use in 1955-56 was only Ammonium Sulphate, a composition of Nitrogen. Presently we find use of various combinations of NPK fertilizers like Urea, SSP, DAP, SSP, as well as Ammonium Sulphate. During 1955-56 use of chemical fertilizer was only in the cultivation of paddy. All other crops were produced with farm yard manure and oil cakes which helped a lot in rejuvenating soil fertility. Over the years, the use of farm yard manure has reduced substantially (from 9.4 cart load to 3.0 cart load per acres) due to non-availability of cow dung, and the use of oil cake has discontinued totally. This resulted into deterioration of soil fertility. As a result, the farmers are now required to use more and more amount of fertilizer to compensate the loss in soil fertility. Due to intensive method of mono-cropping, nutrient mining is going to cause irreparable losses. However, it is encouraging to note that now the farmers of the villages are using micronutrients for enhancing productivity.

Another disturbing feature is that of imbalanced use of chemical fertilizers. On the basis of soil testing, the recommended dose of fertilizer use for paddy in this village is 13.20, 31.19 and 26.72 kgs of Urea, DAP and MoP per acre, respectively. But the corresponding actual use is 30, 20 and 10 kg per acres, respectively (Table 6.4). The farmers in the village are not aware about soil health card and thus using higher doses of nitrogenous fertilizers but lower amount of phosphoric and potassic fertilizers than the recommended doses which is very detrimental to the soil health in the long run. Thus, awareness about soil health card and balanced use of fertilizer is very crucial for the long-term sustainability of agriculture system in the village.

Earlier there was no use of plant protection chemicals but now on an average paddy crop require three number of pesticide application. Vegetables like brinjal requires 10-15 applications of insecticides, while for other crops farmers are using pesticides around 3-4 number of times. Farmers are aware about the health hazards of indiscriminate use of pesticides but are forced to use them for insect pest management. Farmers in the village are not sensitized at all about the integrated pest management or organic agriculture.

6.2. Land use Classifications and Changes Therein

The land utilization pattern in Sahajapur has undergone a change. The share of agricultural land in the total geographic area was as high as 92.47 per cent in 1955-56 but reduced to a little more than 80 per cent during 2019-20. There is neither any forest land nor there any pasture or grazing land available within the geographical area (mouza) of the village. The amount of barren land or cultivable waste land are also nil. It is also observed that the net sown area has declined (almost 15%) in Sahajapur during last six decades due to increase in the residential area.

6.3 Natural and Manmade Disasters

During last hundred years the village Sahajapur had passed through many vicissitudes which have affected the villagers badly. The most important among these has been the cholera epidemic, and the last one is Covid-19 pandemic. Prior to Covid-19 pandemic, the last serious epidemic in the village was cholera epidemic in 1923-24 that caused a virtual decimation of the population (AERC, 1958). The peculiar age structure of the population in the village during 1955-56 can be ascribed to the ravages of this epidemic. Cholera was a regular feature at an interval of 5 to 7 years till 1940s. The Bengal famine of 1943 also affected the village. The reported malaria epidemic was in 1950-51. It is worth to mention here that, earlier the village was quite prone to cholera and malaria epidemic which is no more the case now, though emergence of COVID 19 pandemic and subsequent lockdown had its adverse effect on the livelihood of the people in this village too.

6.3.1 Frequency of extreme climatic events and changes over time

Drought and heat wave were two important climates included natural disasters occurring in the village frequently. The severe drought in 1982 and 2010, and dry spells in 1994, 2009, 2012, 2014 and 2018 are still fresh in the memory of the villagers. Heat waves and drought are there depending on the fluctuations in the quantum of rainfall and its distribution pattern. The main source of water for cropping, as said earlier, is natural rainfall with supplementary irrigation from *Mayurakshi* canal. It is observed in the Sahajapur survey report of 1958 that drought occurred in a cycle of 4-5 years. However, in course of the present survey we found a much lesser frequency in their occurrences. During last 10 years, drought occurred only once, while heat wave and dry spell occurred 2-3 times each.

As we have said earlier that Sahajapur is situated in the arid laterite zone of West Bengal where there is hardly any possibility of flood causing from the nearest river *Ajoy*, which is about 10 kilometres away. No calamities due to cyclone were reported by the villagers during our interaction with them. In fact, the location of the village does not mark it prone to the vagaries of cyclone as it is in the coastal areas. However, there remains the possibility of moderate damages due to cyclonic storms as well as sudden storms during summer (*Kal baishaki*). During last 10 years, the villagers suffered from at least four such cyclones of moderate magnitudes and 10-15 kal-baishaki during summer. The last one being the AMPHAN cyclone in 2020.

6.3.2 Vulnerability to extreme climatic events and coping measures

The main damage due to a drought generally is on the cropping activities. The poor and the marginal farmers are the worst victim of such extreme events. In the event of a drought and subsequent crop failure the farming community adopt various strategies to cope up with the situation. The main coping mechanism is however borrowing and drawing down inventories. These calamities affect the households differently depending on the basic financial and other resource base of the households. The landed gentry that have other sources of income are affected less. But the small and marginal farmers along with the landless agricultural labourers fall prey to such situations. One of the foremost strategies for these section remains in searching for other avenues of non-agricultural employment.

6.3.3 Adaptation strategies to mitigate the adverse impacts

In view of natural calamities, the government adopts various strategies to mitigate its impact on livelihood of the people. Though, not strictly natural, the COVID 19 pandemic had called for assistance from both government and non-government agencies. The state government provided free rations for all households from PDS shops. In Sahajapur, however, the impact of the pandemic was not that severe as compared to other metropolitan cities of the country or as in the districts of North and South Twenty-four Parganas, Howrah, etc. which were severely hit by the pandemic. In view of the situation the state government of West Bengal announced provision of free ration for all. People of Sahajapur were also benefitted from the facility. During the initial period of lockdown, when there was acute crisis of gainful employment, several non-governmental agencies along with the local clubs arranged for supplying food packets containing rice, pulses, edible oil, flour,

potato etc. to the poor households on a regular basis. The local clubs even arranged for supplying cooked food to the destitute.

6.3.4 Adequacy and efficacy of relief measures after calamity events

The villagers are in the opinion that the timeliness and accuracy of weather forecasting particularly with respect to cyclonic storm have improved substantially. Though it is very difficult to predict drought and rainfall, the people of Sahajapur are more or less satisfied with the forecast of rainfall and temperatures. The villagers are also happy about the adequacy and timeliness about relief measures particularly after cyclonic storm and Covid-19 pandemic.

6.4. Perception about Ecological Changes in the Village

A general perception among the villagers across the categories and age-group is that the climate is changing. However, there are dis-agreements about its magnitude and impacts.

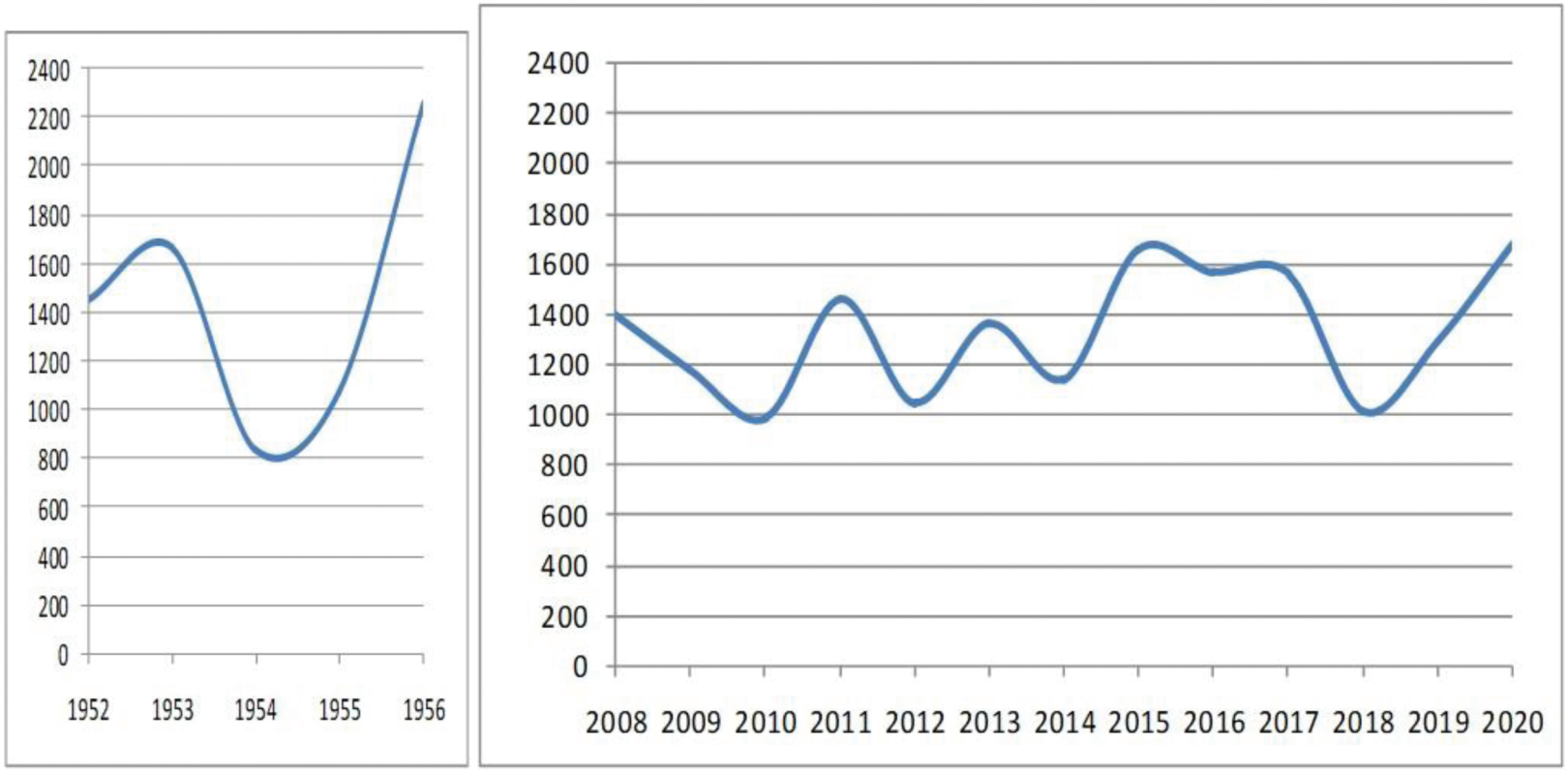
6.4.1 Change in climate

Bolpur block climatologically falls under the western semiarid belt of West Bengal. The summer is severe with an average temperature of 40^0C. During the month of May temperature shoots up to 48^0C. The average temperature is 11^0C in winter, but temperature as low as 8^0C is also recorded. This area receives rainfall from mid-June to September and sometimes up to October. The climate of the village is generally dry, mild and healthy. The hot weather usually last from the middle of March to the middle of the June, the rainy season from the middle of June to the middle of October, and the cold weather from middle of October to the middle of March. They do not always correspond to these limits. As a rule, the wind is from south-east in Summer and from the north-west in winter.

6.4.2 Change in rainfall pattern

The district of Birbhum in general receives a moderate rainfall during the year. The arrival of the month of June marks the onset of monsoon in this part of the state. Sahajapur, being situated near the Sriniketan weather station exhibits rainfall characteristics similar to that area within the district. The region boasts of a high average rainfall. The major part of annual rainfall is observed during the months of May to September each year, i.e., the monsoon months. There are in between years when the rainfall is scanty.

Figure 6.1: Annual rainfall in Sahajapur (in mm.)



During 1952-1956

During 2008-2020

However, the annual average rainfall is around 1430 mm, slightly higher than the district average. The peculiar feature of the rainfall cycle in this area is that every third or fourth year there is a drought or mal distribution of rains. It is also evident from Figure 6.1 The actual annual rainfall during 1952-56 and during 2008-20 is given below (Figure 6.1). It is clear from the figure that there is very high degree of inter year fluctuation in rainfall in the village during both the period of survey. However, the fluctuation in rainfall has reduced substantially during recent years. This is a welcome development.

The actual monthly rainfall during last 10 years in the village (for Sriniketan meteorological office which is within 10 km from this village) is given in Table 6.5. The table shows that during last 10 years, actual rainfall in the village is significantly lower than the normal rainfall for at least three years (2012, 2014 and 2018). Substantial inter-year variation in the annual as well as monthly rainfall pattern during monsoon months (June-October) is also evident from Figure 6.2. What is alarming is that there is an increasing trend in the fluctuation in annual rainfall as well as in monthly rainfalls during last 10 years.

