Scaling Up Primary Health Services in Rural Rajasthan:
Public Investment Requirements and Policy Reform

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Abstract

We attempt to address two key questions in this paper: 1) In terms of state-wide scaling up of rural services in Rajasthan in the area of primary health, what will it cost financially and in terms of human resources to scale-up these services in all the rural areas of these two states? And 2) what policy, institutional and governance reforms may be necessary so as to ensure proper service delivery? As is well known, merely setting up more health clinics, for instance, is not going to be enough; higher public investments in these areas needs to be accompanied by systemic reforms that will help overhaul the present service delivery system, including issues of control and oversight, for example.

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Key Recommendations

Per our estimates of the financial requirements of scaling up health services in rural Rajasthan, additional public spending of Rs.263 per capita is needed, of which Rs.173 is needed for capital expenditure and Rs.90 for meeting the recurrent expenses. The increase needed in Rajasthan is almost 49% in the allocation on a per capita basis. In absolute terms, Rajasthan needs to spend an additional Rs.17 billion to scale up the rural primary healthcare services in the state.

The increased public health spending should finance infrastructure improvements in the rural sub-centers, primary and community health centers and the district hospitals. Additionally, much higher levels of spending is needed for essential drugs and supplies, vaccines, medical equipments, laboratories, and the like. Rajasthan lacks in terms of spread of the basic infrastructure. This could be on account of its difficult terrain - desert and hills – which only partly gets recognized and compensated under the existing norms. Desert, for instance, does not get the same treatment as hilly and tribal area. We have, therefore, suggested inclusion of desert area among the exceptional areas like hilly and tribal belt. In terms of human resources in the health centers, state government needs to appoint more auxiliary nurse midwives (ANMs), trained birth attendants, technicians, pharmacists, doctors, and specialists. In the backward districts, government need to provide cell phones to doctors and ANMs in rural PHCs and use Maruti Vans converted as village ambulance vehicles. These measures will help increase the utilization of the public health centers in Rajasthan and consequently bring down the rather high out-of-pocket expenses of the rural residents.

Increased supply of doctors, specialists, pharmacists, technicians, trained nurses and midwives, etc. has to be ensured for the success of the scaling up effort. This requires large scale training and specialized education by encouraging private sector institutions to operate and expand the number of seats in such professional courses. Such institutions need to be formally recognized and properly monitored and supervised to ensure quality of training and education imparted. Although all this can take 4 to 5 years before qualified doctors and specialists can emerge in adequate numbers, it can increase the supply of paramedics very quickly. If the expansion of facilities is properly planned and phased out, the problem can be solved to a considerable extent.

There is a need to consider entitlement benefits for the BPL or poorer sections of the society. In the BPL survey conducted in every village, 19 points can be considered an effective cut off to identify the BPL families. These families should be given a Smart Card with a clear entitlement to spend an amount, say of Rs.2,000 p.a. on hospitalization, treatment, medicines, consultations, visit fees, etc. Once these cards are distributed to the BPL families, the public health facilities (HFs) can also charge regular (unsubsidized) fees from the patients and get their regular revenue for meeting most of their recurring and capital expenses. This in itself would act as a strong incentive to improve quality of services in public HFs because it would put them in direct competition with the private sector. Moreover, the managers or service providers in public HFs would also find themselves directly accountable to the local population and can face a reward/ punishment system.

Introduction of a Smart Card to BPL families can also be conducive to the idea of introducing the social or community based health insurance. It will facilitate generation and investment of the

required resources. The Smart Card to a BPL family can also be very helpful when they have to migrate for food, fodder and employment. Moreover, it can also promote some trade and exchange among the people with shortages and surpluses, thereby encouraging better utilization of the state resources.

There is a need to carry out frequent supervision of lower level HFs in rural areas. There should be enough powers vested in the supervisory/monitoring authority to immediately punish the defaulters like absentee staff, indifference to replenish the stock of medical supplies, rude behavior with patients, lack of cleanliness and hygienic conditions in the HFs, etc.

There is a need to introduce an accreditation system based on annual or more frequent visits to the HFs for their infrastructure, human resources and drug and medical supplies.

There should be annual awards for best performing HFs in various categories. This should be a handsome cash reward from the state government and the selection should be made on the basis of a weighted feedback from people (beneficiaries), village *Panchayats*, and departmental higher-ups. There can be different types of awards emphasizing different aspects of the quality of healthcare service like cleanliness, cure, disease control, customer satisfaction, etc. All such awards should be distributed among the relevant staff in the winning HFs.

The medical and paramedical staff at the Sub-Centre, PHC and CHC level should be stationed for longer periods so that they can start living in the village. Under NHRM, District Health Missions should be made responsible to monitor, supervise and if required transfer such staff more as a punishment with adverse remarks in their Confidential Reports (CR).

There is a need to focus comprehensively on the living conditions of the BPL families. Availability of basic facilities like toilet, bathing, electricity (or light), drinking water, etc., has to be ensured to them without which scaling up of primary healthcare services in the rural areas may not be effective for them on its own. For drinking water, the most effective solution is rainwater harvesting. However, these families do not even have adequate storage facilities!

