Social Sector Development in South West Bengal

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Executive Summary

Background
- It has come to be recognised that improvements of human beings – their capabilities, skills and opportunities – are important targets.
- Substantial 'spill over' effects as greater capabilities lead to higher productivity levels, increased income levels, and wider scope for further human capital formation ensuring improved livelihood for the people.
- These are generally targeted through social sector interventions by the state – in the fields of education and health since they are the primary elements of social capability formation
- Able bodied and educated human beings are assets – both to themselves and to the society to which they belong - though in the countryside uneducated, illiterate or the school-dropouts are unable to find suitable employment, or remain stuck to parental occupations without any intergenerational mobility.
- High child mortality induces people to have larger number of children to ensure continuation of the progeny and old age security.
- At the same time, ill health and diseases lead to loss of income earning days, unforeseen medical expenses, indebtedness, and sometimes loss of future earning potential also.
- Considering the above discussion as the conceptual and methodological framework, this report explores the trends in educational and health infrastructure availability in the region as well as Trends in educational attainments and health standards of the people;

Education
- There are more than 22 thousand Primary Schools and about 3600 Junior High or Middle Schools, most of which are run by the government. In addition, private bodies and NGOs run various alternate and innovative educational centres like Shishu Shiksha Kendras, Madhyamik Shiksha Kendras, bridge Course Centres, and Mobile Schools under Sarva Shiksha Mission for out-of-school children.
- Relative to population, availability figures are quite satisfactory vis-à-vis national and state figures.
- Spatial spread of schools are relatively poorer compared to state and national situation.
- Availability in terms of per thousand people is higher in Purulia and Birbhum for Primary Schools. However, spatial spread of schools is highest in Bardhaman.
- Thus the less populated districts have greater people-school ratio but children there have to travel much longer distance to access schools due to thin spatial spread. In the densely populated districts, geographical distance is low but schools seem to be much more crowded.
- It is alarming to note that about one-fourth of the villages in south West Bengal do not have any educational institution within the village. While 73 per cent of villages have primary schools within the village, children from another 24 per cent villages have to walk up to 5 km to reach the nearest primary school. The situation is worse in terms of Middle schools with less than one-fifth of villages having such schools within village.
- Geographical accessibility of schools in the countryside is a matter of grave concern, especially in Purulia and Paschim Medinipur.

- About one-third of the Primary & Middle Schools in the region do not have Pucca Building. Toilet facility is available in about three-fourth of the schools, separate girls' toilet is present in just about one-third of schools.
- Based on Facilities Index Bardhaman and Birbhum top the list according to this index while Purulia and Paschim Medinipur are at the bottom.
- About 4 per cent of the schools are single teacher schools while 2 per cent of schools have pupil-teacher ratio greater than 100.
- While literacy in West Bengal was about 71 per cent, with a marginally lower gender gap as compared to national average, in our study region, literacy was 68.3 per cent in 2011. Literacy rates have been consistently higher in Bardhaman and Paschim Medinipur than the rest of the region.
- When gender disparity is accounted for, literacy score for the region comes out be about 67 per cent, marginally lower than the state score and marginally higher than the national score. The district rankings also change when such gender adjusted scores are considered and Bardhaman comes down to third place instead of its earlier top position in terms of unadjusted aggregate literacy score.
- Only 78 per cent of 5-8 years age group children are enrolled in primary schools and less than half of 9-11 years age group children enrolled in middle schools. As a result, combined NER for primary and middle stages is about 76 per cent, lower than the state and national figures.
- While the general trend has been poor in the region, among the districts, enrolment situation is comparatively better in Purulia, Birbhum, and Bankura while being alarmingly poor in Paschim Medinipur.
- Substantial difference between the primary NER and the middle NER indicates that a large number of children do not graduate from the primary stage to the middle stage and discontinue their studies very early.
- 36 per cent of enrolled children drop out before completing middle schooling. At the primary level, situation is exceptionally better than the rest in Birbhum and Paschim Medinipur, where more than 90 per cent of enrolled children complete primary level of schooling. At the other extreme lies Purulia, where close to half of the enrolled children drop out before completing five years of formal schooling. Surprisingly, the success of Birbhum in retaining students in primary stage is not continued on to the middle school level and more than 43 per cent of enrolled children do not complete their studies. Retaining students throughout the elementary school – both primary and middle - is therefore a major challenge to the policy makers and requires closer inspection of the probable causes of drop out and possible remedies.
- Field data shows striking differences in educational achievement levels between the traditionally lagging social classes (Hindu SC, Hindu ST, Hindu OBC, Muslim OBC and also Muslim General) and the advanced class (Hindu Upper caste). While literacy among HUC is more than 80 per cent, that among MOBC is less than 60 per cent. Similarly, proportion of High School passed is about 68 per cent among HUC and just about 10 per cent among the Muslims and HSC. The social disparity seems to be relatively higher in Bardhaman and Purulia. These issues have to be immediately addressed through both administrative and social interventions – counselling, awareness building and innovative projects are necessary for spreading the light of knowledge among these disadvantaged groups.

Focus Areas for Districts

- **Bankura:** Access and facilities are not satisfactory, Teacher availability and Literacy are poor, Enrolment and Retention are good.

- **Bardhaman:** Access and Teachers are moderate, Facilities are good, Literacy and Enrolment are mediocre, while Retention is better.
- **Birbhum:** Infrastructure is moderate, Literacy is poor, Enrolment and Retention is high.
- **Purulia:** Infrastructure and Literacy are extremely poor, Enrolment is good, Retention is moderate.
- **Paschim Medinipur:** Infrastructure is poor, Enrolment is not satisfactory, Literacy and Retention is good.

Health

- The region's health care services are provided through primary, secondary and tertiary level. Primary health care consists of Sub-centre at the village level and PHC/CHC at the block/sub-divisional level. The secondary and tertiary health care include district hospitals and state hospital/referral hospital. As on 2011, there were 21 government hospitals in the region. At the primary level, there are 135 CHCs, 127 PHCs and 3816 Sub-Centres (Table 14). In addition, there are 575 private hospitals and nursing homes in the region. Total bed strength in the region is about 7.5 thousand in government institutions and 8.5 thousand in private institutions.

- In terms of geographical coverage, availability of health care institutions in SWB is much lower than the state average – about 111 institutions per 1000 square km area, as compared to 154 at the state level. Availability is highest in Bardhaman. Purulia and Paschim Medinipur are the two districts where numbers of institutions are sparse considering the geographical area of these two districts.

- More than half of the villages in the study region do not have any medical facility, not even a medical practitioner living in the village. More than two-third of villages do not have Health Sub-centres – the rudimentary unit of health care in the countryside. The situation is relatively better in Bardhaman, and Birbhum.

- Only nine out of every hundred Sub Centre is reported to have regular electricity and less than thirty per cent has water supply or sanitation facility for the patients. Just about one-fourth of Primary health Centres have Operation Facility and are open round the clock.

- The number of Beds in government and private institutions are also quite inadequate – Bed-population ratio shows that on an average a single inpatient bed cater to 2000 persons in the region compared to the WHO norm of 3 beds per 1000 persons. The situation again is relatively better in Bardhaman, and poor in Purulia and Paschim Medinipur.

- Population pressure on the health infrastructure is too high, especially in the densely populated districts of Bardhaman as compared to the low density areas of Purulia and Paschim Medinipur.

- Compared to WHO standards, just about half the required number of institutions and about one-third of the required number of Nurses/Health Workers are in place. Close to half of the doctors' position in PHCs and more than 85 per cent of the Specialist Doctors' position in CHCs are vacant. The situation in SWB is just marginally better. Within the region, situation is further grave in the two densely populated districts of Bardhaman. Low population density in Purulia, Bankura, and Paschim Medinipur creates a relatively lower shortfall, which is nothing but an illusion.

- Marriage and Child Birth is relatively early in the study region compared to the state average and are therefore leading to associated health hazards. In addition, poor health services also lead to low coverage of reproductive care. It is observed that close to 20 per cent of pregnant women in the region have not obtained ante-natal care in the form of Tetanus injections while just about 30 per cent of them have received Iron & Folic Tablets as supplements during their pregnancy. Close to one-fifth of pregnant women have not received any kind of post-natal care. Full coverage under both ante- and post-natal care is alarmingly low at just 20 per cent.

- About 55 per cent child-deliveries are institutional and in about 60 per cent cases births took place under the supervision of trained personnel. Purulia is in the worst position, followed closely by Paschim Medinipur. Situation is relatively better in Bankura in this regard.
- About 80 per cent of children are immunised in the region while close to three-fourth have received vitamin supplements though the situation is distinctly poor in Bardhaman and Birbhum.
- The relatively poor performance of reproductive and child care – the twin pillars of preventive health services – can be directly attributed to the low coverage of rural health facilities and non-availability of health infrastructure in the region. Poor progress in implementation of NRHM schemes and ASHA in is also responsible for such a lackadaisical performance.
- Statistics on morbidity at sub-state level are hard to come by and researchers have to use either some proxy variables or undertake micro surveys to estimate incidence of sickness among the people. One of the proxy variable often used is rates of hospitalisation among the residents – with the assumption that serious morbidity requires hospitalisation and hence hospitalisation rates will be a monotonic representation of morbidity. It is observed that while hospitalisation rates in India (percentage of population hospitalised anytime during the preceding year of survey) were 2.3 and 3.1 in rural and urban areas in the year 2004-05, in our study region it is close to 7.5. However, this relates to only government health care facilities and therefore substantially underestimates the true picture.
- Close to 89 per cent of children are reported to suffer from Respiratory diseases and about 53 per cent from Diarrhoea. Among the districts, incidence of Diarrhoea among children is more common in Paschim Medinipur while problem of Respiratory diseases is more acute in Bardhaman, Paschim Medinipur, and Birbhum.
- Field data suggests that apart from common influenza, major diseases in the region were observed to be Diarrhoea & Gastro-enteric diseases, Tuberculosis, and Malaria. Average length of illness was 11 days, relatively higher among Muslims compared to others. In spite of presence of PHCs in the village, people depended more on private allopathic doctors for treatment, while a sizeable 15 per cent preferred traditional healthcare providers like *Hakims* & *Vaids*.
- The choice of doctors are also different across social groups – the STs preferring traditional doctors, the Muslims and SCs dependent more on government facilities, while the Hindu Upper Castes preferring private doctors – the choice perhaps reflecting their socio-economic status.
- Rate of restoration of health status was low. Just about 60 per cent of the hospitalised patients were cured in the local institutions while the remaining 40 per cent were referred to institutions elsewhere.
- One of the major reasons of impoverishment and indebtedness, especially in rural India, is health related expenses. In India, most of the medical cost is borne by the people out of their own pocket and Bengal is no exception. In our surveyed villages, average medical expense per month is about ₹ 250 per household – the sum dependent on type of disease. For those cases that required hospitalisation, expenses ranged from ₹ 2 thousand to ₹ 100 thousand in the last year, the average being around ₹ 12 thousand per year per household, with negligible amount met from health insurance. Considering that the average annual household income in the region is about ₹ 60 thousand per annum, health expenses constitute roughly one-fifth of total income – a situation that is alarming and speaks of the inadequacy of state health support.
- Health situation is relatively poor in Birbhum, Bardhaman, and Purulia. It seems surprising that both economically advanced district like Bardhaman and lagging district like Purulia are doing equally bad in terms of health status, underlining the general precarious situation.
- Regretfully, the progress of NRHM activities has been pathetic in our focus area of SWB. The only notable progress has been in the areas of TB control in Bankura and Purulia.

- Under malaria control programme, the entire state is targeted for surveillance where MPWs and FTDs are to take blood smear of any fever cases suspected for presumptive dose which are examined at the microscopic centre/PHC/CHC/Hospital for diagnosis. However, the state is yet to fill up the posts of Malaria Technical Supervisors and Technicians or those of the project monitoring unit. While permanent MPW staff are inadequate in the SWB, contractual male MPW posts sanctioned by NVBDCP have not been filled up till 2010.

- Just about 70 per cent households and close to 80 per cent of the schools having been covered under Total Sanitation Campaign. Among the districts of the region, progress is relatively better in Paschim Medinipur where more than 90 per cent of the households now have their own toilet facility. The situation is precarious in Purulia, where just about one-fourth of the households have toilets, and poor in Bankura and Birbhum where the coverage is around 60 per cent. In fact, Purulia is the worst performing district in the country in terms of TSC.

- Rural society is dynamic and families disintegrate. So, new families without sanitation facility are created over time, necessitating continuous monitoring and expansion of the scheme.

- Another interesting fact comes out from the field surveys which statistics conveniently hides – actual usage of toilets is quite low. Use habits are not easy to develop overnight and being water-washed, the latrines are seldom used by the people because of water-scarcity. Unless these issues are addressed, TSC will remain a paper tiger in rural Bengal.

- Leprosy situation is quite hard-up in Purulia and Bankura which stands among the only 30 districts in the country where Prevalence Rate is greater than 20. Purulia has the highest Annual New Case Detection Rate in the country. Another critical problem is the low treatment completion rate in the region, and administrators need to follow up cases and devise mechanism for absentee retrieval to ensure that all patients complete treatment.