Figure 6.2 Monthly rainfall fluctuations over time (mm)

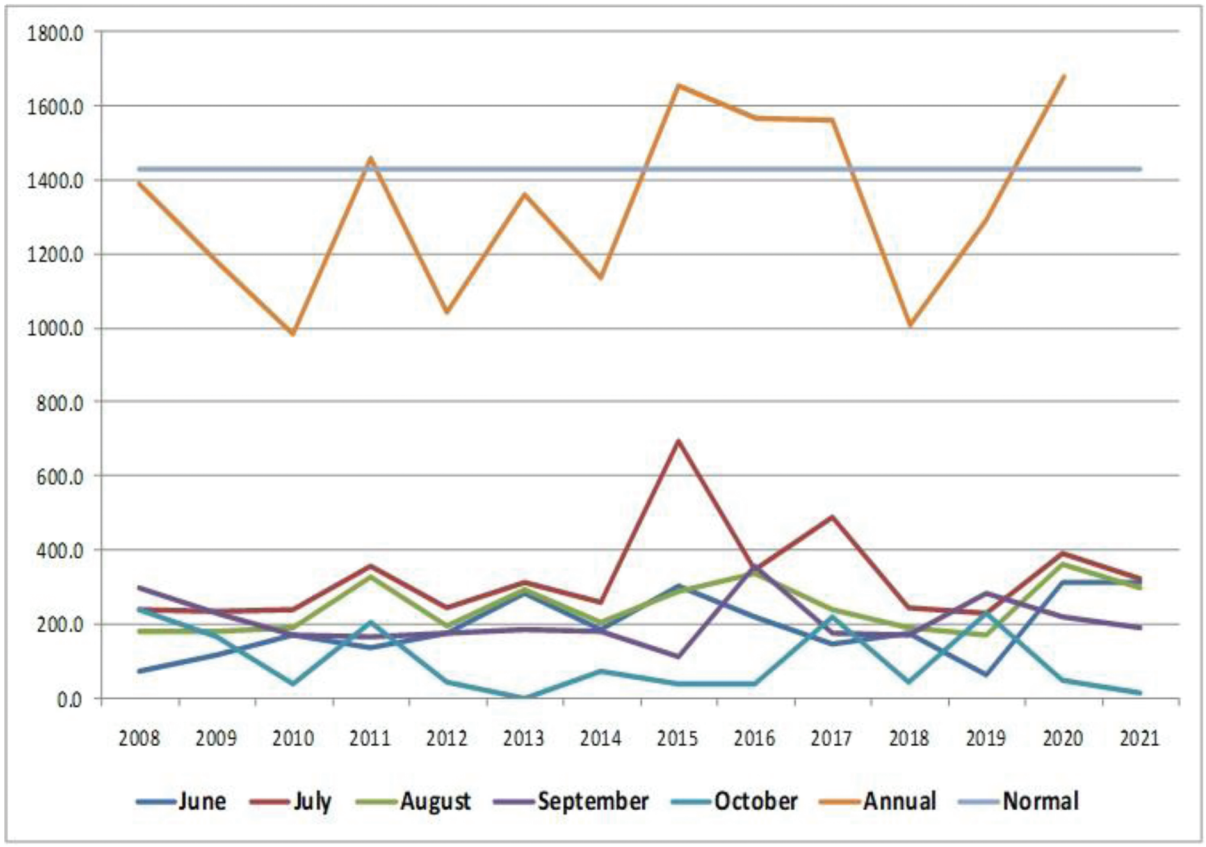


Table 6.5 Monthly rainfall pattern in Sahajapur during last 10 years (mm)

Months	Normal	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
January	9.7	5.2	2.0	0.0	0.0	5.6	60.0	5.1	0.0	0.0	26.8	0.0
February	23.2	0.0	2.8	0.0	0.0	9.3	26.9	0.0	0.8	34.1	1.3	0.0
March	23.3	6.6	4.5	5.4	15.0	30.4	16.3	7.1	0.5	27.1	41.0	10.4
April	40.7	46.6	64.1	28.5	72.1	91.2	19.7	49.8	58.9	85.8	65.6	33.5
May	88.7	203.6	99.7	242.0	107.7	69.8	144.7	217.7	96.7	162.9	209.0	247.0
June	234.2	139.1	179.1	285.0	187.1	304.0	220.4	148.7	176.1	65.3	312.9	310.7
July	324.5	357.9	246.0	315.2	260.0	695.6	348.0	489.6	243.0	229.4	391.7	320.2
August	295.7	325.6	196.6	293.5	204.6	289.2	335.6	241.2	193.6	172.6	360.0	298.5
September	258.2	166.7	175.9	185.7	183.9	113.2	357.7	178.2	172.9	286.2	223.2	190.7
October	105.4	203.3	45.3	0.0	73.0	37.4	37.1	217.4	42.3	226.5	47.5	14.5
November	17.5	2.9	3.0	1.9	0.0	4.3	0.0	3.1	0.0	0.3	0.0	
December	9.4	3.5	25.3	1.7	33.3	3.5	0.0	3.7	22.3	1.7	0.0	
Annual	**1430.5**	**1461.0**	**1044.3**	**1358.9**	**1136.7**	**1653.4**	**1566.4**	**1561.5**	**1007.1**	**1291.8**	**1679.0**	
% Deficit/Excess		**2.1**	**-27.0**	**-5.0**	**-20.5**	**15.6**	**9.5**	**9.2**	**-29.6**	**-9.7**	**17.4**	

6.4.3 Changes in monthly temperatures

The village Sahajapur experiences dry and hot summers with temperatures often rising above normal. During summers, the mercury rises well above 40°C (104°F). Winters in Sahajapur are pleasant and enjoyable, but in January mercury dropping to less than 10°C (50°F). The temperature generally varies from 10˚C to 28˚C in winter and from 26˚C to 42˚C in summer (Table 6.6). The summers usually start from middle of March and lasts till the middle of June. April and May are the hottest months and December and January are the coldest. However, there are spells in summer when the temperature goes above 45° Celsius; there are spells in winter when the temperature drops well below 10° Celsius. However, it is evident from Figure 6.3 that during last 10 years the gap between highest and lowest temperature in the year is narrowing down.

Table 6.6: Month wise temperature in Birbhum (°C)

Years & Month	1952		1953		1954		1955		1956	
	Max	Min	Max	Min	Max	Min	Max	Min	Max	Mini
January			32	9	27	12	27	12	28	12
February			36	29	30	18	30	14	28	14
March			37	22	35	20	36	22	34	21
April			41	25	42	27	40	24	39	26
May			41	26	39	27	40	27	37	27
June			36	27	34	27	35	27	31	26
July			32	25	32	27	32	26	31	25
August	33	22	32	26	32	27	32	26	31	26
September	36	23	33	26	32	26	31	27	37	32
October	37	10	31	23	31	24	31	26	31	25
November	32	12	30	22	29	22	28	21		
December	32	9	29	13	27	12	25	13		
For the year	**42**	**7**	**43**	**8**	**46**	**7**	**40**	**6**	**46**	**7**

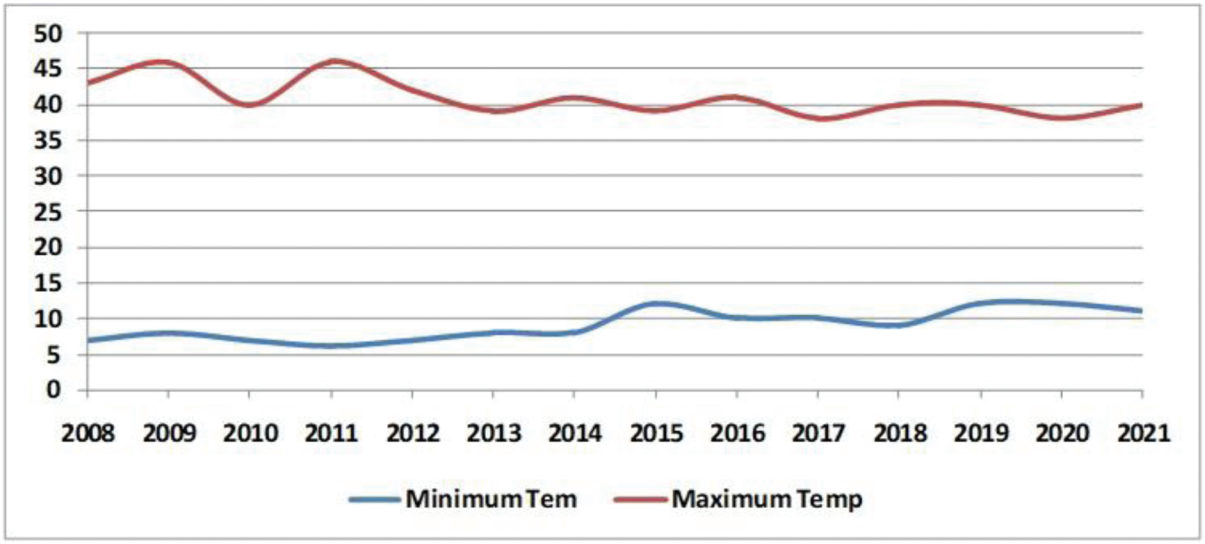
Source: Sahajapur survey 1955-56

Years & Month	2008		2009		2010		2011		2012	
	Max	Min	Max	Min	Max	Min	Max	Min	Max	Mini
January	31	7	29	10	29	7	29	6	28	7
February	32	7	35	11	33	11	35	11	35	8
March	39	16	37	14	42	17	40	12	40	13
April	42	19	43	19	46	20	39	19	41	19
May	42	21	42	20	39	21	38	20	45	22
June	38	23	42	22	43	22	39	24	46	24
July	35	24	37	25	37	25	36	23	38	24
August	35	24	37	24	36	24	37	24	35	24
September	35	24	36	24	35	23	36	23	35	24
October	34	19	34	16	35	18	34	16	35	16
November	32	13	34	11	34	14	32	14	32	11
December	31	11	29	8	29	8	30	7	30	7
For the year	**42**	**7**	**43**	**8**	**46**	**7**	**40**	**6**	**46**	**7**

Years & Month	2013		2014		2015		2016		2017	
	Max	Min	Max	Min	Max	Min	Max	Min	Max	Mini
January	29	8	28	9	30	12	29	11	29	10
February	33	14	32	12	34	12	35	15	33	15
March	37	17	39	18	35	17	37	22	35	18
April	39	20	40	25	37	22	41	26	38	23
May	38	23	41	23	39	24	40	22	38	23
June	37	24	40	24	38	24	40	21	38	25
July	36	25	36	25	36	25	35	26	35	25
August	36	25	35	25	35	25	36	25	36	26
September	36	25	36	25	37	25	35	25	36	25
October	34	20	35	21	35	21	35	23	35	21
November	32	16	32	8	32	18	32	16	32	14
December	29	11	30	12	31	11	29	10	30	14
For the year	**39**	**8**	**41**	**8**	**39**	**12**	**41**	**10**	**38**	**10**

Years & Month	2018		2019		2020		2021	
	Max	Min	Max	Min	Max	Min	Max	Min
January	28	10	29	12	29	12	31	12
February	34	15	33	14	30	12	36	11
March	36	20	36	16	36	17	39	20
April	39	21	38	20	38	22	40	23
May	38	22	40	24	38	21	39	22
June	40	25	38	23	36	24	38	23
July	36	26	37	26	36	24	35	24
August	36	25	35	25	36	26	35	25
September	36	25	35	24	36	25	35	25
October	36	20	34	21	35	23	36	22
November	33	18	31	18	33	16		
December	34	9	29	12	30	12		
For the year	**40**	**9**	**40**	**12**	**38**	**12**	**40**	**11**

Figure 6.3 Trends in annual minimum and maximum temperatures (°C)



6.5 Impact of Covid-19 Pandemic

As it was mentioned in section 2.7 in Chapter-II that outbreak of Covid- 19 pandemic and subsequent lockdown during the period has heavily affected the smooth resurvey of the village and was delayed. We were forced to conduct part of the survey in 2019-20 and rest in 2020-21. Thus, we took this opportunity to include this sub-section i.e., impact of Covid- 19 pandemic in the life and livelihood of the villagers. Most of the information was gathered from a large number of FGDs and stakeholders meeting, each conducted with small number of participants due to Covid-19 protocols.

According to the FGDs the most significant negative impact was on education, non-farm & off farm employment, and supply chain for agricultural inputs as well as outputs. Initially, the daily wage earners i.e., the casual labourers and marginal workers suffered most due to loss of employment. In early 2020-21, due to disruption in supply chain, the prices of farm inputs like seed, pesticides as well as fertilizers shoot up. In the initial days of the lockdown, there was also a sudden increase in the demand for all the food items in the village and prices of grocery items shoot up. However, the impact of the pandemic on agricultural employment was not pronounced in the village, as there was limited agricultural activity during that period. However, farmers were forced to go for engaging more labourers as farm machineries were not available. On the other hand gross returns from the farm outputs also reduced due to lack of

access to the local markets. Other than wage earners, the income and employment reduced significantly for the petty traders and local shop owners too. Small entrepreneurs like decorators and transport workers faced huge loss as all type of social functions & transports were closed. Quite a few youth workforce who were working as migrant mason workers in nearby districts and other parts of the country forced to return during the pandemic. In fact Covid-19 impacted each and every household in the village but the impact was more severe with the wage earners and petty traders.

As the work under MGNREGS had also come to a complete halt, as high as 75-80 per cent BPL households tried to cope up either through borrowing or on drawing down the inventories. However, with the phased relaxation of restrictions, the severe negative impact on rural employment, income, and supply chain were softened after few months. But education sector continues to be badly affected due to prolonged/continuous lockdown from March 15, 2020 till date i.e., November 15, 2021.

However, it is also important to mention here that all the villagers are quite happy with the initiatives taken by the government and non-government organizations to control the spread of the disease and supporting the livelihoods of the villagers. All the families received free food grains, edible oils, pulses through public distribution shops. All most all the entitled households also received some kind of support from the government in terms of cash and/or kind like enhanced age-old pension, widower pension, cash to zero balance accounts, farm income support under Krishak Bandhu scheme, free LPG cylinders under PMUY scheme, etc.

Till October, 2021 there was only 16 reported positive cases of Covid-19 in the village (out of a total population of 1496) with just one death. The deceased person was an aged lady with co-morbidities. The progress of Covid vaccination is also very satisfactory in the village and better than the district/state/national level performance. More than 95% population under the age group 18 years and above (entitled till that) received their first doses of vaccines and more than 53 per cent already got second doses too. As per the opinion of the health workers and panchayat officials, it is expected that, by the end of this year 2021 all the entitled individuals will get vaccinated. The credit for such an outstanding performance is due to very dedicated health worker and pro-active role played by the gram panchayat members. The presence of

sub-division hospital in Sian (within 5 km away from the village) is also one of the important reasons.