There is a major problem of ensuring that the medical and paramedical personnel reside in the village itself so as to be available all the time to the villagers. This can happen voluntarily only if the overall facilities like schools and infrastructure like electricity, sanitation, water supply, etc., in the villages improve considerably. We cannot expect such an overhaul of Indian villages in short time. As an alternative, the government can consider two pronged strategy of encouraging and increasing the supply of alternative medicines like *Ayurveda*, *Unani*, homeopathy, naturopathy, etc., and simultaneously making it obligatory for all these as well as allopathic doctors to spend at least 2 to 3 years in villages before they are eligible to practice in an urban area.

Different districts and even *tehseels* within a district may have very different set of root causes for health problems of population. Systematic efforts are, therefore, necessary to address those problems directly. A very narrow and traditional administrative approach of considering public health issues as pertaining to only health department and health ministry cannot work. There has to be an overall coordinated action across relevant departments and ministries to solve some of these problems (e.g. water and air pollution due to industries, food habits due to culture, etc.).

There is a need to introduce some administrative flexibility in the health delivery system at the district and lower levels. In the present system, approvals from higher authorities on practically every minor matter hamper the efficient delivery of the health services. The norms about

administrative and financial powers and control to various officers and functionaries need to be revised upwards since they are outdated considering the inflation and technology changes in the sector. This will introduce an element of discretion and accountability among the lower level functionaries to benefit the consumers.

In order to improve the delivery of health services, we suggest supporting community oversight of village-level health services, including panchayat responsibilities for oversight of sub-centers, and PHCs. While the 73rd and 74th Amendments to the Indian Constitution allow for a democratic system of governance in health to the multilayered local bodies, their implementation leaves much to be desired. Such devolution of authority has taken place in several states, but it is only in Kerala, which has invested time and resources in systematically building capacity for governance by local bodies. Rajasthan needs to train and enhance capacity of their Panchayati Raj Institutions (PRIs) to own, control and manage public health services.

With regard to the PRIs and their ability to perform, the following questions need to be looked into: Has the power and authority that has been devolved to the PRIs on paper actually reached the people? Do they understand their duties/responsibilities on the one hand and their authority on the other? Do the PRIs have the capacity to manage health centers? Are there regular and comprehensive capacity building programs in place? And are any measures being undertaken to ensure that the caste and patriarchy do not prejudice effective management at the local level?

We suggest utilization of information technology - HMIS to improve the performance of their public health facilities. The primary objective of the HMIS will be to provide operational information for better service delivery, monitoring and policy formulation. It will also provide adequate feedback to the providers facilitating constant assessment of their performance and thereby providing opportunities for improving the same.

We suggest a health sector strategy for India that is Millennium Development Goals (MDG) based not only at the national level, but also more importantly at the state and district levels. States and districts should strive hard to attain the MDGs, such as reducing infant mortality rate, under-5 mortality, maternal mortality rate, immunizations and access to safe drinking water and the like especially for the laggard states and districts, with particular focus on the 150 most backward districts of the country. Based on the MDGs, state governments should announce targets for health to be met at the state and district levels by the year 2015, and

We suggest that the central government should plan to convene a meeting of Chief Ministers and Health Ministers of all Indian States in 2007 to discuss how the states will meet the health targets. This meeting will allow states to present their most successful initiatives, so that all states can adopt “best practices” in public health.

SCALING UP PRIMARY HEALTHCARE SERVICES IN RURAL RAJASTHAN[1]

I. Introduction

Draft Approach Paper to the Eleventh Five Year Plan (2006) recognizes at the outset that unless people have access to basic services like health, education, clean drinking water and sanitation, they may not get their due share in the benefits of growth. The problem of access of people to such basic services is more severe in rural areas. Curative primary healthcare except for communicable diseases is not considered as a public good because its consumption does not fulfill the criteria of externality, non-excludability and non-rivalry. It is not even considered strictly as a merit good. However, in the rural areas and for economically weaker sections, the draft Approach Paper (2006) asserts, "access for the mass of our people can only be assured through a substantial effort at public financing of these services. In most cases, this also means public provision though there is obviously room for partnership with private entities, including especially non-profit bodies and civil society involvement." (p.4). There is a growing awareness and explicit recognition of the shortfall in the public health related targets of infant and maternal mortality rates and of the main factors responsible for the same. Thus, the draft Approach Paper (2006) clearly states that "rural healthcare in most states is marked by absenteeism of doctors/ health providers, low levels of skills, shortage of medicines, inadequate

[1] This report is based on the work undertaken for a project entitled 'Scaling up Services in Rural India' that is housed at the Center on Globalization and Sustainable Development (CGSD) of the Earth Institute at Columbia University. CGSD is grateful to The William and Flora Hewlett Foundation for providing financial support to this project and especially thanks Smita Singh, Program Director, Global Development, and Karen Lindblom, Program Officer for discussions and their keen interest in this project.

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supervision/ monitoring, and callous attitudes. There are neither rewards for service providers nor punishments to defaulters." (p.52). Scaling up of primary healthcare services in rural Rajasthan would, therefore, require not only expansion of the quantum of the service, but also substantial improvement in the quality of the healthcare.