- SWB is a vulnerable region in terms of spread of HIV/AIDS because of various factors. High rate of seasonal migration, flying commercial sex-workers, presence of several industrial zones, and a network of cross-country highways cutting through the countryside all contribute to the susceptibility of the region. Several steps have been taken in the state and in the region in particular to arrest the spread of HIV/AIDS. These include formation of District AIDS Prevention and Control Units; targeted intervention for different risk categories of population; strengthening preventive, curative, protection services with care and support; and inducing behaviour change at family and community levels through awareness campaign. While the impact is not fully revealed, the administration must be alert as this is a menace that is always on the prowl and complacency can quickly lead to a disaster.
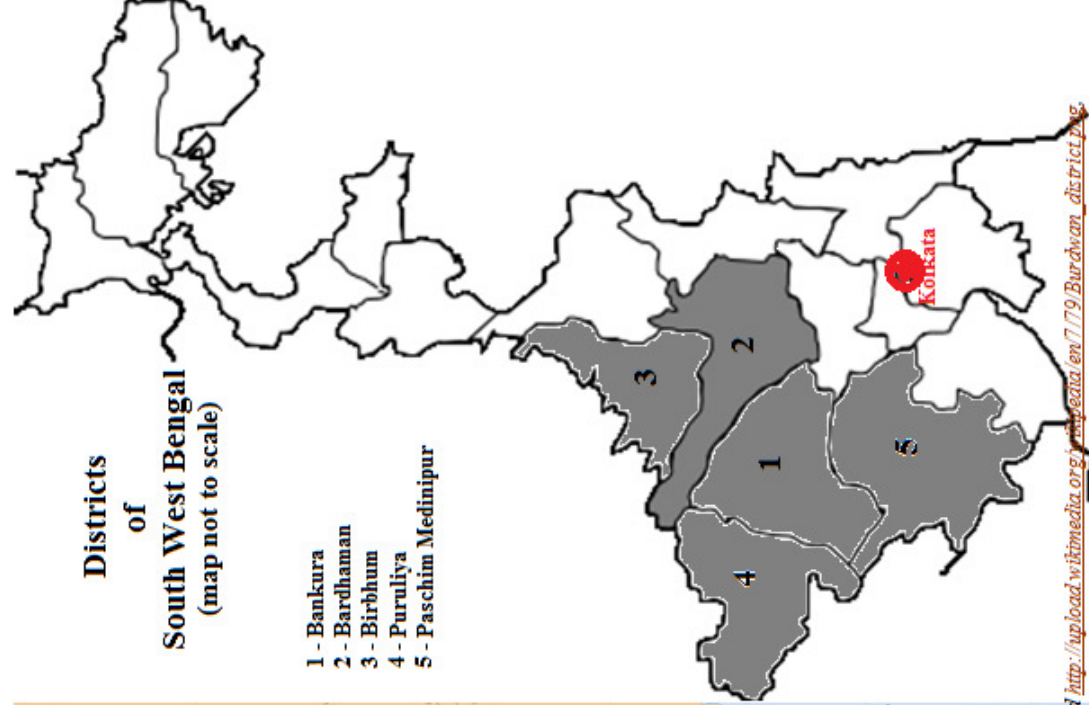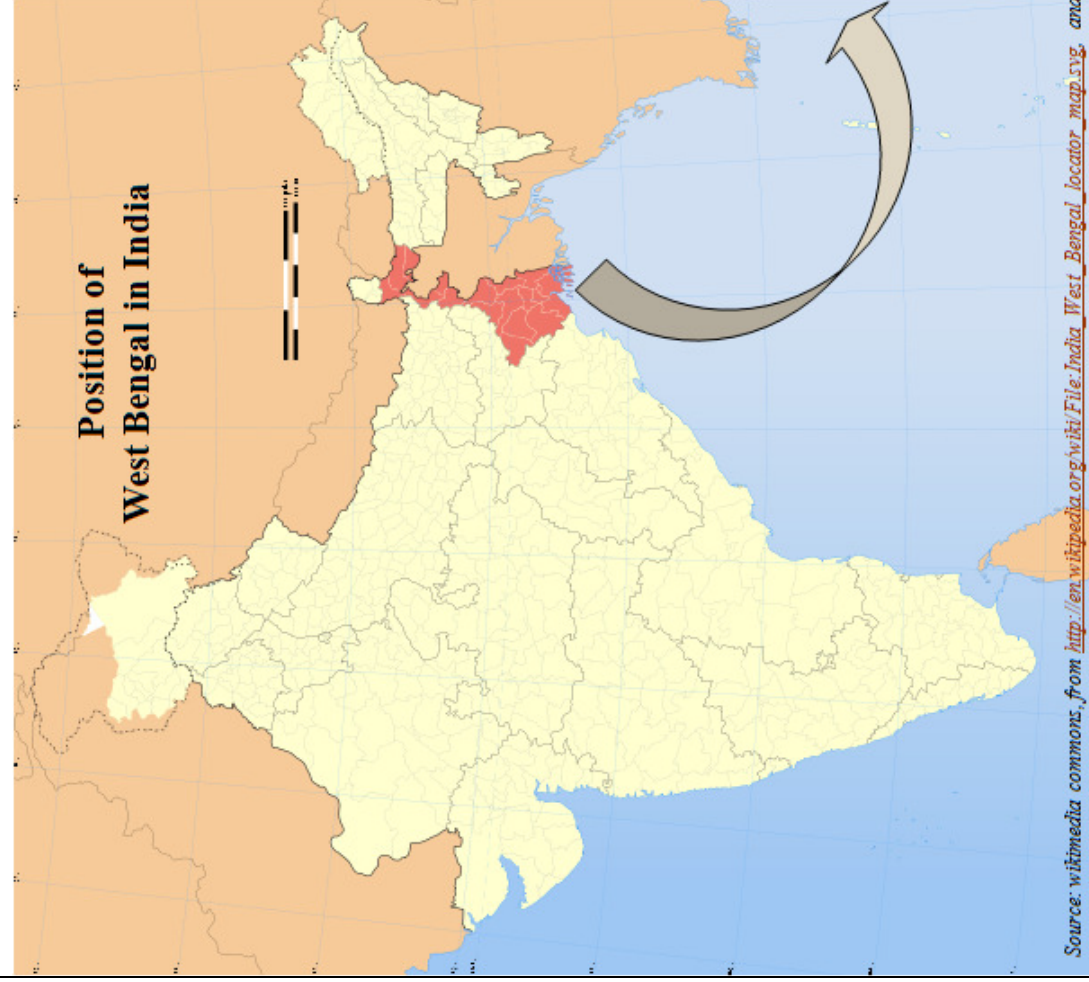
Observations

- The section on education shows us that educational infrastructure is moderate, most of that built up through financial support from SSA over the last decade. Yet, more than 65 per cent of villages in SWB are without middle or high schools. There are severe shortages in terms of teachers and facilities in schools. The situation is worse than average in Purulia and Paschim Medinipur. Educational achievement is also mediocre – success in literacy and enrolment being wiped away by high dropout and general low quality of education. Gender disparity and difference across social classes are also substantive.

- Health of the state is poor, to say the least. Infrastructure, manpower, and facilities are completely inadequate to cope with the huge population pressure. Rural health centres are mostly non-functional and incapable of providing even primary preventive and curative services. The trend is to pass the buck, through the referral system, to the hierarchically higher institutions. Thus there is a never ending flow of patients, on bumpy roads, from the villages to nearby towns, from the towns to the district hospitals, and eventually to the state capital Kolkata. Hospitals are

overflowing with patients, some of them long-suffering ones, service provision is essentially poor or non-existent, medical supplies are always short of demand, and the private health care services available are out of reach of most of the people. The state has tried to push problems plaguing the health sector under the carpet for far too long and has not even fully utilised the support available through NRHM. As a result numbers of rural health assistants and auxiliary staff are inadequate resulting in poor ANC/PNC services, institutional delivery, and poor immunisation coverage. General morbidity is high, anaemia and malnutrition is a major issue, people have to depend mainly on private healthcare services, and out-of-pocket health expenses eats up more than one-fifth of total expenses on an average. Purulia, Bardhaman, and Birbhum fare worse than the average situation in SWB in terms of health status.

- More schools, improved facilities, more and better teachers should be the foremost priority of the administration to release the hidden new government. To stem drop out in middle and high schools, learning should be made interesting, fun, and useful in the job market. Another major policy shift should be delinking the teachers from delivery of Midday Meal in schools. The scheme, though extremely important for its twin role of incentivising school attendance and providing nutritional support to rural children, is preventing teachers from attending their primary duty – that of teaching. One option may be engaging out-agencies for delivering ready-to-eat meals to school children at designated hours, following quality-quantity stipulations. Their performance has to be certified by the head of the school and the VEC (or Ward Committee in urban areas), following which they will collect the cost directly from the government.

- The health sector needs immediate transfusion of new blood – new ideas, new outlook, and new institutional mechanism. Preventive health care should be the foremost prerogative of the new government as it substantially reduces burden of curative health care in the long run. This can only be done by strengthening the rural PHCs and Sub-centres, engaging adequately trained ASHAs and ANMs, and equipping them properly. Playing the numbers game with health staff, allowing private health care institutions to flourish and fleece patients by withdrawing from effective health care should be immediately stopped. If government cannot facilitate patients within its domain it has to make private health care affordable through subsidised Health Cards etc. that can be used at private institutions. Widening the scope of ESIC and RSBY in the region and making these operationally efficient should also be taken up.

- Only if these issues are taken up in right earnest and with expediency that the human capital situation of the region shall improve. While the region has immense potential for development, much of the economic gains are not transferred to better livelihood as the people are ill equipped to grab the available opportunities because of their poor education and health. This has cloistered the region in a low level equilibrium trap from which only a massive leap in social sector development can create an escape route.

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Districts
of
South West Bengal
(map not to scale)

1 - Bankura
2 - Bardhaman
3 - Birbhum
4 - Puruliya
5 - Paschim Medinipur

Kolkata

Position of
West Bengal in India

Social Sector Development in South West Bengal

A Report

I.   BACKGROUND

Development economics in recent years have become more people centric than before. It has rediscovered that human beings are both the means and the end of economic development process, and without *Human Development* that process becomes a hollow rhetoric. The maze of technical concepts and growth centric approach to development ruled the roost for the most of post war period and only from the eighties onwards did the intelligentsia started to recognize that human needs and capabilities are necessary ingredients for success of any growth strategy. The pioneering work of Mahbub ul Haq and Paul Streeten under the aegis of UNDP finally institutionalised the importance of human development and the Human Development Reports brought out annually by UNDP reflects the condition of human being in different parts of the world. It has come to be recognised that improvements of human beings – their capabilities, skills and opportunities – are important targets by themselves. Moreover, this has substantial 'spill over' effects as greater capabilities lead to higher productivity levels, increased income levels, and wider scope for further human capital formation. Thus uplifting of a single generation of citizen propels all future generations on to a higher growth trajectory. The 'trickle down' effects also are significant as better living standards lead to greater care for the environment & resources, a healthy & democratic civic society, and a lower discrimination based on gender, race and caste. These roles of social sector development have catapulted it to centre-stage of research and discussion in recent years. As it has come to stay in limelight for a considerable time, techniques have been developed to objectively measure levels of social sector development and facilitate comparison across space and time.

II.   COMPONENTS OF SOCIAL SECTOR

Social Sector has been defined in the literature as those sectors which provide outcome that helps to bring greater equity, capability, and sustainability to the society at large, irrespective of their individual returns. In that sense they can be called *'social'* infrastructure, as different from hard physical infrastructure like Power, Transport, Irrigation, etc. i.e. the more *social* components of the 'Social Overhead Capital' propounded by Hirschman (1958). The importance of social sector is much more pronounced in a developing nation like India. Here development would mean improving the condition of human life – an end in itself – and the growth of income or spread of industries or the expansion of agriculture are to be seen as only means towards that end. As envisaged in the preamble document of the present research proposal, rural livelihood opportunities depend substantially on the situation of social sector in the region – both in terms of human capabilities and in terms of facilities that enable such capability formation.

It is generally accepted that the two main components of *Social Sector* that are important from a developing country perspective are *Education* and *Health & Nutrition*, since they are the primary elements of social capability formation (Abromovitz, 1995). The status of education and health of the people of the region has important fall out on the earning opportunities, income level, and expenditure pattern. Able bodied and educated human beings are assets – both to themselves and to the society to which they belong. It is often observed in the countryside that the uneducated, illiterate, or the school-dropouts are unable to find suitable employment, or remain stuck to parental occupations without any intergenerational mobility. High child mortality induces people to have larger number of children to ensure continuation of the progeny and old age security. At the same time, ill health and diseases lead to loss of income earning days, unforeseen medical expenses, indebtedness, and sometimes loss of future earning potential also. Thus good & effective education and sound health are both crucial

ingredients of a sustainable and improving livelihood standard, and makes the study of these two areas an important component of the broader socio-economic policy framework.

III.   CONTRIBUTION OF SOCIAL SECTOR

We have already mentioned some of the factors for which social sector is important for a developing country. Structurally, there are two schools of thought regarding this.

The *Human Resource Development Approach* to social sector views people as resources for the society and argues that investment in health and education leads to formation of 'human capital'. This enhances the stock of skills and productive capacity embodied in people (Rosen, 1989). This may be criticised as the *producers' definition* which views human beings as nothing but inputs to the production process and by definition the returns / benefits of enhanced productivity arising from social sector development would normally accrue for the producers.