However, as emerged from the FGDs, education sector is the worst hit due to prolonged lockdown. Thus, in order to assess the impact of we have conducted the ASER survey in the village twice. The first survey was conducted during January-February 2020 (before the onset of Covid-19 lockdown of schools) and another one during early February-March 2021 with a total of 121 students from Class-I to Class-X. Out of these 121 students 100 were appeared in both the survey.

Table 6.7 Impact of Covid-19 lockdown on learning competencies (% of respondents)

Nature of Response	Reading Competency	Arithmetic Ability	Categories of students
Improvement in level of learning	27	22	Caste Hindu & OBC
No improvement in level of learning	39	42	All Castes
Loss of learning	34	36	ST (Mahali) & SC
Total	**100**	**100**	

The findings of the repeated ASER survey are quite revealing (Table 6.7). There was more than 13 months gap between these two surveys. What is striking is that, there is significant loss in learning as well as poor learning due to Covid-19 lockdown during this period. For more than one third of the students (34 to 36%), instead of gradual learning, there is loss of learning. As high as 36% students forgot their basic arithmetic abilities and for 34% students there is loss of learning in terms of reading aptitudes. No significant improvement is there for another 39-42% of students, whereas only around 22-27% of the students were able to cope with the online teaching learning process and all these students are from relatively well to do families who could afford online teaching –learning devices (Android phones) or their parents have higher education. Some other findings are that around two third of the students got some help in terms of learning materials and activities from the school but only 25% of parents could afford android phone for their regular online classes. The students who are first generation learners, mostly from the poor and tribal communities (Mahali), suffered the most. There is a digital

divide and this is a matter of serious concern as the digital divide is layered on the existing socio-economic division in the village.

Such a loss of learning and/or stagnation in learning abilities for nearly three-fourth of the students' needs to be compensated once the schools reopens. Mechanisms to reach and include children who are on the dark side of the divide are of utmost importance. Therefore, the schools, guardians, policy makers as well as government should seriously think how to compensate such a huge loss of learning by the school going kids due to prolonged lockdown. Before joining off-line classes, these students must feel comfortable in the higher classes; they got promoted during this prolonged period of lockdown. Other-wise, there is every possibility of increased drop-outs during coming years.

Chapter-VII

Policy and Governance

7.1. Nature and Coverage of Government Schemes

In course of rural and agricultural development various policies have been taken by the government for improving the stability of the rural economy in general and enhancing the living conditions of the poorer sections in particular. Rural poverty and its eradication have been in particular focus of several strategies and policy making. One of the most successful programme has so far been rural employment guarantee scheme recently renamed as Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) that attempts to ensure a minimum of hundred days of employment per annum in the rural sector. In course of the present survey, however, we have come across several government schemes under operation for agricultural and rural development in the village.

During the course of household survey in 2019-20, we could identify 23schemes for agriculture and rural development in operation in the village. Out of these 23, we could not trace any beneficiaries for two schemes namely PM-AASHA (scheme for procurement with MSP) & Seed Minikit Scheme. Later during our revisits to the villages in 2021, we came to know that two existing schemes namely PM-KISAN (central government farm income support scheme) & PMKMY (central government scheme on farm pension) also started functioning only since early 2021. Also, three new schemes were introduced by the state government after the land slide victory in the assembly election 2021, namely Laxmir Bhandar (monthly income support to housewives); student credit card scheme for higher studies; and scheme to provide free tablet/computer to students of class-XI & XII to cope up with online teaching and learning processes due to Covid-19 pandemic. Thus, a total of 28 such schemes are listed in Table 7.1.

Though a large number of schemes are in operation in the village, in terms of reach and coverage, only around half of such schemes are implemented in the village successfully. Important schemes successfully being implemented in the village are, scheme for public distribution system (BPL Card); rural employment scheme (MGNAREGA); LPG Scheme named Pradhan Mantri Ujjwala Yojana (PMUY); child nutrition schemes like Integrated Child

Development Scheme (ICDS) & Mid Day Meal Scheme; scheme for agricultural credit Kishan Credit Card scheme (KCC); government housing scheme Pradhan Mantri Awaas Yojana (PMAY)/Banglar Awaas Yojana (BAY); Widow Pension Scheme; Old Age Pension Schemes; state government farm income support scheme (Krishak Bandhu); state government Public Health Insurance Card (Sasthya Sathi); Sabuj Sathi scheme by state government for students of class-IX/X; Kanyasree scheme by state government for girl child of 13-18 years age group; Rupasree scheme by state government for women of 18-25 years age group); etc.

Table 7.1: Coverage under different government sponsored schemes

Name of the scheme	Number of entitled households	No of households/ beneficiaries availed the facility	% of beneficiaries availed benefit
1. BPL Card	222	220	99.1
2. KCC Card	130	79	60.8
3. Public Health Insurance Card(Sasthya Sathi)	355	120	34.4
4. Soil Health Card	130	2	1.5
5. MGNAREGS Job Card	335	282	84.2
6. ICDS/Mid Day Meal	156	103	66.0
7. Govt. Scholarship Schemes	2	2	100.0
8. Govt. Housing Scheme (IAY/PMAY)	222	136	61.3
9. Crop Insurance: PMFBY/BFBY	130	6	4.6
10. Irrigation: PMKSY/Others	130	2	1.5
11. Seed Minikit scheme	130	-	0.0
12. Farm machinery or implements	130	1	0.8
13. Life Insurance (Govt sponsored)	200	37	18.5
14. CG Farm Income Support (PM-KISAN) *	119	Not available	Poor
15. SG Farm Income Support Schemes (Krishak Bandhu)	119	37	31.1
16.Old Age Pension Schemes	78	14	17.9
17. Farm Pension Scheme (PM-KMY)*	10	Not available	Poor
18. Widow Pension Scheme	17	6	35.3
19. Farm Loan Waiver Scheme	130	1	0.8
20. LPG scheme (PMUY)	268	268	100.0
21. PMKVY/Organic Farming	30	1	0.8
22. MSP/PM-AASHA Scheme	130	-	-
23. Kanyasree (for girl child 13-18 age group)	64	39	60.9
24. Rupasree (for women of 18-25 age group)	21	8	38.1
25. Sabuj Sathi (cycle for students of class IX/X)	48	48	100.0
26. Scheme to provide Tablet/Computer for online class during Covid-19**	-	-	Very Good
27. Student Credit Card scheme (for higher studies)**	-	-	Good
28. Laxmir Bhandar Scheme (for housewives)**	-	-	Very Good

Source: Village survey 2019-20; * Implemented since May, 2021 & ** Introduced only after July, 2021 (thus not captured in details during household survey)

There has been a widespread effort to identify the poorer sections and registering them under BPL (below poverty line) category. These households are supposed to receive special ration cards that enable them to get access to food grains from PDS outlets at a cheaper price. In Sahajapur, we observe out of 222 entitled households for receiving such a BPL card 220 families have actually received the same registering a success rate over 99 per cent (Table 7.1). Out of 130 cultivator households who are entitled for Kishan Credit Card (KCC), 79 received the same. However, as we have seen earlier the quantum of credit from such sources had been meager. The MGNREGS scheme has been quite successful with over 84 per cent of intended beneficiaries could be enveloped. Other successful schemes are provision of mid-day meals in schools, government housing scheme (PMAY), state government income support scheme to the farmers (Krishak Bandhu); etc. The most important and flourishing programme appear to be the provision of LPG cooking sets under PMUY and providing cycle to each student in class IX and X under Sabuj Sathi scheme to mitigate the difficulties to come to the school.

A quick look at the results indicates that the poverty alleviation programmes made a better performance than the agricultural development programmes. In fact, the performance of schemes for micro-irrigation, organic farming, seed minikit, food grain procurement under minimum support price, farm loan waiving, soil health card, farm mechanization, crop insurance, etc. are very poor. However, in course of analyzing the data one should also keep in mind that the village Sahajapur, at the present juncture, is in no way can be termed as agriculturally vibrant village with mainly paddy being cultivated along with a few other crops. Moreover, there is a conflict between the state government and central government over naming, sharing financial burden, and in operational guidelines issued by the central government for various schemes for agriculture like PM-KISAN, PM-FBY, PM-KMY, etc. As a result, agriculture being the state subject, state government machineries is reluctant to implement such central schemes rather introduced parallel schemes with full financial support from the state government.

In fact, state government has a number of schemes for the students, girl child, housewives, and farm families. Two schemes for empowerment of young women viz. *Kanyasree* and *Rupasree* made fully funded by the Government of West Bengal have been very popular in the rural

society. *Kanyasree* aims to ensure that girls stay in school and delay their marriages at least till the age of 18 years, through conditional cash transfers after attaining the age of 18 years. The scheme has two conditional cash benefit components. The first, an annual scholarship of Rs. 1000/- from class VI till XII, and second, a one-time grant of Rs. 25000/- to the un-married girl after attaining the age of 18 years provided, they are engaged in education. *Rupasree*, on the other hand aims at mitigating the difficulties that poor families face in bearing the expenditure of their daughters' marriages when annual family income is less than 1.50 lakhs. Under this scheme one time grant of Rs. 25000/- is given to the economically stressed families at the time of their adult daughters' marriage. In Sahajapur we find that 60.9 per cent girls have benefitted under *Kanyasree* while 38.1 per cent women in the age group of 18 years to 25 years have received grant under *Rupasree prakalpa*. Swastha Sathi is another scheme of providing public health insurance card to each household with a limit of Rs. 5 lakhs per family. After the landslide victory in assembly election, to fulfill the electoral promise, the state government started three new schemes for housewives and students. Though no quantitative information is available, but as per the feedback received from the villagers as well as the village officials, performance under these three schemes is very good.

7.2. Perception about Government Schemes

The perception of the people of the village about government schemes centres around the tangible benefit transfer programmes rather than agricultural assistance programmes like KCC, soil health card, PM KISAN, etc. The conflict between the state government and central government over operational guidelines of various schemes resulted into poor implementation of few schemes like PM-KISAN, PMFBY, PMKSY, PMKMY, etc. And it is because of such conflicts, government line departments are more interested in implementing schemes introduced and sponsored by the state government than those by central government. In course of our group discussions at different levels in the village we had come across such opinion of the people. Both the villagers and officials are more interested in schemes having tangible material benefit (cash or kind) transfers rather than long term qualitative/intangible benefits. We have discussed different issues with the Panchayat officials at length. The local panchayat responsible for an all-round development of the villages under its jurisdiction also appeared to

take more interest in distributing material and financial benefits to the intended beneficiaries. Moreover, the major part of the agricultural development and assistance programme gets carried out by the Department of Agriculture. Due to shortages of manpower in the block agricultural departments, they are unable to implement many such schemes in this village. There might be some lack of coordination also in programme implementation by these different departments, which is a matter of concern for policy interventions.

7.3 Participation in Local Governance

With the inception of the three tier Panchayati Raj system, the tiers being Zilla Parishad, Panchayat Samiti and Gram/Anchal Panchayats, there exists one more statutory body at the grass root level known as the Gram Sabha/Gram Samsad that comprises of all adult members, both men and women, of the village. The meetings of this body are supposed to be held regularly to discuss the issues of village development and the problems that are being faced in mitigating them. In the village of our concern, such meetings are held on a regular basis. However, in course of the survey we did not come across any such meeting because these have been deferred for maintenance of COVID 19 restrictions. But interaction with the people revealed that 37.5 per cent (133) of representatives from 355 households are in a habit to attend such meetings (Table 7.2). It is interesting to find the poorer sections i.e., the scheduled castes and tribes mostly the BPL card holder do attend the meetings in a larger proportion than their general and backward Hindu counterparts. The panchayat system during the Left governance in West Bengal had had an effect of tilting the power balance of the rural society towards the poorer sections where, at least, after the first panchayat elections representatives from the scheduled communities participated in the functioning at the grass root. Though the situation changed in later years and representation of educated rural middle class dominated the scenario, nonetheless the blanket of social subjugation that had suppressed the poorer sections was once and for all lifted. The whole social process might has had an impact on the participatory nature of these communities in the local level meetings like Gram Sabha/ Gram Samsad where they could foreground their demands in an open forum.

7.4 Perception about caste/gender/political bias or deprivation

In course of the present survey the sense of deprivation in the village is found completely absent (Table 7.3a). As regards to perception around relative status in the village the responses seem trivial where families from Hindu general caste perceive their position in the socio-economic ladder to be high to medium, while the households from scheduled communities (i.e., SCs and STs) think otherwise with over 90 per cent of the household from each of the scheduled community opined low relative status in the village hierarchy. However, none of the families complained or pointed towards any causes other than economic condition of the household for such a status (Table 7.3b). Only one family among the Hindu general castes claimed that his political affiliation against the ruling political regime is the cause for his social dispossession and low relative status in the village.

Table 7.2: Participation in Gram Sabha/Gram Samsad meeting by caste and economic status

(% of respondents participated in such meetings)

Particulars	Economic Categories			
	APL	BPL	Others	Overall
General Caste Hindu	18 (51.4)	8 (8.2)	1 (100)	27 (20.3)
OBC	12 (34.3)	3 (3.1)	0 (0)	15 (11.3)
Scheduled Caste	5 (14.3)	57 (58.8)	0 (0)	62 (46.6)
Scheduled Tribe	0 (0)	29 (29.9)	0 (0)	29 (21.8)
All Categories	35 (100)	97 (100)	1 (100)	133 (100)

Source: Village survey 2019-20

Table 7.3a: Perception about relative status of household in village

Social group	Unit	Relative status in village				No sense of deprivation in village	Total
		High	Medium	Low	Nil		
GCH	No.	7	52	48	3	110	110
	%	6.4%	47.3%	43.6%	2.7%	100.0%	100.0%
OBC	No.	1	17	24	0	42	42
	%	2.4%	40.5%	57.1%	0.0%	100.0%	100.0%
SC	No.	0	12	129	0	141	141
	%	0.0%	8.5%	91.5%	0.0%	100.0%	100.0%
ST	No.	0	3	59	0	62	62
	%	0.0%	4.8%	95.2%	0.0%	100.0%	100.0%
Total	No.	8	84	260	3	355	355
	%	2.3%	23.7%	73.2%	0.8%	100.0%	100.0%

Source: Village survey 2019-20

It is interesting to find that the particular household of which we have just mentioned had approached to pradhan of the ruling panchayat body for consultation as regards to his social problem (Table 7.3c). And four households from SCs had livelihood advice from either pradhan or member of the panchayat. In general, the villagers seem to be quite content with their own style of combat with day to day social and economic difficulties.