Rajasthan is one of the 18 states identified by the National Rural Health Mission (NRHM) for special focus in providing effective healthcare, because it is weak in both public health indicators and infrastructure. In the present paper we attempt to estimate the financial and human resources required to scale up the primary healthcare services in rural Rajasthan. In the next section we briefly review the existing situation in the sector along with NRHM details in the state. In the third section, we discuss our findings from a sample survey of poor households conducted during April-May 2006 in Jalore and Chittorgarh districts of the state. Methodology of sample selection is discussed in Appendix A. In the fourth section, we discuss our findings and observations from a sample survey of health facilities in the two districts. Appendix B provides the questionnaire used and other details pertaining to the survey. The fifth section then attempts to estimate the requirements of financial and human resources to scale up the services. The sixth and final section provides our recommendations and suggestions to improve the quality and reach of the services.

II. Primary Health in Rajasthan – Status Report

The landlocked state of Rajasthan is the largest state in the country with an area of more than 342 thousand square kilometers. About one-third of its area is covered by desert and Aravalli range of hills and hillocks run across the state making it a part of both the arid zone and a tribal belt. Population density is very low in Rajasthan although the population growth in the state between 1991 and 2001 is as high as 28.33%. Economically, Rajasthan is one of the low income states in the country. Water in general and drinking water in particular is extremely scarce. Since habitations in rural areas are small and distant in the desert and the tribal zones, several of them do not have a permanent and safe

source of drinking water. Ground water in the same areas has excess fluoride exposing the population to high risks of osto-fluorosis and related diseases. Similarly, the habitations in the desert and similar areas face the problems of blindness, dehydration, fever, etc. The state and the rural areas in the state have a very low female literacy and relatively high fertility rates. As a result of all these factors, infant and maternal morality rates are very high.

Rajasthan is organized in 32 districts. A district is made up of 5 to 12 *talukas/ tehseel*. The smallest administrative and democratic unit is *gram panchayat* (or village government) covering an area of about 8 sq. km. and a population ranging from 2000 to 5000. It may include only one village or a group of villages depending on the area and population. In a low density (165/sq.km.) state like Rajasthan, most of the *gram-panchayats* include several small villages. Efficient public provision of healthcare in each village under such circumstances becomes next to impossible. The concerns about the health facilities getting monitored by *panchayats* for efficient delivery of services would again not be sufficient to ensure healthcare delivery at the doorstep of residents.

Given such physical constraints, however, there exists a huge network of public healthcare facilities in rural Rajasthan. As of September, 2005, there are 326 Community Health Centers (CHCs), 1713 Primary Health Centers (PHCs), and 10512 Sub-Centers (SCs) with aggregate bed capacity of 38.7 thousand. Population per doctor is as high as 9226 and per bed is 1461. About 78% of CHCs and 84% of PHCs are in government buildings, whereas most of the remaining ones are functioning in the rent free *panchayat* or voluntary society's buildings. *Table 1* provides some important coverage ratios of rural health facilities in Rajasthan as on September 2005.

Table 1: Coverage Ratios of Health Facilities in Rural Rajasthan, September 2005.				
Sr. No	**Ratio**	**Sub-Centre**	**PHC**	**CHC**
1	Average rural area (sq.km.)	32.0	196.6	1033.2
2	Average radial distance (kms.)	3.2	7.9	18.1
3	Average rural population covered	4,118	25,273	132,800
4	Average number of villages covered	4	24	127
Source: Ministry of Health & Family Welfare, Government of India.				

From the table, we can see that in rural Rajasthan, there are about 6 sub-centers per PHC, and 5 PHCs per CHC. As per the government's current norms, the existing number of sub-centers is in excess of the required SCs; and existing PHCs are in excess of required number of PHCs. There is, however, a shortfall of about 16% or 62 CHCs in the rural areas of Rajasthan. It is not the physical existence of a facility, but the effective delivery of the services that is essential to determine the health outcome. When we consider the quality of the service these health facilities would provide to the rural population, the actual shortfall of the service and the magnitude of the effort required would become clear. In order to consider the quality aspects, we may first consider the availability of physical infrastructure in these health facilities. *Table 2* provide the relevant data for SCs, PHCs and CHCs.

Table 2: Infrastructure Availability in SCs, PHCs and CHCs in Rajasthan, 2003-04				
Sr. No.	**Facility**	**% Having the Facility**		
		SCs	**PHCs**	**CHCs**
1	Own building	65%	72%	85%
2	Water supply	17%	38%	87%
3	Electricity	24%	80%	98%
4	Functional generator	-	-	86%
5	Toilet	70%	71%	100%
6	Labor room	-	66%	52%
7	Telephone	-	7%	49%
8	Functional vehicle	-	9%	67%
9	Operation theatre	-	-	89%
10	OT for Gynaec	-	-	27%
11	OPD Gynaec	-	-	47%
12	OPD RTI/STI	-	-	37%
13	Linkage with Blood Bank	-	-	15%
Source: MHFW, GoI				