This has been countered by the *Human Development approach*, which, both literally and conceptually, drops the term *Resource* and adopts a people-centric approach where empowerment of human beings is a goal by itself (Streeten, 1994; Sen, 1985, 1989), the broad arguments of which we have already discussed briefly in the first part of the introduction. This school argues that acquisition of education and health are essential human rights and are indispensable irrespective of the quantum and beneficiary of their economic returns. It echoes the sentiments expressed in the Basic Needs Approach (ILO, 1976) and puts the onus of supplying social sector services on the State. Since such capability formation is also important for the purpose of equity, sustainability, and livelihood security, it becomes the greater responsibility of the Public Sector Service Providers to provide quality education and effective health care to all its citizen.

This approach has been widely accepted and several programmes of the UNDP, including the HDR, have started accepting the importance of social sector development. It would not be wrong if we proceed a step further and comment that social sector is the *missing link* between growth and quality of life. Hence our focus on this sector is in context of sustainable development of our country. Considering the above discussion as the conceptual and methodological framework, this report explores the following:

Trends in educational and health infrastructure availability in the region;

Trends in educational attainments and health standards of the people;

Trends in people's access to social infrastructure and their affordability – especially among marginalised and excluded social groups;

As a backdrop we briefly present the recent status of social sector development in India.

IV.   SOCIAL SECTOR DEVELOPMENT IN INDIA: BRIEF OUTLINE

a)   *Educational and Health Standards*

Broad overview of the Educational and Health situation in India can be obtained from the commonly used indicators as displayed in Table 1. Literacy is estimated to be around 66 per cent, indicating that every third Indian is illiterate, the situation being worse for females. 10 per cent of the children do not enrol in primary schools, and even for those who do so, about one-fourth drop out before completing class 5. Drop out rates in Middle school is as high as 45 percent (50 per cent for girls), indicating that about half of the children do not complete Elementary Education. This is in sharp contrast to the Millennium Development Goals, which talk of Universalisation of Elementary Education by the year 2010 (revised to 2015 for India).

The Health situation is no better, with Reproductive Health, Preventive Efforts, and Child Mortality indicators showing substantial gap from MDG figures. Mortality rates are high, substantially large numbers of children are undernourished and anaemic, and institutional coverage is also quite thin. This has also resulted in LEB being lower than MDG.

The only glimmer of hope appearing is that we have made substantial progress over the last two decades – NER is increasing, implying that younger cohorts are more included in the education system compared to the older, drop-out rates are declining, health coverage is improving, and mortality rates are coming down. Sustained effort like this may enable us to reach the targets sooner rather than later.

If we compare the situation with global standards, we find that the health outcomes in terms of reproductive health and LEB are better than the average figure for the Low Income Countries, though substantially lower than the Middle and High Income countries (Table 2). However, situation of children's health status – immunisation, under-nourishment, and low weight at birth – are poorer compared to even the average of the Low Income Countries, as also compared to our next door neighbours Sri Lanka and Bangladesh. The educational scenario is better than the average of the Low Income Countries, but worse than Sri Lanka and the Middle and High Income Countries (Table 3).

V.   DESCRIPTION OF STUDY AREA

This report refers to the south west part of Bengal, henceforth referred to as SWB. Technically this consists of 5 districts of the total 19 districts of Bengal – Bankura, Bardhaman, Birbhum, Paschim (west) Medinipur, and Puruliya (see Figure 1). Roughly this covers about 38 per cent of the geographical area of the state and one-fourth of the total population. Population density was 785 per square kilometre as per the 2011 Census data and decadal population growth rate was about 13 per cent during 2001-11, compared to the state's figures of 696 persons per square kilometre and 14 per cent growth during the decade. About one fourth of the population belong to Scheduled Caste households and another 10 per cent belong to Scheduled Tribes. Tribal population is relatively higher in Puruliya and Paschim Medinipur and lowest in Bardhaman. Economically this regions is quite diverse. It contains the economically vibrant regions of Bardhaman which has a developed agricultural scenario as well as proliferation of industrial activities. It also contains the backward regions of Puruliya and Paschim Medinipur where the topography and climate is not conducive to farming and which has been bypassed by the industrialisation drives of the late sixties as well as that of the last decade. Birbhum and Bankura lie somewhere in between with their own specific characteristics. SWB is therefore a study in contrast, amply brought out in this report.

VI.   EDUCATION

a)   *Educational Infrastructure in South West Bengal*

People's access to education depends crucially on the local Educational Infrastructure. This can be examined using the parameters of:

Number of formal schools & other institutions;

Spatial spread of schools and distance from habitats;

Teacher strength;

Amenities available;

(i)   <u>Availability of Educational Institutions</u>

The region is quite developed in terms of availability of educational institutions. There are more than 22 thousand Primary Schools and about 3600 Junior High or Middle Schools, most of which are run by the government. In addition, private bodies and NGOs run various alternate and innovative educational centres like Shishu Shiksha Kendras, Madhyamik Shiksha Kendras, bridge Course Centres, and Mobile Schools under Sarva Shiksha Mission for out-of-school children. Relative to population, availability figures are quite satisfactory vis-à-vis national and state figures (Table 4). However, spatial spread of schools are relatively poorer compared to state and national situation. If we look at the districts, availability in terms of per thousand people is higher in Purulia and Birbhum for Primary Schools. However, spatial spread of schools is highest in Bardhaman. Thus the less populated districts have greater people-school ratio but children there have to travel much longer

distance to access schools due to thin spatial spread. In the densely populated districts, geographical distance is low but schools seem to be much more crowded.

Apart from gross availability, accessibility is also an important parameter. Urban centres contain educational institutions within their periphery resulting in adequate accessibility. Innumerable children drop out in rural areas because of distance of schools from their habitats. Therefore distance of educational institutions from the villages has also been examined (Table 5). It is alarming to note that about one-fourth of the villages in south West Bengal do not have any educational institution within the village. While 73 per cent of villages have primary schools within the village, children from another 24 per cent villages have to walk up to 5 km to reach the nearest primary school. The situation is worse in terms of Middle schools with less than one-fifth of villages having such schools within village. While accessibility of institutions is better in the region compared to the state, substantial regional variation does exist and the situation is remarkably poor in Paschim Medinipur. To summarise the accessibility factor, an accessibility index based on the distance of different types of institutions from the villages is constructed. Greatest (negative) weightage has been given to (non) availability of Primary schools, and progressively lesser importance to higher grades (see appendix for details about construction of the index). It is observed that Bardhaman occupies the best position in terms of this index, while Paschim Medinipur comes at the bottom. Geographical accessibility of schools in the countryside is therefore a matter of grave concern, especially in Purulia and Paschim Medinipur.

(ii)   Infrastructure in the Schools

In addition to availability and accessibility of institutions, one should also look at the facilities in the educational institutions in terms of both physical infrastructure (Pucca Building, Drinking Water, Sanitation Facilities, Blackboard in Classrooms, Average Student Classroom Ratio, etc.) and Human Infrastructure (Teacher Strength). It is observed that about one-third of the Primary & Middle Schools in the region do not have Pucca Building (Table 6). About 90 per cent of schools have Drinking Water facility and Blackboards. While toilet facility is available in about three-fourth of the schools, separate girls' toilet is present in just about one-third of schools. Most of the schools have a student classroom ratio less than 60, indicating that learners are not too cramped. The condition is marginally better compared to State & National situation.

Based on these six facilities, a Facilities Index for the districts and region has been prepared (Table 7). Bardhaman and Birbhum top the list according to this index while Purulia and Paschim Medinipur are at the bottom.

The human interface or availability of adequate teachers in the schools is one of the most important factors determining quality of the teaching-learning process. Shortage of teachers manifests itself as low Teacher-per-school, high Pupil-teacher ratio and large number of single teacher schools. Recent data shows that there are about 3 teachers per school. This is at par with state average but lower than national average. About 4 per cent of the schools are single teacher schools while 2 per cent of schools have pupil-teacher ratio greater than 100.

Combining the three factors mentioned above, a Teacher Index is prepared which is also provided in Table 7. It is observed that availability of teachers is really scanty in Purulia, substantially worse than state situation.

(iii)   Educational Infrastructure Index (EII)

Based on the discussions we have so far had on the educational infrastructure of the region, we can prepare a composite score or Educational Infrastructure Index (EII). [We have prepared two such indices – the Educational Infrastructural Index (EII) and the Educational Development Index (EDI). We discuss the first one now while the latter will be discussed in a subsequent section.]

Availability & accessibility of institutions, availability of facilities, and number of teachers in schools were earlier used to construct Access Index, Facilities Index, and Teacher Index for the region as well

as for the districts. The Educational Infrastructure Index (EII) is computed from these indices (Table 8; see appendix for details of computation). This gives a single-point measure of the Institutional Support System in place for development of educational capabilities of the people of the region and will help us to identify the lagging and the better performing sub-regions so that policies can be well directed.

It is observed that the average EII for the region is 0.54 (on a scale of 0 to 1) while the state score is about 0.5. It thus signifies that the infrastructural support system in the region, though better than the state average, needs major improvement and requires immediate attention of the policy makers. It is also observed that the EII is better in Bardhaman, and Birbhum, especially in terms of Facilities and Teachers.

b)   *Educational Achievement in the region*

The current status of human development is partly reflected in educational achievement of the region. Such achievements are generally measured by the proportion of people that have utilised the available infrastructure and have imbibed certain level of education in them. Indicators like Literacy Rates, Enrolment Rates and measures like proportion of enrolled children who continue to next stages of education are widely used to examine the level of educational attainment of the people of a region. Let us discuss those in the subsequent sections.

(i)   <u>**Literacy**</u>

Over the last century, literacy in India increased from 5.3 per cent in 1901 to 64.5 per cent in 2001. The improvement has been more for the males compared to the females, especially till 1981. As a result, the gender gap (difference between the literacy rates for the males compared to the females) in literacy soared from 9.2 points in 1901 to 26.8 points in 1981, but declined thereafter to 21.7 points in 2001. Compared to this, literacy in West Bengal was about 71 per cent, with a marginally lower gender gap as compared to national average. In our study region, south west Bengal, literacy as obtained from the 2001 census data was 68.3 per cent, lower than the state average but higher than the national average. National Sample Survey of 2008 estimates the literacy level of the state at close to 74 per cent while that of south West Bengal marginally lower. Literacy rates have been consistently higher in Bardhaman, and Paschim Medinipur than the rest of the region (Table 9).

Gender disparity in literacy (and other measures of educational attainment) has far reaching consequences. Researchers accept that social phenomenon like Birth rates (CBR), Death rates (CDR), Infant Mortality Rates (IMR), and Population Growth Rates (PGR) decelerate with improvements in Literacy levels. This operates in India also, as researchers have found close negative association between the State-level literacy rates and their CBR, CDR, IMR and PGR. Improvements in literacy levels lead to uplifting of living standards too. While work participation rates (WPR), per capita income (measured by per capita net state domestic product – PCNSDP) and per capita consumption (monthly private consumption expenditure – MPCE) are observed to have significantly positive association with the literacy rate of the state, proportion of people below poverty level has a significant negative association with literacy. Thus, improvement of the 'inclusion rate' not only improves the aggregate but also desired distributional consequences. In all these cases the association is found to be stronger with female literacy than male literacy, emphasising female education in India. Gender gap in literacy thus has to be accounted for while examining educational attainment levels. We have done that by constructing gender gap adjusted literacy rates as weighted harmonic mean of gender specific literacy rates (for details see appendix). When such gender disparity is accounted for, literacy score for the region comes out be about 67 per cent, marginally lower than the state score and marginally higher than the national score. The district rankings also change when such gender adjusted scores are considered and Bardhaman comes down to third place instead of its earlier top

position in terms of unadjusted aggregate literacy score. Based on the Gender Gap Adjusted Literacy Rates, Literacy Index for the region and the districts has been constructed and is reported later.

(ii)   Enrolment in Schools

Enrolment in elementary schools is the next step to literacy. More importantly, while literacy indicates the condition of the population in general, enrolment figures indicate condition of the new entrants. Hence, future educational levels would depend more on enrolment of children in schools and their continuation of formal studies to higher stages. Available data indicates that around 2.5 million children are enrolled in primary and middle schools in the region (DISE, 2009). However, this is lower than the 3.3 million children in the corresponding age group that lives in the region, indicating that all children do not attend school. Scaling for population differences, Net Enrolment Ratio (NER) is the commonly used measure relevant for capturing the collecting power of the educational system. The Net Enrolment Ratio (NER) for primary stages for the nation as a whole was 64 per cent in 2000-01. For the middle levels, NER was 45 per cent during the same period. The situation improved over the years and in 2008-09, NER in primary and middle stages were 98 per cent and 53 per cent respectively. The situation in West Bengal is not as good, and the corresponding figures have been 81 and 50 per cent. In comparison, south West Bengal is placed further down with only 78 per cent of 5-8 years age group children enrolled in primary schools and less than half of 9-11 years age group children enrolled in middle schools. As a result, combined NER for primary and middle stages is about 76 per cent, lower than the state and national figures.

While the general trend has been poor in the region, among the districts, enrolment situation is comparatively better in Purulia, Birbhum, and Bankura while being alarmingly poor in Paschim Medinipur (Table 10). Also, the substantial difference between the primary NER and the middle NER indicates that a large number of children do not graduate from the primary stage to the middle stage and discontinue their studies very early. This phenomenon has been explored next.