Table 7.3b: Reasons for such perception about relative status

Social group	Unit	Reason for such perception of status				Total
		Political affiliation	Economic condition	None	Others	
GCH	No.	1	86	14	9	110
	%	0.9%	78.2%	12.7%	8.2%	100.0%
OBC	No.	0	41	1	0	42
	%	0.0%	97.6%	2.4%	0.0%	100.0%
SC	No.	0	71	70	0	141
	%	0.0%	50.4%	49.6%	0.0%	100.0%
ST	No.	0	41	18	3	62
	%	0.0%	66.1%	29.0%	4.9%	100.0%
Total	**No.**	**1**	**239**	**103**	**12**	**355**
	%	**0.3%**	**67.3%**	**29.0%**	**3.4%**	**100.0%**

Source: Village survey 2019-20

Table 7.3c: For advice whom villagers approach

Social group	Unit	Livelihood advice		Social advice	Total
		Panchayat member	Panchayat pradhan	Panchayat pradhan	
GCH	No.	0	0	1	110
	%	0.0%	0.0%	0.9%	100.0%
OBC	No.	0	0	0	42
	%	0.0%	0.0%	0.0%	100.0%
SC	No.	2	2	0	141
	%	1.4%	1.4%	0.0%	100.0%
ST	No.	0	0	0	62
	%	0.0%	0.0%	0.0%	100.0%
Total	**No.**	**2**	**2**	**1**	**355**
	%	**0.6%**	**0.6%**	**0.3%**	**100.0%**

Source: Village survey 2019-20

7.5 Perception about major socio-economic problem of the village

We, for the present study, have also sought for the perception of the villagers about the major socio-economic problems they face in their daily life. It turned out that about 70 per cent of the households could not identify or were unwilling to respond about the major socio-economic problem of the village. Rest of the opinions have been classified into four major sectors viz. infrastructure, agriculture and allied, employment and socio-economic in accordance with the perception of the people. Within infrastructural constraints it appears that crisis of drinking water in the village, of which we have discussed earlier, gets the top most priority (Table 7.4). We further observe that poor irrigation poses major hindrance towards agricultural operations. It is also clear that the village suffers from low employment opportunity for the workable population particularly the younger ones. Under the present state of agricultural activities in Sahajapur, the agricultural sector could hardly generate ample employment opportunity within the village economy. Moreover, the COVID 19 pandemic and subsequent lockdown has reduced the employment opportunities outside the village. This gets reflected in the responses of the people in course of our survey. Rise in the market prices has also been an issue that has bothered the poorer sections namely the scheduled castes and tribes.

7.6 Suggestions for overall development of the village

The villagers were sought to foreground their opinion as regards to further and future development of the village as well as their livelihood. Suggestions from the people of Sahajapur are presented in Table 7.5. Here also, it is observed that over 70 per cent of the respondents were unable to focus on their specific suggestions for development of the village. However, in course of the group discussions with the villagers we were aware of their vision as regards to socio-economic improvement of the village of which we shall be discussing shortly. It can be seen from the table that provision of sub-soil water for irrigation, creation of employment opportunity particularly through MGNREGS, and provision of safe drinking water get priority. A section of people also suggested that the price of the essential goods in the marker should be strictly regulated.

Table 7.4: perception of people about major socio-economic problems

Major sectors	Major problems	Caste				
		GCH (%)	OBC (%)	SC (%)	ST (%)	Total (%)
Infrastructure	Absence of good school	0.9	0.0	0.0	0.0	0.3
	Crisis of drinking water	**1.8**	**11.9**	**9.9**	**24.2**	**10.1**
	Poor condition of roads	0.0	0.0	0.7	0.0	0.3
	Poor drainage	1.8	0.0	0.0	0.0	0.6
	Poor education	0.9	0.0	0.0	0.0	0.3
Agriculture & allied sector	Fishery activity needed	0.9	0.0	0.0	0.0	0.3
	Lack of credit from bank	0.0	0.0	1.4	0.0	0.6
	Poor agriculture	1.8	0.0	0.0	0.0	0.6
	Poor irrigation	**8.2**	**9.5**	**6.4**	**0.0**	**6.2**
Employment	Govt. jobs are needed	0.9	0.0	0.0	0.0	0.3
	Job security for young generation	0.9	0.0	0.0	0.0	0.3
	Poor wage rate	0.0	0.0	1.4	0.0	0.6
	Low employment opportunity	**5.5**	**7.1**	**8.5**	**9.7**	**7.6**
	More working days under MGNREGS	0.9	0.0	0.0	0.0	0.3
Social & economic	Lack of social bondage	0.9	0.0	0.0	0.0	0.3
	Poverty	0.0	2.4	0.0	0.0	0.3
	Price rise	**0.0**	**0.0**	**2.8**	**1.6**	**1.4**
Not Responded		74.5	69.0	68.8	64.5	69.9
Total		100.0	100.0	100.0	100.0	100.0

Source: Village survey 2019-20

Table 7.5: Suggestions for development

Major sectors	Major suggestions	Caste				
		GCH (%)	OBC (%)	SC (%)	ST (%)	Total (%)
Infrastructure	Improvement in education	1.8	0.0	0.0	0.0	0.6
	Improvement of drinking water	**0.9**	**9.5**	**1.4**	**4.8**	**2.8**
	improvement of drainage	0.9	0.0	0.0	0.0	0.3
	improvement of roadway	0.0	0.0	0.7	0.0	0.3
Agriculture & Enterprise	**Provision of sub-soil irrigation**	**10.9**	**14.3**	**14.2**	**17.7**	**13.8**
	Enhancement of Credit from bank	0.0	0.0	2.1	0.0	0.8
Employment	**Creation of employment opportunity**	**6.4**	**4.8**	**8.5**	**9.7**	**7.6**
Regulatory	**Regulation of market price**	**0.0**	**0.0**	**2.8**	**1.6**	**1.4**
	Wage hike needed	0.0	0.0	1.4	0.0	0.6
Social & cultural	frequent social gatherings	0.9	0.0	0.0	0.0	0.3
Not Responded		78.2	71.4	68.8	66.1	71.5
Total		**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: Village survey 2019-20

As we have said earlier that in course of the village survey, we had several rounds of focus group discussions (FGD) with the various sections of people at Sahajapur. In course of such discussions, it seemed that different segments had their own aspirations. The landed section, mostly from the Hindu general caste community were eager to have minor irrigation units installed at a subsidized rate to explore the possibility of multiple cropping and alternative cropping practices. A number of people argued in favour of excavation and renovation of existing village tanks and pond that could facilitate propagation of new fisheries and could generate employment opportunities in the village. The scheduled tribes and sections of OBCs and SCs were enthusiastic about opening up of new avenues for rural artisans through development of small-scale units of handicrafts and agro-based industries under the marketing structure of the government. However, there had been no suggestions by the villagers towards formation of co-operatives by themselves to facilitate such entrepreneurship. But there was agreement among the people of Sahajapur that functioning of the self-help groups by the women has brought about a marked change in respect of women empowerment. And if they could be motivated and assisted by the government to diversify their operations these groups could turn out to be a firm step towards an all-round socio-economic development of the village society.

Chapter-VIII

Summary and Policy Recommendations

8.1. Summary

The last five chapters, from the overview of the village in Chapter-III to Chapter- VII where the policy and local governance issues have been discussed, served fairly heavy doses of facts, figures and statistics mixed together in description, discussion and analysis. The resulting flare has not been uniform all through. This is perhaps unavoidable in any village study which focuses on multi-dimensional issues of rural change.

8.1.1 Background and objectives of the present survey

Villages constitute the nucleus of our society and in West Bengal, two-third of the population is residing in villages. The progress of the state, hence, depends on the wellbeing of the rural society. Villages in West Bengal, however, have witnessed a great deal of social, political and economic transformation in course of the post independent development practices. Contribution of agriculture as a source of livelihood is declining in the rural areas. Rural peoples are now diversifying their livelihood portfolios into various non-farm and off-farm activities. Over the years since independence, both the state government as well as central government has formulated various schemes that have helped the rural people to improve their economic situations. Some of the planning activities which are undertaken for the purpose are in the nature of efforts to develop the physical resources, the infrastructure and facilities for the supply of material inputs that are directly connected with production. There are also activities which aim at developing human resources by education, health and training. Further still, there are activities seeking to establish and appropriate institutional framework for collective action and more equitable distribution of income and wealth.

Since villages are terrain where development policies and schemes are tested, continuous village survey is capable of pointing out the efficiencies and efficacies of such schemes (Himanshu et al, 2016). A continuous village survey thus can provide a clear picture about diagonally opposite view regarding success or failures of development schemes, besides providing panel data for policy formulations. It also helps in measuring the changes in villages

over time. However, a strait jacket development plan did not materialize into a booming development of the rural sector for the very fact that each village had its own specificities and diversity and reacted to all these development impetuses with a complex reality. It became clear that the complex relations within a village society call for small scale and intensive primary village surveys to get the feel of village dynamics.

Despite several efforts on the part of state, civil societies as well as by the villagers themselves, the rural areas are still submerged in the problems of lack of education, poverty, unemployment, malnourishment, etc. How are the interventions reaching down to the village level? Are the resources and administrative machinery too inadequate to achieve rapid changes? What is the pattern of changes in village economies? What is their process? What further possibilities are indicated by the process of actual change? These are some of the questions which the present study attempts to tackle. With this background the present resurvey study was conducted the following overall objectives:

1. To create a longitudinal panel dataset, to capture the socio-economic dynamics of the villages. The purpose is to assess the pace, process and pattern of rural change by means of repeated survey in the selected villages followed by re-surveys of the same villages at an interval of 5 years.

2. The focus would be on agricultural change and changing pattern of rural livelihoods and its implication for future development. The study will also evaluate the efficacy of government interventions in rural areas and key drivers of changes in village economy.

8.1.2 Methodology and coverage

Agro-Economic Research Centres (AERCs) have a long tradition in conducting village studies since their establishments in 1950s. More than 200 village studies were conducted by the AER system during 1950s to 1970s. In fact, AERCs started functioning in the mid-fifties having one of the objectives “to carry on a continuous study of change in the rural economy by means of survey of a number of selected villages each year, the survey to be repeated in the same group of villages in the interval of five years”.

This particular study is a resurvey is conducted in Sahajapur village in Birbhum districts of West Bengal. This particular village had been first studied in the 1950s by AERC, Visva-Bharati under the series 'Rural Change' and again re-surveyed in 1972-73 (Mondal et al, 1974); 1982-83 (Sen and Sengupta, 1983) and again in 1987-88 (AERC, 1990). The village Sahajapur was also studied by foreign researchers like John Harris (Harris, 1982). However, all these studies barring the one in 1950s were not done as village study rather covered few specific dimensions with sample households. For example, the research focus of 1982-83 (in collaboration with Amartya Sen) was malnutrition and gender bias in rural areas. Since then, several changes have taken place in this village. First, havoc inroad of political parties in the day-to-day affairs of the village took place. Second, a mushrooming of government schemes for different groups of rural peoples is there. Third, the village livelihood is fast diversifying away from agriculture. Therefore, it necessitates a complete resurvey now.

This study is based on both primary and secondary data. The very nature of village survey studies must ensure that it takes into account the unconventional or informal opinions and views in respect of social, political, cultural and ecological issues which cannot be recorded through formal household surveys. Therefore, the present survey was conducted at three levels: Village Level, Group Level; and Household Level. Accordingly, information was collected from the official records; stake holders' meetings; secondary sources, focus group discussions, and household surveys. The household level primary data has been collected through complete enumeration of all the 355 households residing in the village. Focus group discussion (FGD) and stakeholder meetings were also used to gather primary information at village or group level. The study covered various dimensions of social, economic, agrarian, farming, ecological parameter. Being a re-survey, it also focuses on the socio-economic changes that have taken place between the two periods. The study also attempts to identify the driving forces of such change.

As mentioned earlier, this study has been conceived as a resurvey of the village, the earlier survey was conducted in 1955-56. The present study is based on re-survey conducted during 2019-20 & 2020-21. The survey of 1955-56 had focused mainly social, economic and agricultural aspects including the attitude of people toward the change that was taking place on the

agrarian sector. However, in the present study a number of issues relating to education, malnutrition, ecology and environment, food security, government assistance etc. have been addressed. In this sense, the two studies are not strictly comparable. Though both the surveys were complete enumeration of the village, nonetheless the methodology that were adopted and the structure of questionnaire used in these two surveys were different. In addition to this, there might be some human factor involved in course of the surveys for the enumerators in charge of the primary investigations after a period over five decades were not the ones who carried out the first survey. Nevertheless, we have tried to address the factors influencing the social change as far as possible. Hence, certain comparisons made in this study can be regarded as only approximate and should be used with caution. Outbreak of COVID 19 pandemic and subsequent lockdown during the period has heavily affected the smooth resurvey of the village and was delayed. It turned out little difficult for the field surveyors to get in touch with the respondents for the household survey. Despite this difficulty it was the perseverance of the enumerators, that we were able to complete the study.