In addition to the data in *Table 2*, we find that only in 34% of the Sub-Centers, ANM (Auxiliary Nurse Midwife) is staying; and there are about 4% of the Primary Health Centers where even one bed is not provided. It can be seen from *Table 2* that even the essential amenity like water supply is not available in more than 80% of SCs and more than 60% of PHCs in the state. More than 10% of CHCs also experience a lack of water supply. It is difficult if not impossible to imagine existence of an institutional health facility without water supply. Situation is also far from satisfactory in terms of other facilities like electricity, toilets, separate labor rooms, telephone, functional vehicle and working generator in these health institutions in rural Rajasthan. OT and OPD facilities are also not available in a large number of Community Health Centers in the State. Thus, the quality of healthcare service provided by such public health institutions would be necessarily poor and unsatisfactory. When we combine such physical infrastructural status of the public health institutions with the situation prevailing on the human resource front, we can see the poor state of the healthcare in the state. *Table 3* provides the required data.

Table 3: Availability of Medical Personnel in Health Facilities in Rajasthan, September 2004

Sr. No.	Personnel	% of Health Facility with at least one person		
		SCs	PHCs	CHCs
1	Multipurpose Worker/ANM	98%	88%	94%
2	Medical Officers (Male)	-	69%	94%
3	Medical Officers (Female)	-	11%	86%
4	Health Assistants (Nurse)	-	87%	84%
5	Laboratory Technician	-	78%	95%
6	Obstetrician & Gynecologist	-	-	62%
7	Pediatricians	-	-	63%
8	RTI/SSTI Specialist	-	-	78%
9	Pathologist	-	-	50%
10	Anesthesiologist	-	-	43%

Source: Ministry of Health & Family Welfare, Government of India.

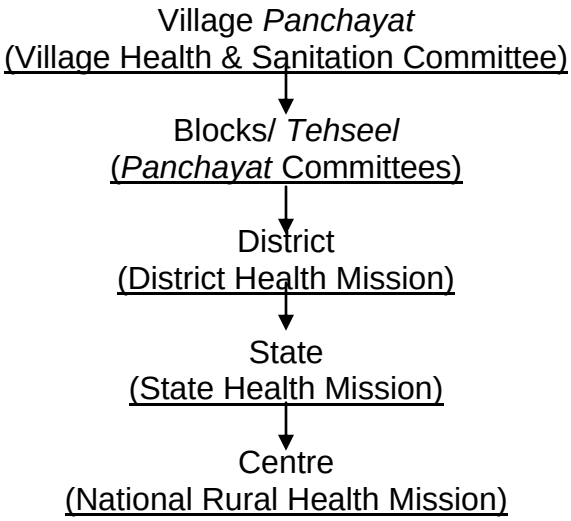
It is clear from *Table 3* and *Table 2* that the current status of healthcare facilities in the rural Rajasthan is such that adequate performance on health outcomes cannot be expected. Physical availability of service without provision of the most essential components like water, electricity, toilets and health

personnel is extremely disastrous for the public perception of quality of service and the faith people would put. It takes years of hard work and painstaking efforts to build reputation and win people's confidence, but takes very little time to destroy and damage public acceptance. Sometimes it is better not to provide any service rather than making available half-hearted, improper and lackluster service to population.

Population in rural areas of Rajasthan is also exposed to severe physical constraints and hardships. According to the National Sample Survey (NSS) 58th Round (July-December 2002), only 56% of the rural household in Rajasthan have an access to safe drinking water and 14% households do not have any permanent source for drinking water. Similarly, only 58% of the households have bathing facility within their premises. The rest have to travel an average distance of about 0.3 kilometer to bathe. For latrine also, only 10% of the households in rural Rajasthan have their own facility in the premise. Only 2% households use shared latrines, and the remaining 88% households without latrine have to travel on an average about 0.6 kilometer. With such a state of drinking water and sanitation in the rural areas, it would not be surprising if there is a high morbidity rate in the state.

In order to address some of the health related issues in the country, the National Rural Health Mission (NRHM) is launched by the national government in 2004-05. "The NRHM seeks to provide effective healthcare to the rural population, especially the disadvantaged groups including women and children, by improving access, enabling community ownership and demand for services, strengthening public health systems for efficient service delivery, enhancing equity and accountability and promoting decentralization." (FAQs on NRHM website). It has selected 18 states from the country for special focus and Rajasthan is one of them. NRHM is basically integrating the ongoing vertical programs of the health ministry and the horizontal coordination with other sub-sectors like Sanitation, Nutrition and Safe Drinking Water. In order to address the problem of manpower, it proposes to bring to the mainstream the *Ayurvedic, Yoga, Unani, Siddha* and Homeopathic (AYUSH) systems of health.