(iii)   Drop Out from Schools & Out of School Children

Enrolment rates in the middle schools are substantially lower compared to the primary stages indicating that a high proportion of the students who enrol at the primary level drop out of school and do not continue middle schooling. As with other developing countries, Dropout rates (DOR) are substantially high in India. More than 25 per cent of primary level students drop out before entering middle level, and another 46 per cent drop out before completing middle schools. It is argued that at the national level, only about 40 per cent of the children who enrol in class-I complete their secondary school education. Also, the DOR are higher for the girls compared to the boys. This phenomenon is an example of wastage in the educational system and indicates what percentage of children is incapable of taking advantage of the educational infrastructure in place and not inculcating adequate human capital within themselves. Thus exploring the trends in DOR and thereby looking at proportion of children completing elementary level of schooling becomes necessary.

It is observed that DOR in West Bengal has been around 25 per cent for primary level and about 38 per cent for middle level. Overall, about 38 per cent of enrolled children do not complete class-VIII level of education. The situation is marginally better in south West Bengal where about 64 per cent of enrolled children complete middle schooling. At the primary level, situation is exceptionally better than the rest in Birbhum and Paschim Medinipur, where more than 90 per cent of enrolled children complete primary level of schooling (Table 11). At the other extreme lies Purulia, where close to half of the enrolled children drop out before completing five years of formal schooling. Surprisingly, the success of Birbhum in retaining students in primary stage is not continued on to the middle school level and more than 43 per cent of enrolled children do not complete their studies. Retaining students throughout the elementary school – both primary and middle - is therefore a major challenge to the policy makers and requires closer inspection of the probable causes of drop out and possible remedies, which we do in a later section.

(iv) Completion of Elementary Schooling

The DOR, though an important indicator of educational attainment (in the inverse sense), has certain limitations. It only reflects the percentage of the *enrolled students* that leave before completing a certain stage of schooling. However, all children do not enrol in the first place and therefore, to know what proportion of all children of the *relevant age group* is really completing different levels of schooling, one should concentrate on the Completion Rate (CR) – obtained by multiplying NER with complementary of DOR. At the National level, about half of the relevant age group children completed middle level of schooling in 2008. Compared to this, CR in West Bengal has been 60 per cent for the primary stage and 31 per cent for the middle stage. The situation is marginally better in south West Bengal, yet far from national level. Thus completion of school stages is a major problem in the study area both due to non-enrolment and drop out of enrolled children.

(v) Educational Development Index (EDI)

The indicators like Gender Adjusted Literacy Score, Combined Enrolment Rates, and Retention Rates (complementary of Drop Out Rates) can be transformed to Literacy Index, Enrolment Index, and Retention Index. As mentioned earlier, we have prepared composite score of educational attainment or Educational Development Index (EDI) based on these indicators.

The average EDI of the region comes out to be 0.71 (on a scale of 0 to 1) while the state score is 0.68, signifying that the achievement in terms of various dimensions of educational capacity building in the region is satisfactory and better than state average (Table 12). However, it has to be kept in mind that the scoring system adopted here is a relative scoring system and indicates position of the region in the perspective of West Bengal and does not signify absolute success. Among the districts, EDI is relatively higher in Birbhum, and significantly low in Purulia.

c) Composite Scores on Educational Scenario

The composite scores can be helpful in understanding the educational scenario in a precise manner. One can readily identify strengths and weaknesses of the region as well as the districts. For example, at the aggregate level, comparing the EII with the EDI of the region, one can infer that the relative position of the region within the state of West Bengal is better in terms of achievement levels compared to that in terms of availability of educational infrastructure. This relative success in educational attainment vis-à-vis educational infrastructure indicates capacity utilisation. Also, among the districts, Birbhum and Bankura have similar positions in terms of both EII and EDI, indicating a close correspondence between available facilities and achievement levels in these districts. However, Bardhaman ranks low in terms of achievement in spite of its high rank in terms of facilities while the reverse is true for Paschim Medinipur. This may be a pointer towards the fact that just physical and human infrastructure may be necessary but not sufficient to ensure spread of education among the masses.

d) Identifying Lags in Education Status

The components of EII and EDI are also divergent across districts and the situation can be well summarised using a panel of figures.

The first panel is at the district level, indicating status of the components for each district. This would identify the strengths and weaknesses of each district and help formulate focussed policy interventions. The following can be inferred from first panel:

Bankura: Access and facilities are not satisfactory, Teacher availability and Literacy are poor, Enrolment and Retention are good.

Bardhaman: Access and Teachers are moderate, Facilities are good, Literacy and Enrolment are mediocre, while Retention is better.

Birbhum: Infrastructure is moderate, Literacy is poor, Enrolment and Retention is high.

Purulia: Infrastructure and Literacy are extremely poor, Enrolment is good, Retention is moderate.

Paschim Medinipur: Infrastructure is poor, Enrolment is not satisfactory, Literacy and Retention is good.

The inferences drawn here are indicative of the policies that are to be taken at the district level for improvement of the educational scenario. Focussed and targeted approach with selective programs to address the issues particular to a district is the need of the hour.

e)   Education and Social Groups

It is generally commented that there exist substantial differences among the average performance and that of specific social groups like the SC/STs or the religious minorities. Literacy levels of the SC/STs and Minorities as demographic groups are sometimes low, not only in relative sense, but at absolute levels also. In addition, Enrolment and Completion Rates are also lower for these groups, especially the females among them are almost shut out of the whole Capacity Building process. Such patterns are evident in our study region as well. Field data shows that there are striking differences in educational achievement levels between the traditionally lagging social classes (Hindu SC, Hindu ST, Hindu OBC, Muslim OBC and also Muslim General) and the advanced class (Hindu Upper caste). While literacy among HUC is more than 80 per cent, that among MOBC is less than 60 per cent. Similarly, proportion of High School passed is about 68 per cent among HUC and just about 10 per cent among the Muslims and HSC (Table 13). The social disparity seems to be relatively higher in Bardhaman and Purulia. These issues have to be immediately addressed through both administrative and social interventions – counselling, awareness building and innovative projects are necessary for spreading the light of knowledge among these disadvantaged groups.

VII.   HEALTH

a)   Health Infrastructure – an Overview

The region's health care services are provided through primary, secondary and tertiary level. Primary health care consists of Sub-centre at the village level and PHC/CHC at the block/sub-divisional level. The secondary and tertiary health care include district hospitals and state hospital/referral hospital. As on 2011, there were 21 government hospitals in the region. At the primary level, there are 135 CHCs, 127 PHCs and 3816 Sub-Centres (Table 14). In addition, there are 575 private hospitals and nursing homes in the region. Total bed strength in the region is about 7.5 thousand in government institutions and 8.5 thousand in private institutions.

In terms of geographical coverage, availability of health care institutions in SWB is much lower than the state average – about 111 institutions per 1000 square km area, as compared to 154 at the state level. Availability is highest in Bardhaman (Table 15). Purulia and Paschim Medinipur are the two districts where numbers of institutions are sparse considering the geographical area of these two districts.

The number of Beds in government and private institutions are also quite inadequate – Bed-population ratio shows that on an average a single inpatient bed cater to 2000 persons in the region compared to the WHO norm of 3 beds per 1000 persons (Table 16). The situation again is relatively better in Bardhaman, and poor in Purulia and Paschim Medinipur.

(i)   Health Infrastructure at the Grassroots

A Sub-health Centre is the first contact point between primary health care system and the community. Sub-Centres are designated to operate at village level to cater to the health needs of people residing in the villages – the first and foremost place where common people in duress are supposed to visit. In this structure, if the infrastructural facility at Sub Centre level can be strengthened then people may not have to go to the PHC and CHC. Sub-health Centres are designated to provide all the three levels of health service – Promotive Health Care (spread awareness among people about different diseases), Preventive Health Care (provide vaccination so as to prevent diseases) and Curative Health Care (provide treatment to a patient) – emphasizing on the first two. Hence, if grass-root level

infrastructure at the Sub-Centre can be improved then that can have a huge impact on Reproductive & Child Care, Morbidity, and Mortality. Currently, in West Bengal, about 94 out of every hundred villages are provided with at least one Sub-Centre. Sub Centre availability is observed to be better in Bardhaman and poor in Bankura and Purulia.

However, it has to be kept in mind that simply having a Sub Centre in a village is not sufficient. If the centre is not properly equipped with facilities like regular water supply, electricity, toilet, essential drug, etc., then the whole purpose gets defeated and the problem snowballs. A Sub-Centre is also supposed to have a functioning Labour Room, Essential Drug Reserve and most importantly an Auxiliary Nurse to provide the health service. But unfortunately, on an average, only nine out of every hundred Sub Centre is reported to have regular electricity and less than thirty per cent has water supply or sanitation facility for the patients (Table 17). Just about one-fourth of Primary health Centres have Operation Facility and are open round the clock.

Another important aspect is the population pressure on the health infrastructure. Number of institutions per 100,000 persons is substantially low in West Bengal – abysmally lower than the WHO norms (Table 18). The situation in SWB is marginally better than the state average, possibly because of the lower population density, but still a long way behind the WHO norms. Because of the same reason, situation is relatively poorer in the densely populated districts of Bardhaman as compared to the low density areas of Purulia and Paschim Medinipur.

Another aspect of health infrastructure that merits attention is accessibility and coverage of rural population. The lopsided and inadequate nature of the infrastructure availability is evident from the fact that more than half of the villages in the study region do not have any medical facility, not even a medical practitioner living in the village (Table 19). More than two-third of villages do not have Health Sub-centres – the rudimentary unit of health care in the countryside. The situation is relatively better in Bardhaman, and Birbhum.

(ii)   Rural Health Support Service

Irrespective of having three-tier health infrastructure system, to improve the health scenario at village level, the state government has introduced several social awareness programs to disperse information about health services. To provide proper nutrition to a child the Integrated Child Development Scheme (ICDS) has been launched and presently all children up to 5 years of age in most of the villages of the state have been covered under this scheme. Janani Suraksha Yojana, a central government sponsored program, has been introduced to reduce maternal mortality ratio and infant mortality rate by increasing institutional deliveries from the families belonging to Below Poverty Line (BPL). This scheme is found to be very useful in almost all the districts except for Paschim Medinipur (Table 20).

Apart from these schemes, under the National Rural Health Mission, there is a provision of providing every village in the country with a trained female community health activist, called Accredited Social Health Activist (ASHA). Selected from the village itself and accountable to the Village Health & Sanitation Committee, ASHAs are trained to work as an interface between the community and public health system. One ASHA is supposed to cover a village with approximately 1000 population. However 87 per cent villages in West Bengal don't have any Accredited Social Health Activist within the village.

National Rural Health Mission also proposed that the village community should be taking a leadership role at the local level to address health and related issues. To cater to this need of rural people a Village Health & Sanitation committee (VHSC) is supposed to be formed in each village under the chairmanship of the Gram Panchayat member and include representative from Women's groups and different social communities etc. The VHSC is the monitoring authority for the health services available to the residents of the village. It takes into consideration of the problems of the community and the health and nutrition care providers and suggest mechanism to solve it. However, only about

one-fifth of the villages of Bengal have such committees. In SWB, VHSCs are more common in Bardhaman whereas the villages/panchayats in Purulia are reluctant in forming such committees. This lacuna may be explained in terms of predominance of socially backward classes in Purulia district and low level of literacy among them acts as a hindrance to form a committee to look after their own needs.

(iii)   <u>**Gaps in Health Infrastructure**</u>

The Government of India, in consultation with WHO had set specific targets as regards health infrastructure provisioning based on population. The norms suggest that there should be one SHC for a population of 3-5 thousand, one PHC for a population of 20-30 thousand, and one CHC for every 80-120 thousand population, the lower and upper limits corresponding to tribal / hilly areas and plain areas respectively. Similarly, several norms are in place regarding the manpower requirement. However, the ground situation in Bengal is extremely poor (Table 21). Just about half the required number of institutions and about one-third of the required number of Nurses/Health Workers are in place. Close to half of the doctors' position in PHCs and more than 85 per cent of the Specialist Doctors' position in CHCs are vacant. The situation in SWB is just marginally better. Within the region, situation is further grave in the two densely populated districts of Bardhaman. Low population density in Purulia, Bankura, and Paschim Medinipur creates a relatively lower shortfall, which is nothing but an illusion.

It is thus quite clear that the health infrastructure in Bengal is in shambles and SWB is no exception. Given the large population size, the capacity to provide basic medical services – both preventive and curative – is simply not there. This is a legacy of the state administration which had been neglecting infrastructural expansion in health sector for too long.

(iv)   <u>**Health Infrastructure Index**</u>

A comprehensive and objective assessment of the health infrastructure available in Bengal is done through construction of a Health Infrastructure Index at the district level using indicators like accessibility of health institutions and availability of facilities and personnel. The index, calculated using the UNDP Goalpost method, is only a relative scoring among the districts (Table 22). It is observed that the average is marginally better in the SWB region compared to the state. Among the districts of the region, Bankura and Paschim Medinipur seem to be lagging behind the others.

b)   *Health Outcomes*

The health infrastructure put in place by the State is expected to act on two fronts – prevention and cure. Hence health outcome can be discussed in terms of these two aspects as well. We start by looking at the reproductive and preventive health care outcomes, followed by status of curative health care.