8.1.3. Profile of the village Sahajapur

The village shows all the characteristics of the representative rural community in terms of social, economic and ethnographic diversity of the district of Birbhum. Sahajapur is, therefore, a distinct village, but not an isolated village. Sahajapur, a village within Sian Muluk Gram Panchayat under Bolpur sub-division in Birbhum district, West Bengal is situated within 23.6774^{o}N & 87.7677^{o}E latitude and longitude respectively. The village is situated at a distance of 41.9 kilometres from the district head-quarter Suri with a total 355 households. The nearest town, Bolpur is eight kilometres away and is connected by a metal road. The nearest railway station is in Bolpur and nearest domestic and international airports are at a distance of 65 and 158 respectively.

The climate of the village is generally dry, mild and healthy. It experiences dry and hot summers with temperatures often rising above 40°C. Winters in Sahajapur are pleasant and enjoyable, but in January mercury dropping to less than 10°C (50°F). The village receives a moderately high rainfall, the annual average being 1430 mm. The village comes under the Red and Laterite agro-

climatic zone, with porous soil. As the area is arid there is no forest cover in close vicinity. There are patches of barren lands with little grass toppings. Such land is not even suited for pastures.

The gross cropped area in the village is 391.97 acres with cropping intensity of only 130.24. The rice-based cropping pattern is dominant in the village. Paddy in the only crop being cultivated by the farmers both during Kharif as well as in Summer with little area under potato, oil seeds, and vegetables in Rabi. Though the village comes under *Mayurakshi* canal irrigation system, agriculture is mostly rain dependent as the availability of canal water is limited to the rainy season. There are several water bodies are there within the jurisdiction of the village, most of which get dry during the summer season.

Over the years rearing of cattle, particularly bullock for cultivation has declined. The farmers prefer to hire tractors or power tillers for tilling the land rather than maintain a pair of draft animals. On the contrary, rearing of goats, poultry birds both indigenous and of improved broilers and ducks has emerged as a growing business among a section of villagers mainly from the scheduled caste and scheduled tribe communities. Rearing of pigs is also very common among the tribal families.

There is a government run primary school within the village catering the vernacular primary schooling of the children but the no financial institution within the village. Literacy in general, irrespective of gender and caste, reveals a tremendous positive stimulus over time with an overall literacy of 85.4 per cent. Good health facilities are available as the sub-divisional super-speciality hospital cum medical college is within 4 km from the village. There are three clubs in the village that arrange for entertainment of its members as well as organizes various social and cultural festivals. It is found during our current survey that almost all the households had secured electricity connection and has the facility of safe drinking water.

All the households in the village belong to Hindu religion. A good number of schedule caste and schedule tribe population is there in the village. The village settlement pattern in Sahajapur reveals that different communities have their own clusters of settlements as it has been a common practice in the village society. People living in Sahajapur depend on multiple skills and are living in very peaceful manner. In recent years, agriculture has ceased to be the principal

source of earning for most of the households. Though there are 130 farms families are there, agriculture is the main source of livelihood only for 6.5 per cent of households. Over 58 per cent of the families thrive on wage earning either as agricultural labour or as casual labour in non-agricultural sector.

Durga Puja and *Kali Puja* (two Hindu goddess) are celebrated with much grandeur by all the caste and clans. The Scheduled Caste and Tribes, however, have their own festival like *Dharam Puja* of the Scheduled Caste people or *Bandhna*, *Sohrai* etc. of the tribes. The Mahali tribals do also celebrate *Sarul* (Holi), *Karampuja* (Bhaiaduj), and other festivals. The main language spoken by the people is a particular dialect of Bengali that is quite common in the district of Birbhum. There is a section of *Santals* who use their mother tongue *Alchiki* as the language of communication. A particular sub-section among the tribes is *Mahalis* who have their own language *Mahali*. People of Sahajapur, in general, prefer a Bengali cuisine. The main food consists of rice, pulses, vegetables and protein in the form of fish. Consumption of chicken and egg has also been increased in recent years. The general castes, OBC, SC and ST prefer to remain as separate entity within the village community, but the austerity of the caste system or untouchability is no longer exist. There are even inter-caste arranged marriages among the Hindu sub-castes. This village is having a very proud history. Still this village is waiting for Industrial development. Young generation is more attracted towards mobile, Laptop and computer technology these days. If banks and finance institutions proved loan and other financial support to the villagers, this village will see the real development.

8.1.4 Social dynamics in Sahajapur

There have been notable improvements in respect of educational, medical, social and nutritional aspects in the village as well as in checking population growth particularly during last two-three decades. The most important change and, the one that overshadows all others both in the immediate as well as in its long-term implications, is the control of population growth in the last decade. The population of the village considerably grew till late 1990s. Thereafter, a reversal of fertility rate can be observed from the population pyramid. During 1955-56 it was a village with children and youths (aged between 0 and 15). But now in 2019-20, the middle-aged peoples (aged between 16 and 55) are the majority in the village. Other important social

changes are fast spread of female literacy, significant reduction in child mortality, and eradication of malnutrition among all section of the society. However, sex ratio got reversed against female and there is a breaking down of joint family system. This is a matter of serious concern.

The village Sahajapur comprises of 355 households with a population to the tune of 1496. Over the years, the population of Sahajapur has increased but what is surprising is that the sex ratio has tilted against the female. It is also interesting to observe that the joint or large family system has declined sharply giving rise to small or nuclear families.

The age and gender distribution of population of Sahajapur reveals that while the population below the age of 15 years was as high as 40.8 percent during 1955-56 survey, it is only 20.59 percent of total population during 2019-20 but during the same period the people above the age of 55 years have increased sharply from 6.9 per cent to 12.83 per cent. This is because of both increased life expectancy and reduction in fertility rate. Both the birth rate and death rate have declined significantly but the decline in birth rate is more prominent mainly due to wide spread adoption of family planning measures and discontinuation of child marriages that were very common during the first survey period. As a result, the annual population growth rate which was as high as 3.59 per cent during 1951-56, is now reduced substantially to less than 0.50 per cent in recent years. However, one interesting observation is that both the birth rate as well as death rates is still higher among the poor (BPL) and scheduled caste population. This is mainly due to their socio-economic backwardness as more than 94 per cent of scheduled caste and 100 per cent of tribe households are still living below the poverty line.

Literacy among the residents of Sahajapur has also improved substantially over the years from a mere 13.4 per cent in 1955-56 to 85.4 per cent in 2019-20. Till 2019 (before the onset of Covid-19 pandemic), over 96 per cent of children are enrolled in school and used to go to school regularly. But basic learning is an issue. There is a substantial learning deficiency across all the classes in terms of both reading competency as well as arithmetic ability. Overall, only 37 per cent students in the age-group of 5-15 years can read a story and only 23 per cent of the school going students can do simple divisions. It is surprising to note that two third of the Standard-I student cannot even recognize letters and as high as 83.3 per cent of them are

unable to recognize the digits. Even 10 per cent of Standard-V students are unable to recognize letters. Similarly, half of the Standard VIII and IX students cannot solve a simple division sum, and one-fourth to one third of them is unable to read a story in their vernacular language. This is a matter of serious concern as most of such students are first generation learners from the scheduled caste and scheduled tribe categories

So far as child nutrition is concerned, Sahajapur presents a satisfactory picture. By and large more than 90 per cent of the children in Sahajapur, across the caste and gender, are within the normal range of BMI and there is not a single incidence of severely underweight or in obesity category in the whole village. Further, in terms of child nutrition, no more there exists any gender or caste bias in Sahajapur which was very common till 1980s.

The empirical studies on the child nutrition and learning outcomes among the children in Sahajapur village provides firm evidence of remarkable improvement in terms of child nutrition during last four decades. However, systematic caste bias is reflected in the learning deficiencies among scheduled caste and scheduled tribe students. Further, significant loss in learning due to prolonged lockdown in schools since March 2020 is also clearly visible among such students.

During our survey (household as well as FGDs) none alleged about any sort of political bias in getting the benefits from different government schemes or complained about any kind of deprivation they face when having different political inclination other than the ruling party. Also, no bias as to the caste hierarchy is observed. However, the caste structure was quite rigid during 1955-56 though there was complete absence of untouchability. At present, the social scenario is such that the people from lower strata of caste composition can participate in the decision-making process. It has to be mentioned separately that among the Panchayat members over forty per cent is from SC, ST and minority community. In course of the survey none of the families complained against caste or gender discrimination. It appears from the above discussion that the social dynamics, over the years, has played a major role in view of eliminating the gender and social domination in the village of Sahajapur.

8.1.5 Economic system in Sahajapur

There has been number of significant developments, in the economic system. Road, electrification, rural housing, health facilities, provision for safe drinking water and communication facilities have improved a lot. Average household income, consumption and productivity of crops have also increased substantially. The demand for consumer durable goods like two-wheelers, cell phones, television, refrigerator, etc. seems to be rising rapidly resulting in to higher cost of living. Construction of pucca residential houses certainly shows a tremendous growth and is, perhaps, the only major avenue in which physical investment seems to be taking place in the village largely through individual efforts. However, no significant improvements are noticeable in respect of development in agricultural infrastructure, livestock enterprises or in poverty eradication among the landless scheduled caste and scheduled tribe households. There does not seem to have taken place any fundamental change in organization of agricultural production though uses of modern farm inputs have increased. But the progress in production and productivity in agricultural crops are lower than the state average. As a result, agriculture is no more a preferred enterprise among the villagers and for only 6.5 per cent of the villagers it is main source of their earning. The land holding structure has not improved rather inequality in the distribution of land increased over time.

Livelihood in Sahajapur is diversifying fast towards casual and marginal activities. The livelihood pattern in Sahajapur clearly demonstrate that majority of the working population primarily earns their livelihood as wage earner. The landed section is mostly from Hindu general castes and OBCs but it is interesting enough to find only 15.7 per cent of such landed households are perusing cultivation as their primary occupation. A large section among such households has other occupations as a means of primary livelihood. On the contrary the proportion of wage-earning families is substantially high among other castes and tribes, who are mostly landless and land-poor. With the passage of time, employment opportunities have undergone a change in the village Sahajapur. In course of the present survey, we find that 91 per cent of total households are engaged in more than one occupation. The proportion of households depending of agriculture as their primary livelihood has dropped from 80.3 per cent in 1955-56 to 6.5 per cent in 2019-20. On the other hand, dependence on salaried jobs, business,

transport and other miscellaneous activities have increased substantially. Urbanization of the nearby town of Bolpur, which is only a few kilometres away, and improvement of the roadway infrastructure might have added impetus to the occupational shift. Moreover, the desires for a better livelihood in the psyche of people have encouraged them to go for livelihood diversification. In course of the survey, we find that 91 per cent of total households are engaged in more than one occupation.

The land ownership pattern in the village Sahajapur exhibits that there has been a little change over the years. In 1955-56 the proportion of landless households was to the tune of 62.50 per cent in aggregate which has remained more or less the same in 2019-20. However, when land ownership is related with the social identity of the households we are faced with the scenario where the Hindu general caste and OBCs turns out to be the main land-owning category. The feature of landlessness seems to be very high among the scheduled castes households, and none of the scheduled tribe family owns any land for cultivation. The Mahalis, main tribal people in the village, are artisans and craftsmen who have been excelling in bamboo craft. They are primarily dependent on wage-earning, bamboo crafts, and backyard poultry/piggery keeping. As evident from the Lorenz Curve and Gini co-efficient, the distribution of cultivable land in the village is highly skewed in nature. It's not only that more than 63 per cent households are land less but also the average size of holding is very low (2.32 acres) that possess difficulties in using modern farm technologies. The Gini ratio for all households in Sahajapur exhibits presence of severe inequality in distribution of land registering the value to the tune of 0.79.

Within a span of over sixty years there has been a marginalization in the agrarian economy of the West Bengal as well as in the village of Sahajapur. It is also apparent that the average size of holding has declined at a very fast rate over the years. The proportion of marginal farmers was only around 19 per cent in 1955-56 owning 2.6 per cent of total operated area. However, the situation in 2019-20 has altogether changed where over 68 per cent of holdings come under marginal land operating category covering 36.8 per cent of area operated. At the same time the proportion of area under medium and large cultivation has decreased substantially from 61.4 per cent in 1955-56 to only 26.6 per cent in 2019-20. The law of inheritance along

with the land acquisition act might have been partly responsible for such a scenario. It is also possible that the joint family system has in course of time given way to unitary family system resulting in sub-division and fragmentation of land holdings.

In course of our village survey, we find a predominance of Kharif paddy in the crop rotation cycle of the village. In the absence of secured and dependable source of irrigation the farmers seem to bank on kharif paddy which is cultivated both during monsoon as well as in summer. In view of poor irrigation there seems to be little avenue for extensive crop diversification. Over the years, there has been little shift in cropping pattern in favour of rapeseed mustard, summer paddy, potato and winter vegetables away from wheat, sugarcane, pulses, and onion. Further, the varietal diversification too has reduced substantially.

It is also evident that the pattern of input use in agriculture undergone a significant change away from traditional varieties to high yielding varieties of crops using high doses of chemical fertilizer, pesticides and machine powers. The seed rate has been doubled from 30 kgs/acre in 1955-56 to 60 kgs/acre in 2019-20. Earlier there was no use of plant protection chemicals but now on an average paddy crops require three times application. Intensive cultivation has had its impact on increasing the labour use for de-weeding, fertilizer application and application of insecticides from time to time in course of cropping. Rearing of cattle, particularly bullock for cultivation has declined while keeping poultry, goat and pigs has increased. As a more cost-effective method the farmers prefer to hire tractors for cultivation rather than maintain a pair of draft animals.