The prime focus of the NRHM is to decentralize and empower the local governments to manage, control, and be accountable for public health services at different levels. True to the effective decentralization, its main approach is bottom-up. Following chart summarizes the vertical structure of the mission:



The main emphasis of NRHM is to appoint Accredited Social Health Activist (ASHA) at the village level to facilitate access, strengthen service delivery, mainstreaming AYUSH, and promote healthy behavior of people. ASHA would be primarily a woman resident of the village in the age group of 25-45 years with a formal education upto eighth class. Although the general norm proposed is 1 ASHA per 1000 population, for Rajasthan, it can be relaxed. Moreover, ASHA will not be a paid employee, but be eligible for compensation for services provided under various schemes of central and state governments. She would be selected and be accountable to the Village Health & Sanitation Committee of the respective Village *Panchayats*. To be realistic NRHM proposes to follow Indian Public Health Standards (IPHS) to begin with so that in the long run the international standards can be achieved.

During the year 2005-06, several key activities were proposed to be undertaken under NRHM. Some of them are:

1. Upgrading 2 CHCs in every district to the level of IPHS with 2 rooms for AYUSH practitioners.
2. Organizing mobile medical services at district level.

3. Organizing health camp at *Angan Wadi* worker level on a fixed day every month for women and child healthcare.
4. Provision of household toilets.
5. Providing escort and referral services by ASHA and subsidized hospital services for BPL women.
6. Establishing systems to increase accountability to PRIs.
7. Selection, training and provision of drug kits to ASHA.
8. Organize health *melas* to inform and educate public about NRHM.
9. Provision of generic drugs including AYUSH at village SC/PHC/CHC.

In order to meet these commitments, the central budget outlay on health has increased by 30% in 2005-06 over the previous year. If the state commits under a formal agreement to increase healthcare expenditure by a minimum of 10% every year, the Centre would provide the following to the State:

- Rs.2 million / CHC for 2 CHCs in every district to meet IPHS.
- After forming *Rogi Kalyan Samiti* (Patient Welfare Committee), maintenance grant of Rs.0.1 million/ CHC.
- Untied fund of Rs.10 thousand/ Sub-centre.
- Supply of additional drugs including AYUSH at SC/PHC/CHC.
- Mobile medical unit for each district.
- Funds for training of ASHAs.

In order to get an idea about ground reality and the extent to which all these mission activities reach the real target group, *viz.* the economically weaker sections of the society, we had to conduct a quick sample survey of households and health facilities in rural Rajasthan. *Appendices A* and *B* provide the methodological details and the next two sections summarize our major findings.

III. Findings of Household Survey, 2006

The basic purpose of conducting a sample survey of the poor households in rural areas of the state was to get some feel about: (i) the household expenditure on primary health by the poor; (ii) the extent of morbidity in the poor households; (iii)

sanitation and drinking water availability among the poor households; and (iv) their use and perception about the public health facilities and its quality. Based on the special geographic features of Rajasthan, it was decided to select two districts – Jalore in the desert area, and Chittorgarh in the tribal belt. In the purposive sample survey of households, we surveyed 247 households in Jalore and 253 households in Chittorgarh. About 70% households in Jalore and 81% in Chittorgarh owned land, and 81% in Jalore and 78% in Chittorgarh owned cattle. Cattle ownership is, thus, widely prevalent in rural Rajasthan irrespective of the area – tribal or desert. Average number of cattle per poor household is 8 in Jalore and 5 in Chittorgarh. Considering the income levels, looking after these cattle is an important activity for these households. Several of these families regularly migrate out seasonally in search of food, fodder and employment. There is a serious problem of their healthcare and education when they are migrating out. Very often they migrate out to neighboring state of Gujarat. Solution to this problem in the short run would need interstate cooperation.

Another relevant feature of the weaker section households in rural Rajasthan is that only 18% of them have access to electricity in their residence. Even such an access is also limited to 3 days in week for about 6 hours / day in Chittorgarh. Availability of electricity certainly has a positive impact on the health outcome in the population.

The poor household have considerably lower literacy rate – 36% in Jalore and 38% in Chittorgarh. In both the districts, about 30% of the households from our sample obtained drinking water from unsafe sources like a pond or a tank, and hardly 2% to 3% had access to tap water in their premises. Still, however, only 68% to 70% of the households used to filter water before drinking; and none of the families boiled the water. In spite of the NRHM key activities during the year 2005-06 including provision of household toilets, none of the households in our sample reported toilet facility. The question of any drainage or sewerage facility available to any of these households simply does not arise. They did not have any regular waste removal facility and nobody from the households would do such a thing voluntarily. Thus, while the poor households in rural Rajasthan

do suffer from complete lack of health and sanitation related infrastructural facilities, their behavior and habits also contribute to their health status.

There is a substantial proportion of illness and morbidity prevailing among the weaker section in rural Rajasthan. Almost 42% in Jalore and 43% in Chittorgarh from the poor fell sick during the last year, and the incidence of hospitalization is also alarmingly high at 11% in Jalore but only 5% in Chittorgarh. The proportion of gainfully employed population is only 33% in Jalore families, but almost 50% in Chittorgarh families. Thus, there is a *prima facie* evidence of bad health status of the poor adversely affecting their participation in the economic activities and thereby determining their economic status. It is for such reasons that the poor take their illness very seriously and are willing to do anything including relatively high expenditures on getting cured. Very often they end up incurring huge debt and get bonded for years in the process. In our sample, we found almost 7% families spending more on healthcare than their annual income.