(i)   <u>**Reproductive and Preventive Health**</u>

Marriage and Child Birth is relatively early in the study region compared to the state average and are therefore leading to associated health hazards. In addition, poor health services also lead to low coverage of reproductive care. It is observed that close to 10 per cent of pregnant women in the state have not obtained ante-natal care in the form of Tetanus injections (Table 23). This percentage of non-coverage is higher in SWB. The lag in ante-natal care is also high – just about 30 per cent of would be mothers receive Iron & Folic Tablets as supplements during their pregnancy. Close to one-fifth of pregnant women have not received any kind of post-natal care. Full coverage under both ante- and post-natal care is alarmingly low at just 20 per cent – indicating that four out of five pregnant women are not being fully taken care of during their motherhood. Thus the coverage of health facilities of women is far from desired.

Another aspect of reproductive health care is institutional delivery of babies and delivery in presence of trained personnel. It is observed that more than half of all child births in the state are non-

institutional and in most of these cases no trained personnel assisted in delivery. The situation is marginally better in SWB where about 55 per cent child-deliveries are institutional and in about 60 per cent cases births took place under the supervision of trained personnel. Purulia is in the worst position, followed closely by Paschim Medinipur. Situation is relatively better in Bankura in this regard.

Immunisation of children and coverage under Vitamin-A supplements also merit inquiry. It is observed that on an average about 75 per cent of children are immunised in the state while close to three-fourth have received vitamin supplements (Table 23). Immunisation and vitamin-supplement coverage are marginally better in SWB than the state average, though the situation is distinctly poor in Bardhaman and Birbhum.

The relatively poor performance of reproductive and child care – the twin pillars of preventive health services – in Bengal, and especially in the districts of SWB can be directly attributed to the low coverage of rural health facilities and non-availability of health infrastructure in the region. Poor progress in implementation of NRHM schemes and ASHA in the state is also responsible for such a lackadaisical performance. It should be remembered that reproductive and child care are the mainstay of healthy population and the future human development levels depend crucially on the health practices adopted by the mothers and children today. In this light, the pitiable condition as evident in SWB is matter of deep concern.

(ii) **Morbidity**

Morbidity rate is the proportion of persons reporting some kind of ailment during 15 days preceding the date of survey. This information forms the key indicator for the assessment of health status of the people of the region. It will also help us identify vulnerable regions that have high morbidity and is in need of better preventive and curative health services. Data from the NSSO 60th (NSSO, 2004) round reveal that the national average of morbidity rate for males and females in the rural areas are 83 and 93 respectively, whereas it is 91 and 108 in the urban areas. Corresponding figures for Bengal are 115 and 116 in rural areas and 137 and 178 in urban areas. The substantially higher levels of morbidity suggest a significantly poorer health status in Bengal compared to the national average. Also significant in terms of gender issues is that morbidity is substantially higher for females compared to males in urban areas.

Statistics on morbidity at sub-state level are hard to come by and researchers have to use either some proxy variables or undertake micro surveys to estimate incidence of sickness among the people. One of the proxy variable often used is rates of hospitalisation among the residents – with the assumption that serious morbidity requires hospitalisation and hence hospitalisation rates will be a monotonic representation of morbidity. It is observed that hospitalisation rates in India (percentage of population hospitalised anytime during the preceding year of survey) were 2.3 and 3.1 in rural and urban areas in the year 2004-05. Compared to this, in Bengal, hospitalisation rates were 2.4 and 3.5 in rural and urban areas. Data from Health Department, GoWB, though not comparable with the NSSO data reported above, indicates that hospitalisation rate in Bengal is 3.9 per cent in 2010. Morbidity is relatively higher in SWB, as indicated by higher hospitalisation rates, especially in Bankura, Birbhum, and Purulia (Table 24). However, this relates to only government health care facilities and therefore substantially underestimates the true picture.

Another associated indicator of health status is the proportion of hospitalised persons who are discharged after cure. It is observed that in Bengal close to three-fourth of the patients admitted to hospitals return home with a restored health status. The situation is similar in SWB.

Morbidity or sickness among children is also an aspect that needs exploration. Two diseases that affect children and have serious impact on their well being and even their longevity are Respiratory Infections and Diarrhoea. In Bengal close to 25 per cent of children are reported to suffer from Respiratory diseases and about 6 per cent from Diarrhoea. The situation is relatively worse in SWB

compared to state average. Among the districts, incidence of Diarrhoea among children is more common in Paschim Medinipur while problem of Respiratory diseases is more acute in Bardhaman, Paschim Medinipur, and Birbhum.

(iii) <u>**Sickness and Treatment Pattern: A Case Study**</u>

To have an idea about the health status and services available to the people, an intensive survey was carried out in four villages of Bardhaman district. The villages were purposively selected so as to include one village each dominated by the four major social groups of the region – Hindu Upper Caste, Muslim, Scheduled Caste, and Scheduled Tribe. In all, 350 households covering more than 2500 persons were surveyed in the four villages. The villages had a comfortable sex ratio of 988. All the four villages had PHCs within the villages and access to CHCs was nearby. Incidence of sickness was quite high – about 5 per cent of the respondents reported being sick during the preceding 15 days. Apart from common influenza, major diseases in the region were observed to be Diarrhoea & Gastro-enteric diseases, Tuberculosis, and Malaria. Average length of illness was 11 days, relatively higher among Muslims compared to others. In spite of presence of PHC in the village, people depended more on private allopathic doctors for treatment, while a sizeable 15 per cent preferred traditional healthcare providers like *Hakims* & *Vaids*. The choice of doctors are also different across social groups – the STs preferring traditional doctors, the Muslims and SCs dependent more on government facilities, while the Hindu Upper Castes preferring private doctors – the choice perhaps reflecting their socio-economic status (Table 25). People also tend to get treated at the nearby town, with a small number venturing outside for treatment. About half of all those reported sick were hospitalised, but the rate of restoration of health status was low. Just about 60 per cent of the hospitalised patients were cured in the local institutions while the remaining 40 per cent were referred to institutions elsewhere.

One of the major reasons of impoverishment and indebtedness, especially in rural India, is health related expenses. In India, most of the medical cost is borne by the people out of their own pocket and Bengal is no exception. In our surveyed villages, average medical expense per month is about ₹ 250 per household – the sum dependent on type of disease. For those cases that required hospitalisation, expenses ranged from ₹ 2 thousand to ₹ 100 thousand in the last year, the average being around ₹ 12 thousand per year per household, with negligible amount met from health insurance. Considering that the average annual household income in the region is about ₹ 60 thousand per annum, health expenses constitute roughly one-fifth of total income – a situation that is alarming and speaks of the inadequacy of state health support.

It is thus quite clear that public health services in the region is insufficient to meet the demands of the people and is adversely affecting the current as well as future human development levels.

c) *Health Status Index*

From the diverse parameters of preventive and curative health care, we can prepare a composite Health Status Index using the indicators of Reproductive Care, Institutional and Assisted Delivery, Immunisation, Infant Survival Rate (complementary of IMR) and Not Reported Sick (complementary of Morbidity Rate). The score comes out to 68.2 for the state, the performance of SWB being marginally better (Table 26). Within the region, health situation is relatively better in Bankura, but poor in Birbhum, Bardhaman, and Purulia.

Healthy life is one of key indicator of development and a component of the widely used and discussed human development index. The health status index as prepared by us is only a representative indicator of the situation in the region in this context and helps us to identify the trouble spots – both spatially and in terms of specific facets of health services. The situation in Bengal is poor and the SWB region fares not much better than the state average. It seems surprising that both economically advanced district like Bardhaman and lagging district like Purulia are doing equally bad in terms of health status, underlining the general precarious situation.

<div style="text-align:center">Box 1</div>

Caring for the Newborn – the Purulia Model

Infant mortality is quite high in India and Bengal is no exception. Compared to the MDG target of reducing IMR to 27 by 2015, Bengal still has an IMR of 38 according to the SRS 2007. A major cause of this high IMR is high incidence of death among newborns, many of which are avoidable. Crib deaths seem to haunt the health scenario of Bengal with regular reports of deaths appearing in media, creating an immediate furore among the people. Allegations and counter arguments fly thick and fast, promises are made and after some time the theatre repeats itself. Health department officials routinely point out at lack of infrastructure in the district hospitals and tremendous pressure of patients as the main reason. To address this issue in Purulia *Sick Newborn Care Unit* (SNCU) was established at Deben Mahato Sadar Hospital (Purulia District Hospital) in 2003 in collaboration with UNICEF. Planned as per the guideline of National Neonatology Forum (NNF), this unit has a bed-strength of forty. The unit is equipped with advanced gadgets for Level-II newborn care and is supposed to have uninterrupted water and power supply facilities along with the provision of oxygen. An exceptionally motivated team of 3 physicians and 14 nurses have prevented several deaths over the last few years and this enhanced neonatal survival has reduced IMR in the district significantly. The *Purulia Model* has been replicated in other districts of the state successfully. However for the smooth running this facility human resource has to be enhanced. Also, difficulties due to frequent power and water supply failure & lack of qualified biomedical engineering support essential for proper functioning and maintenance of the existing equipment and gadgets have cropped up recently, questioning the sustainability and effectiveness of the SNCU. Urgent interventions are needed to ensure the sustainability of this unit.

Source: Field visits and inputs from Ministry of Health, GoWB

d)   Nutrition & Anaemia

While the health infrastructure and the coverage under reproductive, preventive and curative health care indicates the preparedness of the region in combating emergent needs of the people, one should ideally look at the general health of the population also. This is represented by the nutritional standards of the population. Since statistics on nutrition at the district level are unavailable, we report the state average figures in this section.

According to NFHS-3, 44 percent of children under age 3 years are stunted (too short for their age) while 17 percent are wasted (too thin for their height) and 39 per cent of children are underweight (low weight for their age) in Bengal. Incidence of malnutrition is higher in rural areas compared to urban areas. This is marginally lower than the national incidence of malnutrition.

Adults in Bengal have a poor weight for height or Body Mass Index as compared to adults in most of the states in India. 39 per cent of women and 35 percent of men are too thin for their height, and 11 percent of women and 6 per cent of men are overweight or obese. Overall, close to 45 percent of adults do not have a healthy weight for their height. Poor basic health status of the residents is reflected in such a high incidence of low Body Mass Index. While being underweight is more prevalent in rural areas, being obese is more common in urban areas supporting the fact that obesity is more a disease of the affluent.

Anaemia is a major health problem in Bengal, especially among women and children. Among children aged 6-59 months, more than 60 percent suffer or have suffered from Anaemia. Close to half of pregnant women, nearly two-third of all women and one-third of all men in the state suffer from mild or severe Anaemia. As with BMI, Anaemia is also more common in rural areas compared to urban areas.

e) *Current Issues in Health Services*

(i) **National Rural Health Mission**

The National Rural Health Mission was launched in 2005 as a scheme sponsored by Government of India to provide effective health care to the rural population throughout the country with special focus on 18 states with weak public health indicators, which include Bengal. Regretfully, the progress of NRHM activities has been pathetic in our focus area of SWB. The only notable progress has been in the areas of TB control in Bankura and Purulia.

(ii) **Malaria Control**

Under malaria control programme, the entire state is targeted for surveillance where MPWs and FTDs are to take blood smear of any fever cases suspected for presumptive dose which are examined at the microscopic centre/PHC/CHC/Hospital for diagnosis. However, the state is yet to fill up the posts of Malaria Technical Supervisors and Technicians or those of the project monitoring unit. While permanent MPW staff are inadequate in the SWB, contractual male MPW posts sanctioned by NVBDCP have not been filled up till 2010.

(iii) **Total Sanitation Campaign**

Open Defecation is a curse of rural India – Diarrhoea and other water-borne gastro-enteric diseases are too frequent leading to substantial adult deaths, high infant mortality and undernourished children. Snakebites during the monsoons also claim many lives as people venture out to the fields and ponds for excretion. Faced with this reality, Government of India launched *Total Sanitation Campaign* (TSC) in 1999 by restructuring the Central Rural Sanitation Programme, making it demand driven and people-centric. However, the progress in the state is tardy with more than one-third of rural households being sanitation facilities. In SWB, the situation is equally poor, with just about 70 per cent households and close to 80 per cent of the schools having been covered. Among the districts of the region, progress is relatively better in Paschim Medinipur where more than 90 per cent of the households now have their own toilet facility (Table 27). The situation is precarious in Purulia, where just about one-fourth of the households have toilets, and poor in Bankura and Birbhum where the coverage is around 60 per cent.

It is thus fairly clear that the TSC has run into rough weathers in the state and SWB is in no better position. In fact, Purulia is the worst performing district in the country in terms of TSC. Unless urgent measures are adopted on war footing, achieving the target of *Nirmal Gram* (clean village) appears to be elusive. Field experience suggests that the problems encountered by the TSC are manifold. While substantial advance was made initially, roadblocks are appearing in the form of poverty and social attitude. TSC is mostly a user-paying scheme, but families are unwilling to shell out even the small contribution of ₹ 200, as the opportunity cost is felt to be too high. Sometimes families are willing to install a sanitary toilet but do not have a courtyard to place it in. On the social front, rural society is dynamic and families disintegrate. So, new families without sanitation facility are created over time, necessitating continuous monitoring and expansion of the scheme.

Another interesting fact comes out from the field surveys which statistics conveniently hides – actual usage of toilets is quite low. Use habits are not easy to develop overnight and being water-washed, the latrines are seldom used by the people because of water-scarcity. Unless these issues are addressed, TSC will remain a paper tiger in rural Bengal.