A mixed pattern of ownership of residential land and residential house is observed in the village. Hindu general caste families own high valued residential land while the scheduled castes and tribes occupy better residential houses. It is interesting to find a number of two wheelers among all sections of population. Similar is the case of television too, where it has become almost essential durable goods to be possessed by the family. However, refrigerators or computers are still not that popular. In considering food security in Sahajapur we find that none of the household has spent a whole day without eating anything due to poverty and only 0.3 per cent of households reported to have skipped their dinner arising out of inability to purchase food. So, we may say that acute hunger and destitution seems to be no more in the

villages like Sahajapur. But at the same time chronic poverty seems to exist. It strikes us when we find that 7.6 per cent of families ate poor quality of food and 8.5 per cent was unable to eat the kind of food, they preferred due to poverty.

The scenario of rural indebtedness reflects that dependence on money lenders is no more in existence. The self-help groups play an important role in view of emergency credit requirements of the family and operate like micro credit organization among its members. On the other hand, borrowing from commercial banks or government programmes like Kissan Credit Card (KCC) etc. are still not quite popular in Sahajapur. That too seems to cater the resourceful general caste people.

8.1.6 Ecology, vulnerability and sustainability issues in Sahajapur

The sustainability and resilience of rural economy to a large extent depends on the natural resource base of that area. The village Sahajapur is no exception to this.

Sahajapur village is located in the southern part of Birbhum district and comes under the Red and Laterite agro-climatic zone. The village has more or less flat topography being covered by quaternary sediments with patches of laterite. The soil of the village Sahajapur is well drained but moderately acidic, low in organic matter, phosphorous and medium in potash content. The village has a wide variety of flora and fauna, but one of the worrying observations is that the level of crop diversification in Sahajapur is quite low and decreased over time. The cropping pattern of the village is now dominated by paddy. Paddy is the only crop being cultivated both in kharif and summer season with very little amount of rape seed mustard, potato, brinjal, tomato, ladies' finger and few cucurbits during rabi season. Earlier, farmers used to grow a large number of pulses, onion, wheat, and sugarcane too. But now cultivation of such crops is no more being practiced. Further, even within the limited number of crops being cultivated; the varietal diversification is not there. What is worrying is that, the soil fertility in the village is declining over time due to mono-cropping of paddy and very little use of organic manures. The villagers are aware about the problem but trying to compensate the loss in soil fertility by using more of chemical fertilizer.

Agriculture in this village is mostly rain dependent supported by supplementary canal irrigation from the *Mayurakshi* canal system. Utilization of ground water resources for irrigation is yet to start. The water quality parameters in and around the village shows that water is more or less within the safe category for drinking purposes (free from pollutants like arsenic, fluoride, iron, chloride and heavy metals) and very much suitable for irrigation as the indices like pH, EC, TDS, SAR, etc. are within the permissible limits. However, though the water quality is still within the safe limits, it started deterioration in recent years in terms of several quality parameters.

Over the years, the use of farm yard manure has reduced substantially (from 9.4 cart load to 3.0 cart load per acres) due to non-availability of cow dung, and the use of oil cake has discontinued totally. This resulted into deterioration of soil fertility. What is more disturbing feature is that of imbalanced use of chemical fertilizers. As per soil testing report, the recommended doses of fertilizer use per acres are 13.20, 31.19 and 26.72 kgs of Urea, DAP and MoP, respectively. But the corresponding actual use is 30, 20 and 10 kg per acres, respectively. The farmers in the village are not aware about soil health card and thus using higher doses of nitrogenous fertilizers but lower amount of phosphoric and potassic fertilizers than the recommended doses which is very detrimental to the soil health in the long run. Farmers in the village are not sensitized at all about the integrated pest management or organic agriculture.

During last hundred years the village Sahajapur had passed through many vicissitudes which have affected the villagers badly. The most important among these has been the cholera epidemic in 1923-24, and the last one is Covid-19 pandemic. Cholera and malaria was a regular feature at an interval of 5 to 7 years till 1940s. The Bengal famine of 1943 also affected the village. However, such epidemics are no more there except that of Covid-19 pandemic. Drought and heat wave are two other natural disasters occurring in the village frequently, though their frequency of occurrence have reduced from once in five years to once in 8 years now. As evident from the long-term rainfall data, a very high degree of inter year fluctuation is there resulting in to frequent drought or water stress. What is alarming is that there is an increasing trend in the fluctuation in annual rainfall as well as in monthly rainfalls during last 10 years. However, the gap between highest and lowest temperature in the year is narrowing down over time.

The pandemic Covid-19 and subsequent lockdown impacted the village significantly. The more significant negative impact was on education, non-farm & off farm employment, and supply chain for agricultural inputs as well as outputs. They tried to cope up with the situation either through borrowing or on drawing down the inventories. However, with the phased relaxation of restrictions, the severe negative impact was softened after few months. But education sector continues to be badly affected due to prolonged/continuous lockdown since March 15, 2020. This has not only resulted into poor learning but also significant loss of learning among the school going children in the village, particularly the poor and first-generation learners. For more than one third of the students (34 to 36%), instead of gradual learning, there is loss of learning. As high as 36% students forgot their basic arithmetic abilities and for 34% students there is loss of learning in terms of reading aptitudes. No significant improvement is there for another 39-42% of students, whereas only around 22-27% of the students were able to cope with the online teaching learning process and all these students are from relatively well to do families who could afford online teaching –learning devices (Android phones) or their parents have higher education. There is a digital divide and this is a matter of serious concern as the digital divide is layered on the existing socio-economic division in the village.

However, it is also important to mention here that all the villagers are quite happy with the initiatives taken by the government and non-government organizations to control the spread of the disease and supporting the livelihoods. Till October, 2021 there was only 16 reported positive cases of Covid-19 in the village (out of a total population of 1496) with just one death with co-morbidities. The progress of Covid vaccination is also very satisfactory in the village and better than the district/state/national level performance. More than 95% population under the age group 18 years and above (entitled till that) received their first doses of vaccines and more than 53 per cent already got second doses too. The credit for such an outstanding performance is due to very dedicated health worker and pro-active role played by the gram panchayat members. The presence of sub-division hospital in Sian (within 5 km away from the village) is also one of the important reasons.

8.1.7 Policy and governance issues in Sahajapur

In course of the present survey, we have come across several schemes under operation for agricultural and rural development in the village for improving the stability of the rural economy in general and enhancing the living conditions of the poorer sections in particular. Eradication of poverty and malnutrition has been in particular focus of several such schemes. During our survey, we could identify 23 to 28 schemes for agriculture and rural development in operation in the village. Some of these schemes, like Krishak Bandu, PM-KISAN, Laxmir Bhandar, etc. are too recent to enable a complete assessment of their effects. But the effects were noticeable through the opinions and attitudes of the people than in the functioning of the economic system.

Further, though a large number of schemes are in operation in the village, in terms of reach and coverage, around half of such schemes are being implemented very successfully. A quick look at the results indicates that the poverty alleviation programmes made a better performance than the agricultural development programmes. In fact, the performance of all-most all the schemes for agricultural development are very poor. However, in course of analyzing the data one should also keep in mind that the village Sahajapur, at the present juncture, is in no way can be termed as agriculturally vibrant village. Moreover, there is a conflict between the state government and central government over naming, sharing financial burden, and in operational guidelines issued by the central government for various schemes for agriculture like PM-KISAN, PM-FBY, PM-KMY, etc. As a result, agriculture being the state subject, state government machineries is reluctant to implement such central schemes rather introduced parallel schemes with full financial support from the state government.

The Gram Panchayat is trying their best to support the livelihood of the villagers. By and large, the villagers are satisfied with the functioning of the gram panchayat and other government agencies working towards implementing various schemes. There is agreement in this mater both in one-to-one conversation during household survey as well as in the focus group discussions conducted in the village during 2019-21. However, it appears that the implementation of schemes sponsored by the state government (Kanyasree, Bangla Fasal Bima Yojana, Krishak Bandhu, Bangla Awaas Yojana, Rupasree, Sasthya Sathi, etc.) is better

coordinated than the corresponding central sector schemes (Beti Bachao Beti Padao, PMFBY, PMKISAN, PMAY, Ayushman Bharat, etc.).

It is also important to mention here that all the villagers are quite happy with the initiatives taken by the government and non-government organizations to control the spread of the disease and supporting the livelihoods during Covid-19 pandemic. All the families received free food grains, edible oils, pulses through public distribution shops. All most all the entitled households also received some kind of support from the government in terms of cash and/or kind like enhanced age-old pension, widower pension, cash to zero balance accounts, farm income support under Krishak Bandhu scheme, free LPG cylinders under PMUY scheme, etc.

Regarding preference for the schemes, both the villagers and officials are more interested in schemes having immediate tangible material benefit (cash or kind) transfers rather than long term qualitative/intangible benefits. The local panchayat responsible for an all-round development of the villages under its jurisdiction also appeared to take more interest in distributing material and financial benefits to the intended beneficiaries.

8.2. Policy Recommendations

The analysis of the foregoing chapters does not leave any room for doubt that there is an advancement of the economy of Sahajapur during last six decades and more particularly since 1980s. The improvement however, is not in commensurate with the advancement took place in the district or state. There is spectacular improvement in terms of road, telecommunication, residential units, education, health, and nutrition. Unfortunately, very little progress is made in terms of agricultural development, creation of off-farm and non-farm employment opportunities, and thus in eradicating poverty among the vast majority of the villagers. Large number of initiatives has already been taken by the government but still the rate of unemployment and poverty is alarmingly high. Therefore, based on the findings of the study and considering the aspirations of the villagers the following policy recommendations are suggested:

i. The main economic problem in the village is very high level of poverty among the scheduled caste and scheduled tribe population and lack of employment opportunities for educated youths. So as a strategy to reduce their economic vulnerability, creation of off-farm and non-farm employment opportunities are must.
ii. The Mahali tribals, poorest of the poor in the village, are expert in bamboo crafting. However, there is no market linkage for their quality products. Santiniketan, being an international tourist destination and only 8 km away from the village, linking the artisans with market may bring new opportunities for them.
iii. The villagers had a general complaint against inadequate maintenance of the canal. The second complain is about inadequate provision for bridges across the canal. This has caused hardship to the people of Sahajapur and the neighbouring villages as their mobility gets restricted. The irrigation department needs to take a pro-active role in this regard.
iv. The main problem that hinders the agricultural economy of the village is small land holding and lack of irrigation facilities during summer and rabi season. Kharif paddy alone cannot generate sufficient amount of income and employment for the landed households. Since there are large numbers of ponds and enough ground water resources available in the village, there is a need for developing both surface irrigation as well as sub-surface irrigation facilities for growing crops round the year. Therefore, in view of long-term sustainability of water resources, conjunctive use of ground-water along with surface water needs to be promoted.
v. The poor households in the village are getting enough livelihood support from the rural employment guarantee scheme. However, pond making and/renovation of ponds along with water harvesting need to be pursued under this scheme. Besides, providing gainful employment and lifesaving irrigation during kharif and rabi season, this will also help in promoting fisheries and duckery.
vi. Due to mono-cropping and indiscriminate use of chemical fertilizers, the soil fertility is deteriorating in the village. Thus, the schemes like Paramparagat Krishi Vikas Yojana,

Seed Minikit Programmes for pulses and oilseeds; and Pradhan Mantri Krishi Sinchay Yojana need to be implemented on priority basis.

vii. Since long, only one paddy variety MTU-7029 (Lal Swarna) is being cultivated by all the villagers. It is now call of the hour that alternative verities of crop suitable for the arid lateritic condition of Sahajapur be popularized and farmers are initiated with such cultivation with demonstration from the department of agriculture.

viii. Besides fish and rosgolla, local people have an insatiable appetite for goat meat, chicken and eggs. Therefore, goat, duck and poultry farming represent a golden opportunity for off-farm livelihood diversification for unemployed youths in the village. Goat rearing is very much profitable as it can efficiently survive on household waste, and available shrubs and trees.

ix. The village is drought prone and with very little green cover as compared to other villages in the district. Therefore, in order to reduce the vulnerability of rural people from drought and heat wave, drought mitigation strategies like pond making, watershed development, micro irrigation, afforestation, plantation of horticultural crops suitable for the area (mango, guava, ber, lemon, jackfruit, neem, palm, and bamboo), diversification towards high value low water consuming crops, etc. need to be promoted.

x. As there is substantial learning deficiency across all the classes in government schools, it demands immediate attention of the policy makers. Without a strong foundation, children will not be able to move ahead in school. Therefore, the school and education department need to take special initiatives to reduce the learning deficiencies in government schools. Further, we hope that with extra efforts and encouragements from the teachers, these children will be able to compensate their learning deficiencies.

xi. We also found that the prolonged closure of schools due to Covid-19 pandemic aggravated the problem particularly for the students from scheduled caste and scheduled tribe categories who are first generation learners with very poor economic

background. So, schools have a greater role to play as such students neither can expect any academic support from their parent nor can afford for private tutor.

xii. Further, the mother tongue of the tribal children is different than the medium in which they are forced to take learning in schools and even in pre-school classes at ICDS centres. This is an additional burden for the tribal children. Thus, as demanded by the tribal peoples, either starting tribal schools or recruiting tribal teachers in the ICDS centres as well as in schools is an urgent requirement. The *Mahali* language is also listed as an endangered language. Thus, there is a greater need to save this important tribal language.

xiii. Finally, in order to meet the expectation of the villagers following needs to be done on priority:

   a. In order to preserve the endangered 'Mahali' language, ensuring government support for the proposed school "Saheed Sankar Mahali Smiriti Vidyalaya".
   b. Re-opening of the village library which is closed since 1975-76
   c. Construction of a community hall for the village
   d. Construction of canal bridge to facilitate commuters in and around the village
   e. Establishment of a rural bank branch within the village
   f. Ensuring timely distribution of seed minikit and timely availability of fertilizers.
   g. Repairing the government sub-mersible tube wells which are not functioning since long.
   h. Housing for all the BPL families under PMAY/BAY scheme.

xiv. Finally, addiction to country liquors among the tribal male is a social menace leading to poor health and domestic violence in the village. Many tribal ladies sincerely requested to take some action for dismantling illegal country liquor manufacturing and sale within the residential area. The administration should take appropriate steps in this regard so that such illegal activities are checked and domestic violence against the women and children are stopped.