In Jalore, the poor families spent on an average 36% of their income on healthcare, whereas in Chittorgarh, it was only 10%. There is, however, considerable variation across families in this regard. On median basis, the poor in Jalore spent about 15% of their income on health; and about 5% in Chittorgarh. Such a high proportion of expenditure on health by families at a very low level of income – per capita income of Rs.2,764 p.a. in Jalore and Rs.3,253 p.a. in Chittorgarh – suggests that the poor families are desperate and value the healthcare services very highly[2]. Although the public healthcare services are free, their quality, physical availability and patient care aspects are so bad that the desperate poor families prefer to go to the private providers even at relatively unaffordable costs. In our sample households, only 32% patients in Jalore and 39% in Chittorgarh went to the public health facility last year. Thus, majority of the poor patients in both the districts depended on the private healthcare facilities to get cured.

[2] This finding is revealing particularly in the context of the ongoing controversy about the healthcare being treated as a "luxury" based on aggregative estimates of income/ expenditure elasticity of demand. For good summary of the debate see, Getzen(2000).

We had also obtained the patients' perception and evaluation of the healthcare services they received on a scale of 0 to 5 from very poor (0) to excellent (5). The public healthcare services were rated at an average of 2.9 out of 5 by the users in both the districts individually. The private healthcare services were rated at an average of 3.4 out of 5 by users in Jalore and at 3.3 in Chittorgarh. Thus, although the poor patients, who used the public services, consider them as close to "good", their rating is lower than the rating of private services given by the patients using those services. There were 57 households in Jalore and 32 households in Chittorgarh who had tried both the public and private healthcare facilities. The rating of the services was 2.6 for public and 3.3 for private healthcare facilities. The difference in the ratings is, thus, reflective of quality difference. Improvement of quality and regularity of health personnel in the public facilities would have direct impact on not only the health status of the poor but also save their extremely scarce and valuable financial resources thereby impacting positively their economic status.

Among the poor families in Jalore district, almost 96% of the deliveries take place at home and only 4% deliveries are in hospitals with 2% in public hospitals and 2% in private hospitals. In Chittorgarh district, 92% deliveries take place at home, but out of the remaining 8% deliveries, 5.5.% are in public hospitals and only 2.5% are in private hospitals. Our survey revealed a shocking state of the public health services in the two districts particularly for the antenatal care of pregnant women from the poor households. From the poor families only 3% in Jalore and 9% in Chittorgarh received such care. We find the incidence of still birth (or children dying during the delivery) among the poor families to be 5.3% in Jalore and 3.3% in Chittorgarh. However, vaccination of children among the poor households is far more widespread. In Jalore 95% and in Chittorgarh 98% of the poor families got their children vaccinated. This could be the result of a special drive under the polio eradication program.

IV. Findings of Sample Survey of Health Facilities

In order to better understand of the status of the primary healthcare in the rural Rajasthan, its quality, infrastructure, manpower availability and charges to patients, we conducted a survey of some health facilities (HF) both in the public and private sectors in and around the selected villages in the two districts – Jalore and Chittorgarh. Although we had a formal questionnaire (given in *Appendix B*), we elicited information by in-depth discussion with staff and observation during our visits. In all we covered 30 HFs in Jalore and 31 HFs in Chittorgarh. We also covered one Training Collage for Auxiliary Nurse Midwife (ANM) in Jalore. The infrastructure, manpower and charges in the sample are summarized in *Table 4*.

Comparing *Table 4* with *Tables 2* and *3* above makes it clear that our selected sample HFs are fairly representative of the average HFs in the state. In fact, in some respects, they are better. It can be seen from *Table 4* that most of HFs have their own building and have sufficient rooms, though in both the

Table 4: Infrastructure, Manpower and Charges in Government and Private Health Facilities in Chittorgarh & Jalore

Details	Jalore				Chittorgarh			
	CHC	PHC	SC	Private	CHC	PHC	SC	Private
No. of Health Facilities (HF)	3	7	12	8	4	9	14	4
No. of HF with own building	3	6	7	6	4	8	12	4
No. of HF without Off. building	0	1	3	0	0	1	2	0
Average No. of Rooms	23	10	3	6	13	8	3	12
No. of HF with electricity connection	3	5	2	8	4	9	6	4
No. of HF with water supply	3	4	2	8	4	7	2	4
No. of HF with Vehicles	2	0	-	1	4	0	-	2
No. of HF with residence for doctors	3	4	-	2	4	6	-	3
No. of HF with residence for Nurses	3	2	4	-	4	3	7	-
No. of HF with General Physicians	3	5	-	6	3	7	-	2
Pediatrician	1	-	-	1	0	-	-	1
Gynecologist	0	-	-	-	0	-	-	1
Surgeons	3	-	-	1	2	-	-	2
Other Specialist	1	-	-	-	0	-	-	-
No. of HF with ANMs/ Nurses	3	6	12	6	4	9	14	4
Attendants	3	5	-	3	3	4	-	4
Lab Technicians	3	3	-	4	4	8	-	4
Others (Fourth class)	2	3	-	-	3	7	-	-
No. of HF where doctor is available in the night	3	3	-	6	2	4	-	3
No. of HF where nurse/ANM is available in the night	3	2	10	5	1	4	11	4
No. of HF where attendant is available in the night	3	3	-	-	0	2	-	-
No. of HF with Medical Stock	3	7	12	6	4	9	14	3
No. of HF with beds	3	6	-	6	4	8	-	4
Avg. No. of Beds in HF	44	6	-	13	25	4	-	25
Avg. Bed utilization rate (%)	67	42	-	52	20	30	-	45
No. of Health Facilities where consulting fee is taken	-	-	-	7	-	-	-	4
No. of Health Facilities where bed charge is taken	-	-	-	4	-	-	-	4
Amount of consulting fees if any (Rs.)	#	#	-	20-50	#	#	-	30-70
Amount of bed charges if any (Rs.)*	-	-	-	50-100	-	-	-	50-100
No. of HF where delivery cases are handled	3	5	-	4	4	3	-	4
Delivery Charges (Normal) (Rs.)	-	-	-	1000	-	-	-	1500
Delivery Charges (Caesarean) (Rs.)	-	-	-	4000	-	-	-	6000