(iv) **National Leprosy Eradication Programme**

The NLEP is based on the strategies of early detection of cases by population surveys, school surveys, contact examination and voluntary referral; short term Multi-drug therapy; ulcer and deformity case prevention/treatment; and rehabilitation activities. The regimens recommended by WHO have been adapted to suit the operational and administrative requirements. NLEP provides free domiciliary treatment in endemic districts through specially trained staff and in moderate to low endemic districts,

it provides services through mobile leprosy treatment units and Primary Health Care personnel. Treatment of leprosy cases with MDT was taken up in a phased manner in Bengal as a result of which numbers of cases discharged as cured are increasing progressively over the years. However, large numbers of new leprosy cases are being detected in Bengal every year which suggest active transmission of the disease in the community. For the year 2010-11 Annual New Case Detection Rate (ANCDR) in Bengal is 11.3 per lakh population compared to 10.5 for the country. Prevalence Rate (PR) is also higher in Bengal at 9.2 per lakh population while the national average is 6.8. Leprosy is much more widespread in SWB, with ANCDR of 20.3 and PR of 15.0 as on March 2011. Among the districts the situation is quite hard-up in Purulia and Bankura which stands among the only 30 districts in the country where PR is greater than 20. In fact, Purulia has the highest ANCDR in the country. Another critical aspect of the problem is the low treatment completion rate in the region, and administrators need to follow up cases and devise mechanism for absentee retrieval to ensure that all patients complete treatment.

(v)   HIV/AIDS

SWB is a vulnerable region in terms of spread of HIV/AIDS because of various factors. High rate of seasonal migration, flying commercial sex-workers, presence of several industrial zones, and a network of cross-country highways cutting through the countryside all contribute to the susceptibility of the region. Several steps have been taken in the state and in the region in particular to arrest the spread of HIV/AIDS. These include formation of District AIDS Prevention and Control Units; targeted intervention for different risk categories of population; strengthening preventive, curative, protection services with care and support; and inducing behaviour change at family and community levels through awareness campaign. While the impact is not fully revealed, the administration must be alert as this is a menace that is always on the prowl and complacency can quickly lead to a disaster.

VIII.   CASE STUDIES

To understand the situation of social sector development in the region, we had conducted several field surveys which were extensive in nature and covered all the districts of the region. Many of the results from our field survey have been already reported in earlier sections. However, to have a firsthand feel of the situation, we briefly report some of our field experiences in this section.

a)   *Birbhum – Land of Tagore and Bauls*

As a part of our survey we visited six villages of Ilambazar CD Block and eight villages of Bolpur-Sriniketan CD Block of Birbhum district. These blocks are close to the Bolpur town and borders Shantiniketan – the University founded by Tagore. Birbhum is one of the 19 districts of West Bengal sharing 5.1 per cent of the land area of the state but 3.8 per cent of its total population (Census 2011), indicating a relatively lower density of population per square kilometres in the district (771) vis-à-vis the state (1021). It also has a relatively larger share of STs compared to the state average. Of the 14 villages visited by us, two were completely tribal villages. Primary schools are not available in three of the 14 villages and high school is present in just 4 villages! Primary Health Centres are available in just 7 of the 14 villages visited while private doctors are available in 10 villages.

Literacy in the villages ranged between 35 to 75 per cent for females and between 57 to 89 per cent for the males. There is huge gender disparity as well as substantial difference in literacy levels between villages. Educational attainment is low with just about 10 per cent of the adults having more than 12 years of formal education.

Drop out from schools is high – close to 20 per cent – and is an area of major concern. Child labour is prevalent in Ilambazar blcok with about one-fourth of children aged between 11-14 years engaged in some remunerative work or in the family farms.

We also observe that the per capita household expense on education in the study region is quite low – most of the families spending less than Rs. 100 per month on education related products and services. This has to be seen in light of free elementary education provided by the State.

Kutcha and Semi pucca households are most common with no sanitation facilities in most cases. Even when there are toilets in the household, they are mostly kutcha. Major sources of drinking water are ponds and wells with less than half of the households having access to safe drinking water. Most often drinking water is available from a common source outside the household but within the *mohalla*. Lack of sanitation and drinking water facilities is reflected in poor health condition of the people – high morbidity and substantial out of pocket expense on medical treatment. Most prevalent diseases are gastro-enteric, water-borne, and those related to malnutrition. Reproductive and Child Care situation is moderate with Institutional delivery being about two-third of all live births and immunisation of children being close to 85 per cent. Coverage of ANC and PNC is poor.

In most villages the tribals are lagging far behind the average figures in terms of educational achievement and access to quality housing, sanitation and drinking water facilities.

b) *Bardhaman – agricultural powerhouse*

We visited four villages in Bardhaman district – two each from Bhatar and Rain CD Blocks of the district. These blocks are close to the district headquarter Bardhaman town. Bardhaman is one of the most prosperous among the districts of West Bengal. It has a relatively lower population density (982) vis-à-vis the state. It also has a relatively lower share of STs compared to the state average. Of the 4 villages visited by us, Oregram was predominantly tribal while the rest had mixed population. Primary and high schools as well as Primary Health Centres are available in all the 4 villages.

Literacy in the villages ranged between 40 to 71 per cent for females and between 67 to 81 per cent for the males. There is huge gender disparity as well as substantial difference in literacy levels between the tribal dominated village and the three other villages. Educational attainment is low with just about 13 per cent of the adults having more than 10 years of formal education.

On an average the enrolment rate is found to be 83 per cent and enrolment is lowest in Oregram. Enrolment is found to be significantly higher among Muslims compared to Hindus and relatively lower among STs.

Drop out from schools is moderate – close to 10 per cent – and is an area of concern. As most of the households are poor, they cannot afford the expenses on education of their children and so most children drop out due to financial problems. In the four villages region we find that close to half of school drop-out are due to financial problem of the household. Lack of parental interest accounts for nearly one fourth of the dropouts. Apart from these, health problem, household work and poor performance on the part of the teachers together contributed to 17 per cent of the total dropout.

We also observe that the per capita household expense on education in the study region is quite low – about ₹ 160 per month on an average – most of the families spending less than Rs. 100 per month on education related products and services. Among different social groups, per capita expenses on education by Hindu upper caste households are about three times than the average. This is also reflected in the fact that BPL families have lower chances of sending children to school and higher incidence of school drop-out.

Kutcha and Semi pucca households are more common among Muslims and STs while SCs and Hindu upper caste households have mostly Pucca houses. Sanitation facilities are absent in more than 40 per cent of households. Pucca toilets are more common among Hindu upper caste households, while Muslim and the ST household have mostly kutcha toilets. Major source of drinking water is tube-well with less than 15 per cent of the households having access to safe drinking water. Most often drinking water is available from a common source outside the household but within the *mohalla*. Most prevalent diseases are gastro-enteric, water-borne, and those related to malnutrition.

Reproductive and Child Care situation is poor with Institutional delivery being close to one-third of all live births. Immunisation of children is close to 90 per cent. Coverage of ANC and PNC is also poor.

A significant portion of villagers belonging to BPL category in the 4 villages are treated by indigenous health service providers such as Ayurveda, Homeopathy, Unani and Folk medicine. Significantly the percentage of non-poor households availing these services is quite low (3.3 percent). For both the groups, dependency on Private Doctor is slightly higher than on government doctors.

c)   *Paschim Medinipur – beyond insurgency*

Paschim Medinipur have been in the headlines for all the wrong reasons – being a hotbed of insurgency and unlawful activities over the last decade. However, our survey in a small municipal town, which is more rural than urban, shows that the district can shed its past and progress far.

As a part of our survey we visited all 11 wards of Rabjibanpur Municipality. Of the 11 wards visited by us, two were completely rural ward replicating the villages around rather than the dusty trading centre that Ramjibanpur is. The town has all facilities including a college and government hospital.

Literacy in the wards ranged between 55 to 75 per cent for females and between 57 to 78 per cent for the males average literacy being 69 percent. There is huge gender disparity as well as substantial difference in literacy levels between wards. Educational attainment is moderate with just about 20 per cent of the adults having more than 10 years of formal education and about 5 per cent having completed graduation. Most of the illiterate person belongs to the low and middle consumption expenditure group and that illiteracy is higher for the BPL people as expected.

Drop out from schools is quite high – close to 30 per cent – and is an area of major concern. Not school going is comparatively more frequent among BPL families. Child labour is prevalent with about one-fifth of children aged between 11-14 years engaged in some or other productive work.

Kutcha and Semi pucca households are most common with no sanitation facilities in most cases except in Ward 10 where pucca households with pucca toilets are present in two-third of the households. Main source of drinking water is PHE taps except in Wards 5 and 11 where close to one-fourth of households depend on tubewells for drinking water. Most often drinking water is available from a common source outside the household but within the *mohalla*. Lack of sanitation facility is glaring in Ward 11 where 90 per cent of households do not have any toilet facility and resort to open defecation. In aggregate, less than one-fifth of households have pucca toilets and this is reflected in poor health condition of the people – high morbidity (close to 10 per cent) and substantial out of pocket expense on medical treatment. Most prevalent diseases are gastro-enteric, water-borne, and those related to malnutrition.

Reproductive and Child Care situation is moderate with only 61 per cent of mothers immunized during pregnancy, proportion being lower among social groups like Muslims and STs. Institutional delivery is about two-third of all live births and immunisation of children being less than 75 per cent. Coverage of ANC and PNC is also poor – just about 60 per cent of all pregnant women being covered.

Almost 44 per cent prefer to visit government doctors, whereas almost 38 per cent population prefer to go to private allopathic doctors, quacks and others accounting for about 3 per cent of patient visits.

d)   *Summary*

The three snapshots presented in this section provide us a picture of the ground reality in terms of social sector development in SWB. It is clear that the situation is far from satisfactory and leaves much scope for improvement. Infrastructural availability and service delivery has to improve. In addition, awareness building among the people is also important.

IX. CONCLUDING OBSERVATIONS

The section on education shows us that educational infrastructure is moderate, most of that built up through financial support from SSA over the last decade. Yet, more than 65 per cent of villages in SWB are without middle or high schools. There are severe shortages in terms of teachers and facilities in schools. The situation is worse than average in Purulia and Paschim Medinipur. Educational achievement is also mediocre – success in literacy and enrolment being wiped away by high dropout and general low quality of education. Disparity across social classes and gender are also glaring.

Health of the state is poor, to say the least. Infrastructure, manpower, and facilities are completely inadequate to cope with the huge population pressure. Rural health centres are mostly non-functional and incapable of providing even primary preventive and curative services. The trend is to pass the buck, through the referral system, to the hierarchically higher institutions. Thus there is a never ending flow of patients, on bumpy roads, from the villages to nearby towns, from the towns to the district hospitals, and eventually to the state capital Kolkata. Hospitals are overflowing with patients, some of them long-suffering ones, service provision is essentially poor or non-existent, medical supplies are always short of demand, and the private health care services available are out of reach of most of the people. The state has tried to push problems plaguing the health sector under the carpet for far too long and has not even fully utilised the support available through NRHM. As a result numbers of rural health assistants and auxiliary staff are inadequate resulting in poor ANC/PNC services, institutional delivery, and poor immunisation coverage. General morbidity is high, anaemia and malnutrition is a major issue, people have to depend mainly on private healthcare services, and out-of-pocket health expenses eats up more than one-fifth of total expenses on an average. Purulia, Bardhaman, and Birbhum fare worse than the average situation in SWB in terms of health status.

More schools, improved facilities, more and better teachers should be the foremost priority of the new government. To stem drop out in middle and high schools, learning should be made interesting, fun, and useful in the job market. Another major policy shift should be delinking the teachers from delivery of Midday Meal in schools. The scheme, though extremely important for its twin role of incentivising school attendance and providing nutritional support to rural children, is preventing teachers from attending their primary duty – that of teaching. One option may be engaging out-agencies for delivering ready-to-eat meals to school children at designated hours, following quality-quantity stipulations and check by head of the school and the VEC (or Ward Committee in urban areas), following which they will collect the cost directly from the government.

The health sector needs immediate transfusion of new blood – new ideas, new outlook, and new institutional mechanism. Preventive health care should be the foremost prerogative of the new government as it substantially reduces burden of curative health care in the long run. This can only be done by strengthening the rural PHCs and Sub-centres, engaging adequately trained ASHAs and ANMs, and equipping them properly. Playing the numbers game with health staff, allowing private health care institutions to flourish and fleece patients by withdrawing from effective health care should be immediately stopped. If government cannot facilitate patients within its domain it has to make private health care affordable through subsidised Health Cards etc. that can be used at private institutions. Widening the scope of ESIC and RSBY in the region and making these operationally efficient should also be taken up.

Only if these issues are taken up in right earnest and with expediency that the human capital situation of the region shall improve. While the region has immense potential for development, much of the economic gains are not transferred to better livelihood as the people are ill equipped to grab the available opportunities because of their poor education and health. This has cloistered the region in a low level equilibrium trap from which only a massive leap in social sector development can result in an escape route.