8.3 Conclusion

From the earlier discussions, it appears that the main driving forces of social and economic change in the village are development in physical infrastructure in terms of road and telecommunication; as well as government interventions through basic health, primary education and child nutrition. Undoubtedly, these changes are having a series of chain reactions within the system. But a sound rehabilitation of the village economy in terms of employment generation and agricultural development seems hardly been taken place. The different forces of change however affect different categories of households differently. There seems to be a general apathy among the village youth for working in the agriculture sector. In fact, they are apathetic towards any self-help or entrepreneurship for employment generation within the village itself rather prefers to work as a wage earner in the nearby town. In general, the people are happy with the politics of doles. Therefore, the development schemes need to re-orient from short term cash transfer to long term employment generation for educated youth.

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Annexures

Annexure – I

Reviewer's Comments on the Draft Report and Action Taken

(Reviewer: Prof. Manindra Kumar Singh, Hony. Director, AERC, Bhagalpur, Bihar)

1. **Title of the draft report examined:** Village Survey Study in West Bengal (Sahajapur village in Birbhum District)

2. **Date of receipt of the draft report:** 30/11/2021

3. **Date of dispatch of the comments:** 04/12/2021

4. **Comments on objectives of the study:** All the objectives of the study have been addressed.

5. **General on methodology:** The set methodology has been properly followed.

6. **Comments on analysis, organization, presentation, etc:**

The analysis, organization and presentation of the report are **very good**.

However, following additions and corrections are required:

i. Paging in the report is missing.
ii. Appendices and annexures are also missing, which are required to be incorporated (HH and FGD schedules).
iii. In section 1.3 the starting letter of Planning Commission should be written in capital.
iv. The distance between the village and nearest town (Bolpur), as indicated in Profile of the village Sahajapur and in section 1.2.3 also, is 8 kms, whereas in table 3.1 it is 6 km. Please check elsewhere also and mention correct figure uniformly.
v. According to table 3.1, total Hhs in the village is 355 (Census 2011) but in section 2.3.2 it is 372. The reason is stated but clarity of the same is needed. Similarly, the distance of nearest international airport differs in table 3.1 (160 km) and section 3.1.1 (158 km).
vi. The word scholl (section 4.5) may be corrected as 'school'. Similarly, 'MGNAREGS' (section 5.1.2.2) as MGNAREGA.
vii. Section 5.1.1 & 5.1.2 the caption includes 'changes therein' which is not required because, the data given in tables 5.1 & 5.3 are from survey 2019-20 only.
viii. In table 3.8, the uncultivated area is 74.14 acres, whereas that of in table 5.8, it is 74.24 acres. Mention the correct figure.
ix. Check the table 5.10. In this table, the sum total of irrigated owned area will be 278.27 acres in place of 279.27 acres. Further the figure for marginal farmers in the same table differs in un-irrigated owned area and un-irrigated cropped ara (e.g., 3.00 & 3.59)
x. In section 5.2.5, delete 'are there' (in 8th line)

xi. In table 3.8, the GCA figure (2019-20 survey) is 391.52 acres whereas that of in table 5.11a, is 391.97 acres, verify it.
xii. In 3rd line from bottom of the Chapter-V, replace verities by varieties.
xiii. Be sure about the word 'Samsad' (Table 7.2).
xiv. A list of abbreviation may also be incorporated

[**Action:** As all the comments except the last one is w.r.t. typing error, necessary correction is made as suggested. Also included all the appendices including a photo gallery of the village.]

7. Overall view on acceptability of report:

Overall, the report is a very valuable contribution to get the feel of the village dynamics and thus, it may be accepted after making corrections as suggested above. Further, the undersigned recommends for its publication.

Sd/-

(Manindra Kumar Singh)
Professor & Hony. Director
AERC, Bhagalpur
Bihar-812007.

Annexure – II

Comments from the AER Division, MoA&FW, GoI on the presentation of Report by Prof. Bidhan Chandra Roy, Hony. Director, AERC, Visva-Bharati

1. **Title of the draft report examined:** Village Survey Study in West Bengal (Sahajapur village in Birbhum District)

2. **Date of presentation of the report:** 14/12/2021

3. **Date of dispatch of the comments:** 29/12/2021

4. **Questions raised during the presentation & replies therein:**

i. **Question**: Sr. ESA, DES requested to clarify that 'despite the agriculture is one of the major sources of income, why the population is shifting away from agriculture?
[Response: Due to increased urban influence and access to towns nearby the village, people tend to shift away from agriculture and gets work in towns.]

ii. **Question**: Adviser (AER) requested to clarify on the acute learning deficiency of the SC/ST students.
[Response: Though the gross enrollment in schools improved significantly but the quality of education in terms of learning outcomes (as per ASER) was not good and the situation has prevailed in state level as well as national level as well. In addition to this, students of ST community (whose mother tongue is Mahali) are mostly first generation learner and are being taught in another language Bengali.]

5. **Observations/Comments sent on 29.12.2021 and action taken therein:**

a) The executive summary must be included not exceeding 5 to 7 pages instead of 19 pages [**Action:** Done as suggested.]
b) Repetitions of information/paragraph are to be avoided (Chapter 1 & 2) [**Action:** Done as suggested.]
c) Bibliography need to be referenced in a standard format. [**Action:** Done as suggested.]
d) It is suggested to submit three page policy brief on the report that may be sent to the Ministry which may inter-alia, include brief introduction, need and objectives, major findings and policy recommendations of the study. [**Action:** Done as suggested.]

Annexure – III

Village Survey Study (Household Schedule-Part-I)

Funding Agency : AER Division, Min. of Ag. & Farmers' Welfare, Govt. of India, New Delhi

Coordinating Centre : AERC, Visva Bharati, Santiniketan, West-Bengal

Survey Village ..... State …….. Schedule/Household No……..

A. General information:

1. ***Name of the respondent):.....Mobile no: .....……***
2. ***Age/Sex/Caste:*** ***.....***….Yr Male/Female Gen/OBC/SC/ST
3. **Religion & Type of Family** Hindu/Muslim/Sikh/Jain/Buddhist/Christian/Other Joint/Unitary/Others

4. ***Occupations/Livelihoods of the household:***
   a. Primary……. c. Tertiary…….
   b. Secondary……. d. Others…….
5. ***Family member details***

Sl. No	Name	Age (Yrs)	Sex	Relation with head of family	Marital Status*	Education**	Livelihood (For adults & working minors, if any)***

Code: * Married=1, Unmarried=2, Widowed/Widower=3, Separated/divorced=4, Others (Live together)=5; ** Illiterate =0, Primary = 1, Secondary = 2, Intermediate = 3, Technical (ITI, Polytechnic) = 4, Graduate=5; Professional (MBBS, MBA, Ph.D) =6 ; *** Cultivator=1, Agril. labour=2, Dairying/Fishing/Poultry keeping=3, Salaried govt.=4, Salaried pvt=5, Pensionar=6, Caste based profession=7, Trade & business=8, Entrepreneur=9; Casual labour =10, Marginal work (construction, rickshaw puller, etc)=11 Household work=11, Others=12

6. Working family members employment pattern (Serial no as above: 5):

Sl. No.	No of days employed in a year in different occupations			Any out migration for job/employment? If yes, answer the followings.					Any change in occupation in last five years?. If yes, why?
	Primary (.....)	Secondary (.....)	Other (.....)	No. of days/ yr?	No of times in a year?	Places & Distance (KM)	Nature (Alone/ family)	Reason for migration	

7. Information about birth & death during last 5 years : (2014-2019)

No of birth: Male:----------Female..... No. of death: Male:----------Female.....

Cause of death(other than age):.....

8. Information about school dropouts for children (4 to 14 Years):

Nos. enrolled in school: Male: .....Female.....

Type of school (Govt/Pvt/Others): Male: .....Female.....

Medium (Vernacular/English): Male: .....Female.....

Regularly attending school? Male: Yes/No. Female: Yes/No

Any drop out from school? Male: Yes/No. Female: Yes/No

Taking mid-day/ICDS meal? Male: Yes/No. Female: Yes/No

Class & reasons for drop out: Male..... Female.....

B. Socio-Economic status of the household:

1. PDS Card type: APL/BPL/MAPL/Others. 2. MGNAREGA Card Holder? (Yes/No) 3. KCC Holder? (Yes/No)

4. Electricity Connection? (Yes/No) 5. If yes, is it legal? (Yes/No) 6. Bank Accounts: (Yes/No)

7. Sanitary Toilet: (Yes/No) 8. If yes, is it functional? (Yes/No) 9. No of smart phone:.....

10. Source of Drinking Water: ..... 11.Distance travelled for water……KM 12. LPG connection: Yes/No)

13. Type of residence? ..... 14.Roofing: Thatched/Concrete/Iron sheet 15. Health insurance policy?

16. During new born delivery or medical emergency whom did you consult? Govt. Doctor/Govt. Hospital/Private Doctor/Private Nursing Home

17. Any membership in gram sabha/gram sansad/SHG/club/organization? Yes/No. If Yes give details.....

C. Ownership of assets:

1. Land ownership & transaction

Type of Land	Owned (Yes/No)	Area (Acres)	Value (Rs)	Sold during 2014-2019 (Area & Value)	Purchased during 2014-19 (Area &Value)
Residential land					
Residential house					
Commercial land/ building					
Cultivable land					
Cattle sheds/ Farm houses					
Pond/Tank					
Any others					

3. Ownership of Assets (Other than land)

S.No	Items	No	Value (Rs.)	S.No	Items	No	Value (Rs.)
Agriculture Assets				***Non- Agriculture Assets***			
1	Work cattle			1	Bicycle		
2	Milch cattle			2	Rickshaw		
3	Young stock			3	e-Rickshaw/Auto		
4	Sheep, goats, pigs			4	Two Wheeler		
5	Poultry & Duck			5	Four wheeler		
6	Tractor			6	Any other vehicle		
7	Power tiller			7	Sewing machine		
8	Bullock cart			8	Radio		
9	Wood/iron plough			9	TV		
10	Water pump etc			10	Computer		
11.	Threshers etc			11	Refrigerator/Washing M		
12	Sprayers etc			12	LPG & with cooking set		
13	Fishing boat			13	AC machines		
14	Other farm machines			14.	Jewellery etc		
15	Others			15.	Others		

Did you invested in land/jewellery/shares/other fixed assets during last 5 years? Yes/No; If yes, total amount:.....

D. Income and expenditure details (During current year only)

1. ***Average household expenditures (Rs./year): During current year only***

Items	Amount	Items	Amount	Items	Amount
Foods (Total)		Clothes		*Asset purchase*	
Staple foods		Education		Land	
Milk/Egg/Fish/Chicken		Medical expenses		Livestock	
Fruits/Vegetables		House rent/repairs		Jewelry	
Processed foods (sweets /snacks/drinks/etc)		Electricity, phone, DTH expenses		Cycle/Bike/Tractor/ etc	
Fuels charges (LPG/Coal etc)		Family festivals		Furniture	
Others (food related)		Any other		Other purchase	

2. ***Average household net income (Rs./year): During current year only***

Items	Amount	Items	Amount	Items	Amount
Farming activity		Off-farm activity		Non-farm activity	
Crop farming		Labour earning		Service/salary	
Fishing		Other off farm		Wage-earning	
Livestock rearing		Asset hiring		Business/trade	
Poultry/Duckery		Relief/Crop Insurance		Asset transactions	
Orchards etc		Farm income support		Govt. releif/pension	
Any others		Any others		Any other	

3. Food Security Issues: (Tick the appropriate one)

During last 12 months any member of the household	Never	Rarely	Sometimes	Often
a. Went a whole day and night without eating due to poverty?				
b. Went to sleep hungry due to inability to purchase food?				
c. Ever worried that the households would not have enough food?				
d. Ate some poor quality foods that you really did not liked?				
e. Were not able to eat the kind of food you preferred?				
f. Did you offered food to your neighbors and guests?				
g. Went for outside eating in hotel/restaurant?				
h. Are you eating too much packed food/purchased food like ice-cream, cold-drinks, etc?				

E. Savings and Borrowings

1. Details of borrowings during last 5 years

Borrowings (Source)*	Amount (Rs)	Year	Purpose	Rate of interest	Mortgage (if any)	Repaying regularly	Amount outstanding	Remarks
1								
2								
3								
4								
5.								

Code * 1=commercial bank; 2=cooperative bank; 3=other banks; 4=government programme; 5=traders/money lenders; 6=*Ahartia/*Commission agent; 7=landlord/employer; 8=friends/relatives; 9=others, specify……..

2. Details of savings in terms of cash during last 12 months only

Places of savings	With Bank	Post Office	LIC	Chit funds	Relatives	Neighbors	Others
Amount of savings (in Cash)							
Purpose of savings							
Type of savings (Fixed/Savings)							
Net amount available (Rs.)							

G. Governance and Policy Issues during last 5 years

1. Did any member of your family participate in Gram Sabha/Gram Sansad meetings? Yes/No

If yes, how many times?..... Nature of participation: (Active/Passive) If no, Why?.....