*Note : ' * ' : Charges for common ward; ' # ' : Token amount of Re 1 Charged for admission of patients.*

Source: Our Sample Survey, 2006.

districts, we found some PHCs and SCs not having any official building. However, it was in the case of electric connections and water supply that we found the public facilities seriously lacking at the SC and even the PHC levels. Private HFs were not found lacking on these crucial counts. It was surprising that in Jalore which is a desert area, and Chittorgarh which is a hilly tribal area, most of the HFs did not have their own vehicles.

There is a serious shortage of both general physicians and specialists in the HFs. Without this critical resource, the quality of service cannot improve satisfactorily. However, given the constraint of the overall dearth of doctors, for the HF, it is crucial if either a doctor or a nurse is available at night to attend emergency cases. In this respect again, the private HFs provide significantly better service. In terms of size, the private HFs in rural areas on an average operate at a scale higher than PHC and lower than a CHC, but have a better bed utilization rate than the public HFs. In fact, the private HFs charge the patients relatively substantial fees for consultations, bed utilization and deliveries. Such charges are practically non-existent in the public HFs. Lower bed utilization rates in PHCs than in the private HFs in spite of such high fees do indicate that people prefer private HFs because they feel they get better value for their money. Our findings from the household survey of the poor families in the previous section corroborate this.

As per our discussions with the staff of the HFs, the incidence of malnourished children in the age-group of 0-5 years is on an average only 5.3% in Jalore and 4.1% in Chittorgarh. However, on an average, children in both the districts suffer from 2 episodes of LRI/ARI and Diarrhea per year. Moreover, the children in Jalore suffer from about 3 episodes/ year of fever and only one episode/ year of the eye/ear infection, whereas children in Chittorgarh suffer both these types of disease with on an average 2 episodes/ year. Thus, the health status of children in both these districts is far from satisfactory and hardly supports the estimate of malnourishment prevailing among them. Our household visits also made us feel the need for strengthening the supplementary food and nutrition programs at *Angan Wadi* in the area.

According to the staff of HFs in public sector, the coverage of antenatal care (ANC) of pregnant mothers in the area is as high as 93 to 94 per cent. Although the perception about such a coverage falls marginally in Jalore and increases marginally in Chittorgarh at higher levels of HFs. This perception is, however, not corroborated in our survey of the poor families. Thus, the ANC coverage is likely to be very high – nearly perfect – among better off sections and significantly less among the poorer sections of the society. Similarly, in the perception of the HF staff, nearly 90% deliveries in Jalore and about 80% deliveries in Chittorgarh are performed by skilled attendants including a doctor, a nurse or a trained *dai*. On the other hand, our survey of poor households revealed that a large proportion of deliveries take place at home in both the districts. Given the distances and complete lack of vehicles and poor road connectivity, it is difficult to believe that such a high proportion of deliveries in this area would be performed by skilled attendants. The only possibility is if the deliveries are handled by the private practitioners.

We found that at every level of the public HF, there existed at least one and sometimes 3 to 4 private HFs in the surrounding area. Availability of private practitioners increased at higher levels of public HFs. Most of these private practitioners are unregistered. Some of them were ex-compounders in public or private HFs. However, their availability improves the healthcare service in the area.

In the perception of the public HF staff, the problem of healthcare services in the area is both inadequate awareness among villagers about the available medical facilities in the area and the quality of the existing facilities. Regarding the awareness of villagers, their rating is between good and fair, and about the quality of the services their rating varies between poor to very good with average between fair and good.