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Table 1
Indicators of Social Sector Development in India - 1990 - 2010

Educational Indicators	*1990-91*	*2000-01*	*2009-10*	*MDG*
Literacy Rate	52.0	65.0	66.2	100.0
Literacy Rate – Male	64.0	76.0	73.0	100.0
Literacy Rate – Female	39.0	54.0	59.5	100.0
Net Enrolment Rate – Primary		64.2	89.5	100.0
Net Enrolment Rate – Primary – Boys		70.8	91.0	100.0
Net Enrolment Rate – Primary – Girls		57.2	88.0	100.0
Net Enrolment Rate – Middle		44.8	54.4	100.0
Net Enrolment Rate – Middle – Boys		51.5	58.0	100.0
Net Enrolment Rate – Middle – Girls		37.5	50.0	100.0
Drop Out Rate – Primary	47.9	40.3	23.2	0.0
Drop Out Rate – Primary – Boys	46.7	38.7	20.0	0.0
Drop Out Rate – Primary – Girls	49.7	42.3	28.0	0.0
Drop Out Rate – Middle	65.4	54.5		0.0
Drop Out Rate – Middle – Boys	59.4	52.0		0.0
Drop Out Rate – Middle – Girls	68.3	58.0		0.0
Completion Rate – Primary	40.0	63.0	68.8	100.0
Completion Rate – Primary – Boys	46.0	70.0	72.8	100.0
Completion Rate – Primary – Girls	33.0	54.0	63.4	100.0
Completion Rate – Middle		46.0		100.0
Completion Rate – Middle – Boys		54.0		100.0
Completion Rate – Middle – Girls		37.0		100.0

Health Indicators	*NFHS-1 1992-93*	*NFHS-2 1998-99*	*NFHS-3 2005-06*	*MDG*
Life Expectancy at Birth – Male[a]	59.4	61.6	62.6	68
Life Expectancy at Birth – Female[a]	60.4	63.3	64.2	70
Institutional Deliveries	25.5	33.6	40.8	100.0
Deliveries by Trained personnel	34.2	42.4	48.8	100.0
Mothers receiving 3 ANC visits	43.9	44.2	50.7	100.0
Children received all vaccinations	35.4	42.0	43.5	100.0
Maternal Mortality Rate[b]	424	398	254	109
Infant Mortality Rate	78.5	68.0	57.0	27
Children with Anaemia	-	74.2	78.9	-
Children Underweight	53.4	42.7	40.4	27.4

Source: Annual Report, Ministry of Human Resource Development, Government of India (Various Years); *National Family Health Survey,* International Institute of Population Studies (Rounds 1, 2, and 3); MDG Values are from http://www.undp.org.in/index.php?option=com_content&task=view&id=11&Itemid=9.

Note: a – derived from Sample Registration System based Abridged Life Tables, Registrar General of India, Ministry of Home Affairs, Government of India, corresponding to years 1990-94, 1995-99, and 2002-06.

Table 2
Indicators of Health Standards – Global Comparisons 2009

Country	Life Expectancy at Birth			% of Pregnancies with			% of Children	
	All	Male	Female	Pre-Natal Check	Delivery by Trained	Low Weight Baby	Not Immunised	Under-nourished
Bangladesh	66.1	65.1	67.2	51.2	18.0	21.6	11.0	26.0
Pakistan	66.5	66.2	66.9	60.9	38.8	31.6	27.0	23.0
Sri Lanka	74.1	70.4	78.0	99.4	98.5	17.6	2.0	21.0
India	63.7	62.3	65.2	74.2	46.6	27.6	34.0	32.0
Low income	**59.0**	**57.7**	**60.3**	**68.9**	**44.3**	**14.6**	**22.0**	**30.0**
Indonesia	70.8	68.8	72.8	93.3	79.4	8.8	23.0	16.0
Philippines	71.8	69.7	74.1	91.0	61.8	na	9.0	15.0
Middle Income	**68.5**	**66.6**	**70.7**	**84.2**	**70.1**	**15.6**	**18.9**	**13.2**
Australia	81.4	79.2	83.7	100.0	100.0	<1.0	8.0	<5.0
Japan	82.6	79.3	86.1	100.0	100.0	<1.0	3.0	<5.0
United Kingdom	79.9	77.9	82.0	100.0	100.0	<1.0	14.0	<5.0
United States	78.4	76.0	81.0	100.0	100.0	<1.0	8.0	<5.0
Canada	81.0	78.8	83.3	100.0	100.0	<1.0	6.0	<5.0
High Income	**79.8**	**77.1**	**82.7**	**100.0**	**99.3**	**<1.0**	**7.4**	**<5.0**

Source: Same as Table 1

Table 3
Indicators of Primary Educational Standards – Global Comparisons 2009

Country	Net Enrolment Ratio			Completion Rate			Pupil-Teacher Ratio
	All	Boys	Girls	All	Boys	Girls	
Bangladesh	86.6	87.3	85.9	57.5	55.6	59.6	43.7
Pakistan	na	na	na	60.3	66.9	53.4	40.7
Sri Lanka	99.8	99.6	100.0	104.9	104.8	105.0	23.8
India	89.5	91.0	88.0	93.6	95.3	91.7	na
Low income	**na**	**na**	**na**	**65.7**	**69.1**	**62.2**	**44.8**
Indonesia	40.9	39.2	42.6	108.1	109.3	106.9	18.8
Philippines	48.2	45.5	51.1	92.3	89.6	95.1	33.7
Middle Income	**na**	**na**	**na**	**93.6**	**94.8**	**92.8**	**22.8**
Australia	100.0	100.0	100.0	>95.0	>95.0	>95.0	na
Japan	100.0	100.0	100.0	>95.0	>95.0	>95.0	18.5
United Kingdom	100.0	100.0	100.0	>95.0	>95.0	>95.0	17.2
United States	73.8	71.2	76.6	95.9	94.7	97.1	13.8
Canada	100.0	100.0	100.0	95.7	96.0	95.5	na
High Income	**>95.0**	**>95.0**	**>95.0**	**>95.0**	**>95.0**	**>95.0**	**15.2**

Source: Same as Table 1

Table 4
Educational Institutions per 1000 pop – 2007-09

District / Region	Schools per '000 pop		Schools per '00 sq km	
	Primary	Middle	Primary	Middle
Bankura	0.67	0.12	51	7
Bardhaman	0.61	0.12	60	11
Birbhum	1.11	0.14	53	17
Purulia	1.30	0.13	53	5
P Medinipur	1.06	0.14	56	8
SWB	0.85	0.15	59	10
West Bengal	0.76	0.13	68	12

Source: Author's calculation based on data from District Information on School Education (DISE) – 2007-08 and Census of India, 2011.

Table 5
Accessibility & Availability of Educational Facilities in Rural Areas

Indicator (%)		Bnkr	Bdmn	Brbm	Hgly	Prl	PMdnpr	SWB	WBengal
Villages without any Edu facility		21.4	9.3	16.8	13.3	11.3	37.8	24.0	29.5
Primary School -	**Within Village**	76.1	88.9	80.3	85.4	87.6	58.1	73.1	69.1
	Within 5 km	22.0	10.1	16.3	12.1	11.0	38.0	24.1	20.5
Middle School -	**Within Village**	15.9	23.5	22.6	20.9	18.1	19.9	19.8	13.6
	Within 5 km	50.3	50.6	42.7	48	41.6	44.4	45.9	45.7
Adult Lit Centre-	**Within Village**	78.2	57.3	81.4	83.2	90.2	82.5	79.8	
	Within 5 km	18.2	38.2	13.2	12.7	4.5	15.7	16.8	

Source: *Census of India, 2011, Village & Town Directories.*

Table 6
Facilities in Educational Institutions
(Percentage of Schools with)

District/Region	Pucca Bldg	Drkng Water	Toilet	Girls' Toilet	Black board	SCR < 60
Bankura	74.5	92.5	74.7	39.1	97.9	87.0
Bardhaman	80.0	94.8	94.9	72.6	95.4	90.7
Birbhum	89.4	96.0	91.2	28.2	98.7	80.7
Purulia	77.6	79.7	35.2	15.3	91.7	80.7
P Medinipur	42.1	82.6	79.3	10.4	91.2	89.0
SWB	67.8	87.4	74.8	33.7	93.6	86.9
West Bengal	55.9	77.4	69.5	29.0	83.8	81.3
All India	70.7	86.0	62.0	47.5	98.2	86.6

Source: Same as Table 4
Note: SCR – Student Classroom Ratio.

Table 7
Teachers in Educational Institutions

District/Region	% of schools		Teacher per School
	Single Teacher	PTR > 100	
Bankura	8.1	0.9	2.8
Bardhaman	0.2	0.4	3.3
Birbhum	4.7	1.6	3.3
Purulia	15.6	3.3	2.1
P Medinipur	4.6	0.4	2.6
SWB	3.6	2.0	3.0
West Bengal	5.5	1.1	2.9
All India	11.0	3.9	3.9

Source: Same as Table 5

Note: SCR – Student Classroom Ratio.

Table 8
Educational Infrastructural Indices

District/Region	Access Index	Facility Index	Teacher Index	EII	Rank
Bankura	0.655	0.720	0.368	0.581	4
Bardhaman	0.708	0.950	0.652	0.787	1
Birbhum	0.655	0.726	0.593	0.658	2
Purulia	0.562	0.277	0.151	0.346	6
P Medinipur	0.451	0.268	0.351	0.356	5
SWB	**0.557**	**0.630**	**0.433**	**0.540**	
West Bengal	**0.546**	**0.461**	**0.484**	**0.497**	

Source: Same as Table 4 & 5;

Note: EII is Educational Infrastructural Index. Indices prepared by Relative Gap Method.

Table 9
Literacy and Gender Gaps 2011

District/Region	Literacy	Literacy (Male)	Literacy (Female)	Gender Gap
Bankura	63.4	76.7	49.4	27.3
Bardhaman	70.2	78.7	61.0	17.7
Birbhum	61.5	71.0	51.5	19.5
Purulia	55.6	73.8	36.5	37.3
P Medinipur	75.2	85.2	64.6	20.6
SWB	**68.3**	**76.7**	**59.2**	**17.5**
West Bengal	**70.3**	**79.7**	**60.3**	**19.4**
All India	**64.5**	**75.0**	**53.2**	**21.8**

Source: Same as Table 4 & 5;

Table 10
Net Enrolment Ratios

District / Region	Primary	Middle	Combined
Bankura	95.0	57.6	90.8
Bardhaman	75.7	49.1	74.5
Birbhum	94.1	56.1	91.7
Purulia	98.6	51.8	95.5
P Medinipur	61.3	47.0	59.7
SWB	78.6	49.4	75.8
West Bengal	**81.0**	**49.6**	**78.1**
All India	**95.9**	**52.6**	**88.3**

Source: Same as Table 4 & 5

Table 11
Drop Out and Completion Rates

District/Region	Drop Out Rate		Completion Rate[a]		Combined CR
	Primary	Middle	Primary	Middle	
Bankura	17.7	36.1	78.2	36.8	75.6
Bardhaman	18.4	37.3	61.7	30.8	60.9
Birbhum	9.0	43.8	85.7	31.6	84.0
Purulia	42.3	34.1	57.7	34.1	55.9
P Medinipur	6.0	33.8	57.6	31.1	55.6
SWB	**17.5**	**36.0**	**64.8**	**31.7**	**63.0**
West Bengal	**25.8**	**37.6**	**60.1**	**30.9**	**58.3**

Source: Same as Table 4 & 5
Note: a – For computation of Completion Rate see appendix.

Table 12
Educational Development Indices

District / Region	Literacy Index	Enrolment Index	Retention Index	EDI	Rank
Bankura	0.426	0.913	0.832	0.722	4
Bardhaman	0.670	0.658	0.844	0.719	5
Birbhum	0.413	0.927	0.964	0.767	1
Purulia	0.111	0.986	0.510	0.523	6
P Medinipur	0.802	0.426	0.983	0.739	3
SWB	**0.616**	**0.679**	**0.840**	**0.709**	
West Bengal	**0.616**	**0.714**	**0.728**	**0.681**	

Source: Same as Table 4 & 5
Note: All Rates are Gender Gap Adjusted.

Table 13
Educational Status of the People in the Region by Social Groups (%)

	Activity Status	Hindu Upper	Hindu SC	Hindu ST	Hindu OBC	Mus OBC	Mus Gen	All
Bankura	Illiterate	4.6	16.8	19.2	10.3	20.0	12.4	13.2
	Lit below Pr	11.1	22.8	14.3	5.3	5.0	13.1	13.0
	Pr Passed	37.8	31.3	27.3	22.8	25.0	26.3	29.7
	Middle Passed	13.2	14.6	18.7	23.6	30.0	25.5	17.9
	High Sc & Above	33.4	14.4	20.6	37.9	20.0	22.6	26.3
Bardhaman	Illiterate	13.7	52.5	39.6	25.7	24.7	40.8	31.7
	Lit below Pr	8.5	13.7	11.0	13.9	5.4	30.5	16.8
	Pr Passed	34.2	23.7	27.2	21.8	37.6	14.3	25.1
	Middle Passed	6.6	4.1	11.7	11.9	12.9	7.8	7.7
	High Sc & Above	36.9	6.0	10.5	26.7	19.4	6.6	18.6
Birbhum	Illiterate	2.4	21.4	11.5	42.3	n.a.	0.0	22.6
	Lit below Pr	19.0	22.5	21.8	18.5	n.a.	25.0	20.6
	Pr Passed	45.3	39.9	28.5	28.6	n.a.	75.0	35.4
	Middle Passed	1.4	3.8	11.5	4.9	n.a.	0.0	5.1
	High Sc & Above	32.0	12.3	26.7	5.6	n.a.	0.0	16.3

Source: Author's Calculation based on Field Data collected during 2009-12.