2. Have you approached any elected representatives (Panchayat/MLA/MP etc)for problem resolutions? Yes/No

If yes, to whom & why? .....How many times?.....

Was the problem resolution satisfactory? Not at all/Somehow/Mostly

3. Did any of your family member received assistance under any government sponsored schemes during last 5 years?:

Name of the scheme	*Entitled? (Yes/No)*	*Received? (Yes/No)*	*REMARKS: Satisfied? If yes, to what extent? If no, why?*
1. BPL Card			
2. KCC Card			
3. Public Health Insurance Card			
4. Soil Health Card			
5. MGNAREGA Job Card			
6. ICDS/Mid Day Meal			
7. Govt. Scholarship Schemes			
8. Govt. Housing Scheme (IAY/PMAY)			
9. Crop Insurance: PMFBY/Others			
10. Irrigation: PMKSY/Others			
11. Seed Minikit scheme			
12. Farm machinery or implements			
13. Life Insurance (Govt sponsored)			
14. CG Farm Income Support (PM-KISAN)			
15. SG Farm Income Support Schemes			
16.Old Age Pension Schemes			
17. Farm Pension Scheme (PM-KMY)			
18. Widow Pension Scheme			
19. Farm Loan Waiver Scheme			
20. LPG scheme (PM UJJALA)			
21. PMKVY/Organic Farming			
22. MSP/PM-AASHA Scheme			
Any Other (Specify) 1. 2. 3. 4.			

4. Perceptions about change (OPTIONAL)

a.. Your relative status in the village power structure: Top/High/Medium/Low/Nil

b. Reason for such power/status in the society*:* Caste/Qualification/Political affiliation/Economic condition/None/Others

c. Is there any caste/gender/political deprivation in your village? Yes/No.
Nature.....

d. For any advice/decision whom do you approach?

Livelihood specific:…… Social:…….. Education:.....Legal/Others……

e. To whom you sell your output? Neighbors/Market/Agents/Govt agency/Businessmen/Others

f. Is there any change in rainfall pattern or heat/cold waves or air pollutions in your village during last 10 years? Yes/No

g. Is there increased incidence of disease and medical expenditure in your family during last 5 years year? Yes /No

h. What is your opinion about the followings during last five years:

1. Change in economic condition of the villagers Improved/Deteriorated/No change

2. Change in economic condition of your family Improved/Deteriorated/No change

3. Change in village infrastructure (Road/Electricity etc) Improved/Deteriorated/No change

4. Change in agricultural condition Improved/Deteriorated/No change

5. Any other change:……

b. Main three socio-economic problem of the village:

c. Three things (improvement/development) that need to be done for the village on priority

Annexure – IV

Village Survey Study (Household Schedule-Part-II)

(Only for farmers/cultivators)

A. Area under Cultivation (in acres)

Land Type	Owned Land	Leased In	Leased out	Net cultivated Area
Rainfed area				
Irrigated area				
Total				
Sources of irrigation				

B. Cropping Pattern and Marketing during 2018-19

Crops	Irrigated		Rainfed		Earned profit (+) Incurred loss (-) ? (Rupees)	% produce sold & average price received (Rs./Qtl)
	Area (Acres)	Yield (Qtl/acres)	Area (Acres)	Yield Qtl/acres)		
Kharif						
1.						
2.						
3.						
4.						
5.						
6.						
Rabi						
1.						
2.						
3.						
4.						
5.						
Summer						
1.						
2.						
3.						
4.						
Perennial crops						
1.						
2.						
3.						
4.						

C. Crop Diversification

Items	*Yes/No?*	*Why yes/No?*
Did you change your cropping pattern during last 5 years?		
Did you change crop varieties during last 5 years?		

Annexure – V

Village Survey Study (Group Discussion Schedule-I)

Survey Village ..... State..... Group discussions No.....

A. Shocks : Frequency and exposures to shocks during last 5 years

Extreme Events	Change in occurrence (Increased/Decreased/ No change)	Frequency during last 5 years	Most vulnerable groups*	Least vulnerable groups*	Most vulnerable crops or enterprises	Least vulnerable crops or enterprises
Drought						
Flood						
Cyclone						
Erratic Rainfall						
Heat wave						
Cold wave						
Land slides						
Epidemic						
Major accident						
Suicide						
Robbery						
Violence						
Loss of job						
Price crush						
Any others						

Note: Consider only relevant shocks if there was any during last 5 years only; Groups may be as per livelihoods or any other groups

B. Shocks: Degree of hardship faced (vulnerability) during last 5 years (in 0-5 scale)

Climate Extremes	Damages to crops	Hardship to cattle	Hardship to small ruminants	Damages to fisheries	Hardship to poor	Hardship to children	Hardship to aged people	Hardship to women
Drought								
Flood								
Cyclone								
Erratic Rainfall								
Heat wave								
Cold wave								
Land slides								
Epidemic								
Major accident								
Suicide								
Robbery								
Violence								
Loss of job								
Price crush								
Any others								

Note:Rank (0=Nil; 1=Negligible; 2= Low; 3=Moderate; 4=High; 5=Extreme); Consider only relevant shocks if there was any during last 5 years

C. Main coping strategies at household level

Climate Extremes	Crop farming Community	Dairy farmers	Fish farmers	Labour class	Poorest peoples	Others 1 (.....)	Others2 (.....)	Others3 (.....)
Drought								
Flood								
Cyclone								
Erratic Rainfall								
Heat wave								
Cold wave								
Land slides								
Epidemic								
Major accident								
Suicide								
Robbery								
Violence								
Loss of job								
Price crush								
Any others								

Note: 1=Mortgaged assets; 2=Sold assets; 3=Used savings; 4=Migration; 5=Borrowing; 6=Reduced consumption; 7=Rely on help/relief; 8=Postpone family festivals; 9=Increase working hours; 10=Change crop/livelihood; 11=Change lifestyle; 12=Passive sufferings; 13=Suicide; 14= Any other (specify)

D. Adaptation strategies by different stakeholders

Climate Extremes	Individual level	Government level	By NGO	Community level
Drought				
Flood				
Cyclone				
Erratic Rainfall				
Heat wave				
Cold wave				
Land slides				
Epidemic				
Major accident				
Suicide				
Robbery				
Violence				
Loss of job				
Price crush				
Any others				

Note: 1= Livelihood diversification; 2=Crop diversification; 3=Crop insurance; 4= Health insurance; 5=General insurance; 6=Pond making; 7=Relief programme; 8=Income support schemes;; 9=MGNAREGA; 10=Livelihood creation; 11=Afforestation; 12=Immunization; 13= Infrastructure (road, irrigation, storage) development; 14=Easy lending; 15.=Loan waiving; 16=Community preparedness; 17=specific (mention)

F. Natural disaster management and relief operations during last 5 years

1. Whether early warning was communicated through newspaper/radio/TV etc? Yes/No
   a. If yes, whether it was timely ? Yes/No
   b. Was it accurate? Yes/No

2. How many days in advance the warning was communicated and through which media?

Media	Drought	Flood	Cyclone	Heat wave	Cold wave	Erratic rain	Epidemic	Others
TV								
Radio								
Newspaper								
Campaign								
Social Media								
Other								

3.. Whether the efficacy of such mechanisms improved over the years? Yes/No If so, why?

4. Any suggestion to improve preparedness?

5. Whether any relief work started or not during or after calamity events? Yes/No

If yes, was it timely? Yes/No
Was it adequate? Yes/No
If no, to why it was inadequate?

6. Who started such relief programmes? Govt./NGO/SHG/International Agencies/None

7. If there was more than one organization who was most efficient and who was least efficient?

a. Most efficient: Govt./NGO/SHG/International Agencies/NA

b. Least efficient: Govt./NGO/SHG/International Agencies/NA

8. What kind of relief the villagers received after major shocks during last five years (if any)?

ITEMS	Drought	Flood	Cyclone	Heat wave	Cold wave	Erratic rain	Epidemic	Landslide	Violence	Price crush	Others
Food											
Medicine											
Clothes											
Housing											
Cash money											
Employment /Livelihood											
Cattles											
Inputs (Seed/ Fertilizer etc)											
Feed or fodder for animals											
Others											

9. Was the relief program fare (i.e., for those who need it)? Yes/No

10. If not, who in the village gets more benefited from such programmes and how?

Annexure – VI

Village Survey Study (Group Discussion Schedule-II)

Try to also capture the following issues through stakeholders' discussion or other sources (if any)

1. Depth of ground water table in the village as per CGWB survey (<2, 2-5, 5-10, 10-20, 20-40, >40 meters below the ground level) & changes if any? (Available at block level & 2 years interval)

2. No. of ponds, dug wells, tube-wells & deep tube wells (along with changes during last 5 years)

3. Is there any reported pollution in the ground water and/or surface water (reported or observed by the villagers)?

4. Crop wise NPK use (Kg/ha & N:P:K ratio) vis a vis recommended doses as per Soil Health Cards

5. Pesticide use in crops and awareness about FYM or other organic manure use per hectare

6. Average carbon content in the soil (as per SHC).

7. a. List of varieties of major crops cultivated in the village

   b. Changes in crop varieties cultivated during last 5 years (New varieties introduced & Old varieties discontinued)

8. Proportion of indigenous & improved cattle and changes in the composition during last 5 years.

9. Marketing channel & Procurement system in the village (Crops, Milk, Fish, other village produces)

10. Land Tenure Systems and changes during last 5 years (if any)

11. Major Farming systems (Contract, Co-operative, Peasant, Family, Ranching, Organic, etc)

12. Mass/Group perception about the followings:

a. Is there any caste/gender/political deprivation in the village? If yes, Nature?
b. Is there any change in rainfall pattern, heat/cold waves, air pollutions in the village during last 5 years? Nature?
c. Is there increased incidence of disease and medical expenditure in the village during last 5 years year? Nature?

d. What is the opinion about the followings changes and the driving forces of such changes, if any?

1. Change in economic condition of the villagers Improved/Deteriorated/No change

Driving force:.....

2. Change in village infrastructure (Road/Electricity etc) Improved/Deteriorated/No change

Driving force:.....

3. Change in agricultural condition Improved/Deteriorated/No change

Driving force:.....

4. Any other change:……

Driving force:.....

e. Main socio-economic problem of the village.

f. Ten intervention/measures that need to be done for the village on priority

Annexure – VII

Village Survey Study (Group Discussion Schedule-III : OPTIONAL)

Schedule for calculating malnutrition (BMI) & quality of basic education (ASER test)

Methodology :

- Use the ASER Toolkit & procedure
- Sample size: Try to cover around 100 children covering different categories of households across the village
- **For Malnutrition/BMI:**

✓ Contact the ICDS Centre in the village & get the list of children along with their Name, Age, Height, Weight
✓ If needed also visit the primary school or even households in the village to have representative sample
✓ Calculate BMI using Height & Weight (Relate it with age-groups)

- **For quality of basic education:**

✓ Conduct ASER test in the ICDS Centre; Primary School or in other places if needed
✓ Consider students from Class-I to Class VIII (Age 5 -16 years) only
✓ Provide the ASER Toolkit in their medium of instruction in the school
✓ Time to be given: 15 Minutes for each test (15 for reading; 15 for doing basic arithmetic)
✓ The purpose is to assess the Childs' ability to read and do basic arithmetic .
✓ Each test have 4 difficulty levels (1,2,3,4). Find out the highest level that the child can do comfortably

Compile data in the following format:

Sl No.	**Name of the Children**	**Household No.** (Link him/her with the Household schedule: Part-I)	**Age** (Years)	**Height** (Cms)	**Weight** (Kgs)	**Class of study**	**Type of school**	**ASER** Math Level	**ASER** Reading Level
1									
2									
3									
..									
..									
..									
..									
..									
..									
..									
..									
..									
..									
..									
--									
99									
100									

* Type of School: Medium (Vernacular or Others); Government/Private/Madrassa/Others

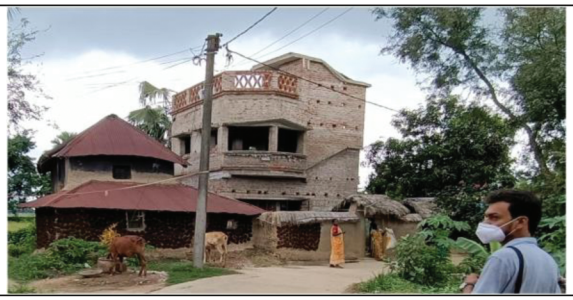
Annexure – VIII

Picture gallery of the village Sahajapur

	
ASER with the children	ASER with the Mahali tribals
	
Village Temple (Hindu)	Makhdum Sahib Mosque
	
Covid-19 relief work in the village	Covid-19 relief work in the village
	
Proposed tribal school (Mahali)	Gram Panchayat Office
	
Village pond during Winter	Village pond during Summer

	
Main festival (Durga Puja)	Festivals (Kali, Saraswati & Rathayatra)
	
Kirtan Sammelan	During Kirtan Sammelan
	
Tribal sports competition	Tribal festivals
	
Temple cum cultural stage	Existing high school
	
Sian S D Hospital	Water supply & telecommunication

	
Rural livelihood (Paddy farming)	Rural livelihood (Vegetable farming)
	
Rural livelihood (Animal husbundry)	Rural livelihood (Poultry)
	
Rural off-farm livelihoods	Rural off-farm livelihoods
	
Rural non-farm livelihood	Rural non-farm livelihoods
	
Marginal & casual livelihoods	Marginal & casual livelihoods

	
Village road & houses (Caste hindu)	Village road & houses (Tribal community)
	
Very rare mud house in the village	Wooden plough no more in use
	
Traditional storage for paddy	Packaging of potato for storage
	
Playing is important	But waiting for the school to re-open
	
Poverty can not stop us being happy	We are happy in our own way

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