Table 13(contd)
Educational Status of the People in the Region by Social Groups (%)

	Activity Status	Hindu Upper	Hindu SC	Hindu ST	Hindu OBC	Mus OBC	Mus Gen	All
Purulia	Illiterate	30.6	52.8	54.2	54.6	57.6	41.6	52.6
	Lit below Pr	10.6	12.4	12.1	9.8	13.9	16.9	11.6
	Pr Passed	21.8	18.6	17.2	15.2	16.7	21.8	17.2
	Middle Passed	14.3	8.5	8.6	8.1	5.9	10.7	8.6
	High Sc & Above	22.7	7.7	7.9	12.3	5.8	9.1	10.0
Paschim Medinipur	Illiterate	18.7	31.7	37.4	19.0	17.1	20.0	23.1
	Lit below Pr	19.9	22.2	13.1	24.5	31.4	29.5	21.5
	Pr Passed	20.3	21.7	20.6	10.9	17.1	26.3	19.7
	Middle Passed	17.4	10.0	10.3	19.0	17.1	14.7	15.3
	High Sc & Above	23.7	14.4	18.7	26.5	17.1	9.5	20.4
SWB	Illiterate	17.5	41.1	37.2	37.6	43.1	34.5	34.9
	Lit below Pr	8.7	14.2	10.9	9.1	13.0	18.1	11.4
	Pr Passed	29.1	24.5	24.4	19.9	23.9	26.7	24.3
	Middle Passed	12.7	8.9	11.8	12.3	9.1	10.1	11.4
	High Sc & Above	32.0	11.3	15.8	21.1	10.9	10.5	18.0

Source: Author's Calculation based on Field Data collected during 2009-12.

Table 14
Health Institutions and Facilities

Districts	Govt Hosp	CHCs	PHCs	SCs	Beds in Govt Inst	Private Inst	Beds in Pvt Inst
Bankura	3	22	69	564	1297	46	696
Bardhaman	5	35	104	765	2105	197	3448
Birbhum	3	19	58	484	936	44	469
Purulia	2	20	52	485	606	12	545
P Medinipur	4	29	84	858	1312	119	1152
SWB	21	135	127	3816	7572	575	8526

Source: NRHM (2012)

Table 15
Spatial Accessibility of Health Institutions in SWB (Per 1000 Sq km)

Districts	Hospitals	CHCs	PHCs	SCs	All Inst
Bankura	0.4	82.0	10.0	3.2	102.3
Bardhaman	0.7	108.9	14.8	5.0	157.5
Birbhum	0.7	106.5	12.8	4.2	133.8
Purulia	0.3	77.5	8.3	3.2	91.2
P Medinipur	0.3	60.9	6.0	2.1	77.7
SWB	0.5	91.0	3.0	3.2	111.4
West Bengal	0.8	116.7	10.2	3.9	154.3

Source: NRHM (2012)

Table 16
Availability of Beds

Districts	Beds per 1000 population in			Bed Turnover Rate (%)
	Government Inst	Private Inst	All Institutions	
Bankura	0.36	0.19	0.55	65
Bardhaman	0.27	0.45	0.72	44
Birbhum	0.27	0.13	0.40	76
Purulia	0.21	0.19	0.39	78
P Medinipur	0.22	0.19	0.41	59
SWB	0.26	0.29	0.55	62
West Bengal	0.30	0.38	0.68	49

Source: Directorate of Economics & Statistics, West Bengal

Table 18
Population Pressure on Health Institutions in SWB
(Institutions per 100,000 persons)

Districts	PHCs	CHCs	CHCs with				Hospitals
			Obstetrician / Gynaecologist	Operation Theatre	Referral facility	Low Weight baby care unit	
Bankura	1.00	0.61	0.03	0.36	0.22	0.25	0.08
Bardhaman	0.43	0.45	0.01	0.09	0.17	0.23	0.06
Birbhum	1.41	0.54	0.11	0.14	0.20	0.17	0.09
Purulia	1.07	0.68	0.03	0.44	0.27	0.31	0.07
P Medinipur	1.66	0.49	0.08	0.22	0.03	0.05	0.07
SWB	**1.35**	**0.46**	**0.05**	**0.21**	**0.14**	**0.18**	**0.07**
West Bengal	**1.92**	**0.38**	**0.04**	**0.17**	**0.07**	**0.11**	**0.08**
WHO Norm	**3.33**	**1.00**	**1.00**	**na**	**1.00**	**na**	**0.10**

Source: Directorate of Economics & Statistics. GoWB

Table 17
Availability of Facilities at SC and PHC level
Percent of total number of SCs/PHCs

Districts	Electrified SC	SC with essential drugs	24-hour PHC	PHC with OT	PHC with Ref facility
Bankura	4.4	100.0	26.1	34.8	4.3
Bardhaman	15.2	97.0	10.5	0.0	5.3
Birbhum	24.4	93.3	44.4	38.9	16.7
Purulia	4.7	100.0	55.6	50.0	33.3
P Medinipur	8.3	89.6	22.2	33.3	14.8
SWB	10.5	96.0	26.0	26.8	12.6
West Bengal	9.9	89.0	25.9	25.2	11.7

Source: Directorate of Economics & Statistics, West Bengal

Table 20
Rural Health Services

Districts	% of villages with			
	ASHA	ICDS	JSY	VHSC
Bankura	8.7	97.8	89.1	21.7
Bardhaman	18.8	90.6	96.9	62.5
Birbhum	26.1	89.1	100.0	23.9
Purulia	10.0	86.7	88.9	2.2
P Medinipur	12.2	91.8	91.8	16.3
SWB	**16.9**	**92.4**	**94.0**	**22.7**
West Bengal	**13.0**	**95.4**	**94.3**	**17.7**

Source: Census of India-2011, Village Directory, GOI (2011)

Note: ASHA – Accredited Social Health Assistant; ICDS – Integrated Child Development Scheme; JSY – Janani Surakhsa Yojana; VHSC – Village Health & Sanitation Committee.

Table 19
Lags in Rural Health Infrastructure

Districts	% of villages				% of rural population			
	Without RMP	Without PHC	Without SC	No Med Facility	Without RMP	Without PHC	Without SC	No Med Facility
Bankura	87.2	92.5	83.9	65.2	94.8	91.1	82.6	53.1
Bardhaman	65.6	89.2	48.5	33.6	79.2	91.9	50.0	20.3
Birbhum	80.2	89.8	53.1	50.1	92.3	88.2	52.2	35.5
Purulia	77.3	92.3	73.3	48.3	88.6	89.5	71.1	38.8
P Medinipur	80.2	95.3	83.8	62.0	92.2	85.9	75.5	47.9
SWB	75.8	91.9	70.3	53.7	89.6	89.0	68.1	35.7
West Bengal	87.2	92.5	83.9	65.2	94.8	91.1	82.6	53.1

Source: Directorate of Economics & Statistics, GoWB; Census of India 2011; Field Data 2009-2012

Table 21
Shortfall in Health Infrastructure

Districts	CHC	PHC	SHC	ANM	HW-Male	Doctors in PHCs	Specialists in CHCs
Requirement as per Norms							
Bankura	30	120	719	671	611	60	63
Bardhaman	64	257	1545	1442	1313	129	135
Birbhum	29	117	700	654	595	58	61
Purulia	24	98	586	547	498	49	51
P Medinipur	50	198	1189	1109	1010	99	104
SWB	243	974	5843	5453	4966	487	511
West Bengal	761	3045	18270	17052	15529	1522	1599
Shortfall							
Bankura	8	51	155	251	317	surplus	51
Bardhaman	29	153	780	1172	1124	80	125
Birbhum	10	59	216	244	308	13	44
Purulia	4	46	101	187	246	surplus	39
P Medinipur	21	114	331	679	709	29	81
SWB	108	847	2027	3253	3426	151	426
West Bengal	413	2136	7914	10882	11314	707	1413
Shortfall as a percentage of Requirement							
Bankura	26.6	42.4	21.6	37.4	51.9	surplus	80.9
Bardhaman	45.6	59.6	50.5	81.3	85.6	61.9	92.6
Birbhum	34.9	50.3	30.9	37.3	51.8	22.1	72.3
Purulia	18.0	46.7	17.2	34.1	49.4	surplus	76.6
P Medinipur	41.4	57.6	27.8	61.2	70.2	29.3	77.9
SWB	44.5	87.0	34.7	59.7	69.0	31.0	83.4
West Bengal	54.3	70.1	43.3	63.8	72.9	46.4	88.4

Source: NRHM (2012); Census of India-2011

Table 22
Health Infrastructure Index

Districts	PHC Infra Score	CHC Infra Score	Rural Infra Score	Health Infra Index
Bankura	73.4	76.2	16.3	**45.6 (5)**
Bardhaman	62.3	62.2	31.8	**47.0 (3)**
Birbhum	72.7	76.3	23.1	**48.8 (1)**
Purulia	72.0	69.3	24.5	**47.6 (2)**
P Medinipur	71.3	64.1	20.0	**43.9 (6)**
SWB	69.7	68.9	22.6	**46.0**
West Bengal	67.7	63.8	21.8	**43.8**

Source: Author's Calculations
Note: Scores are indicative in a scale of 0 to 100. Figures in parenthesis are ranks.

Table 23
Health Outcome – Reproductive & Preventive Health Care Coverage

Districts	% of pregnant women received				Child Delivery		Child Care	
	ANC		PNC	Full ANC & PNC	Inst Dely	Dely by Trained pers	Fully Immunised	Vit A Suppl
	IF Tab	Tet Inj						
Bankura	23.1	93.7	92.7	17.5	61.4	64.4	92.7	94.2
Bardhaman	28.5	95.3	66.7	21.1	57.9	58.3	66.7	79.2
Birbhum	25.9	90.7	63.6	15.6	48.7	50.5	63.6	79.9
Purulia	24.7	91.5	78.4	14.5	39.9	46.9	78.4	83.2
P Medinipur	38.0	88.6	83.0	21.3	45.1	49.6	83.0	88.8
SWB	29.8	93.1	80.4	20.4	55.5	59.1	80.4	86.8
West Bengal	26.8	94.8	75.7	19.6	49.1	51.5	75.7	82.5

Source: Author's Calculation based on Field Data collected during 2009-12 and Directorate of Economics & Statistics, GoWB;

Table 24
Health Infrastructure Index

Districts	% of Adults			% of children suffering from	
	% of pop Hospitalised	*Avg Length of Stay (days)*	*Cured after Hospitalisation*	*Diarrhoea*	*Acute Resp Infection*
Bankura	87.2	92.5	83.9	65.2	94.8
Bardhaman	65.6	89.2	48.5	33.6	79.2
Birbhum	80.2	89.8	53.1	50.1	92.3
Purulia	77.3	92.3	73.3	48.3	88.6
P Medinipur	80.2	95.3	83.8	62	92.2
SWB	75.8	91.9	70.3	53.7	89.6

Source: Author's Calculation based on Field Data collected during 2009-12 and Directorate of Economics & Statistics, GoWB;

Table 25
Treatment Pattern

Districts	Treated at				Location of Treatment		
	Govt Inst	*Govt & Pvt Inst*	*Only Pvt Inst*	*Home*	*Within Village*	*Nearby Town /Dist HQ*	*State Capital*
Bankura	0.5	99.0	0.5	0.1	56.3	43.7	0.5
Bardhaman	35.8	12.8	36.3	15.1	39.8	54.6	3.2
Birbhum	0.5	98.0	0.5	0.1	35.1	55.1	0.4
Purulia	1.2	96.0	0.4	2.4	62.7	37.2	1.0
P Medinipur	44.0	9.5	44.5	2.0	58.5	39.4	1.1
SWB	0.9	90.2	0.7	0.2	54.4	40.7	0.8

Source: Author's Calculations based on Directorate of Economics & Statistics, SWB

Table 26
Health Status Index

District	*ANC / PNC*	*Safe Delivery*	*Fully Immunised*	*ISR (per 1000)*	*Not Reported Sick*	*Health Status Index*
Bankura	17.5	64.4	92.7	959.0	93.7	82.0
Bardhaman	21.1	58.3	66.7	969.0	96.1	65.3
Birbhum	15.6	50.5	63.6	958.0	94.7	56.2
Purulia	14.5	46.9	78.4	959.0	95.0	68.0
P Medinipur	21.3	49.6	83.0	958.0	96.5	69.7
SWB	20.4	59.1	80.4	962.0	95.7	73.5

Source: Author's Calculations based on Directorate of Economics & Statistics, SWB

Table 27
Progress of Total Sanitation Campaign

Districts	Installations (million)			Total	Shortfall (%)
	BPL households	APL households	Institutions		
Bankura	89.8	221.8	7.8	319.3	41.3
Bardhaman	538.4	264.2	16.8	819.4	22.7
Birbhum	220.0	170.6	6.2	396.7	38.8
Purulia	586.6	283.6	13.4	883.6	8.3
P Medinipur	65.9	64.4	4.2	134.5	74.6
SWB	1750.3	1191.2	57.6	2999.2	29.0
West Bengal	5243.3	2585.2	131.0	7959.6	32.8

Source: *Source*: Author's Calculation based on Field Data collected during 2009-12 and TSC (2012)