Moreover, from our personal visits' discussions and observations in different health facilities in the two districts of Rajasthan, the following points are worth noting:

About Community Health Centers (CHC – No. Surveyed: 7)

- There was not a single CHC with adequate number of doctors, specialists and paramedical staff. In fact, in one CHC there was only one functional doctor!
- Resources seem to be wasted due to lack of trained and skilled personnel, e.g., Government had built an operation theatre in one CHC in Jalore, but could not get a surgeon posted for years! Similarly, an X-ray machine remained unused for 3 years without a radiographer!
- Although NRHM lays emphasis on mainstreaming of AYUSH practitioners in CHCs, we did not find any such move.
- All CHCs visited by us suffered from serious shortages of medicines, medical supplies like bandages, disposable syringe, glucose saline, etc., and medical equipments including disposable hand-gloves.
- The doctors at CHCs are almost forced to prescribe medicines to patients since relevant medicines are invariably missing in the hospital stock. Even the poor patients who are otherwise entitled to free medicines from the hospitals are compelled to buy medicines from the medical stores outside who invariably have those medicines in ready supply. This raises questions about periodic supervision and checking of both the patients and the prescriptions by qualified professionals. This has not been happening in the rural areas with desired frequency and manner. There are serious questions about the accountability of medical staff at the lower level of HFs.
- All of the CHCs were important Centers for the family planning operations in the respective *tehseel*block. However, hardly any CHC had an anesthetist. The operations were, therefore, performed without an anesthetist at great risk for the patient.

About Primary Health Centers (PHC – No. Surveyed: 20)

- About 15% of the PHCs did not have a doctor and were run only by a male nurse. This happened in remote and difficult locations.

- In most of the PHCs, doctors have to prescribe medicines to patients since PHCs have insufficient supply of specific medicines. This is a management problem of inventories of different medicines. However, the patients are put to tremendous inconvenience because unlike CHCs, PHCs are sometimes in remote areas where no medical stores are available nearby.
- Since most of the PHCs suffer from inadequate infrastructure like electricity, water and toilets, medical staffs at PHCs refuse and discourage patients for long treatment or overnight stay. Thus, for practical purposes the healthcare service is not available to the population although physical structure and even human resources are available!
- Several PHCs do not have well-maintained clean labor rooms for safe delivery and the problem of water availability becomes a genuine constraint. As a result, the paramedical staffs in such PHCs discourage deliveries at PHCs for the wellbeing of mothers and babies.
- In some PHCs, although the staff quarters are made, they are unusable. Again the problem of effective supervision and monitoring becomes important. Control by *Panchayats* in villages can help solve such problems.
- Locations of PHCs pose a genuine problem. Most of the PHCs are located outside the main habitation area. In emergency, therefore, people prefer to go to local private practitioners although they may not be registered.
- Locations of some PHCs are such that one tends to question the logic. In some cases, the distance between a PHC and a CHC is hardly 5 to 10 km. People, therefore, visit the CHC and not the PHC. On the other hand, in the same block, there are villages as far as 60 to 80 kms from the nearest PHC. Appropriate choice of location of PHCs is an integral aspect of public provision of primary healthcare and should be considered important in the health plan of the district.

About Sub-Centers (SCs – No. Surveyed: 27)

- Most of the ANMs at SCs were given the duty of many villages. Habitations in a desert or tribal areas are likely to be small and scattered. As a result, ANMs were not able to visit the villages regularly and her basic service provision like vaccination, ANC and PNC would suffer.
- Sometimes, due to scarcity of ANMs one ANM is given the charge of more than one SC for quite some time. During such periods, the healthcare services in all the villages under the ANM would suffer.

About Private Health Facility (No. Surveyed: 13)

- Most of registered private practitioners are located in the block and the district headquarters, while most of the private practitioners at the village level are unregistered/untrained formally.
- Some of these unregistered private practitioners provide the service at villagers' doorsteps. They enjoy considerable trust of people and are usually the first point of approach for them. Largely on their suggestions and recommendation, villagers go to other HFs.
- In several villages, these private practitioners handle even the delivery cases.
- The fees and charges of these private practitioners are again not very heavy. From our household survey, we found that the average expenditure per patient on health care in the private sector was 1.5 times the one in the public sector in both the districts.

About the ANM Training College (No. Surveyed: 1)

- This college also suffers from unfilled or vacant posts of qualified medical personnel like nursing tutor (1 against 4 sanctioned) and public health nurse (2 against 3 sanctioned). Against this, all the class IV posts are fully filled.
- The college runs an 18 months course for ANM, and is conducted generally in the CHC campus.

- Selected students get a monthly stipend of Rs.500 to meet their expenditure on food, clothing, stationery, etc. Their stay in the hostel and training are provided free of cost. Total cost of training an ANM for 18 months works out to Rs.37,000.

V. Estimating Required Scaling Up Efforts

Public healthcare system existing in rural areas of Rajasthan is indeed very elaborate with clear norms laid down for geographical hierarchies. Based on our discussion and findings above, we have modified these norms to suit the requirements in rural Rajasthan. We have modified the norms to the minimum extent required. These norms in terms of population, staff and infrastructure are summarized in *Table 5.*

Table 5 presents the ideal primary healthcare system required under the prevailing conditions in rural Rajasthan. Once such a system is in place and people get used to it, it can further improve. This system is different marginally from the existing norms of the department to the extent envisaged in the NRHM. If such a system is effectively and sincerely put in the place, the primary healthcare services in rural Rajasthan would certainly be in the position to deliver results. The exact performance of the health system would, however, depend upon the extent to which facilitating infrastructural facilities are put in place, e.g., 24 hrs electricity supply, drinking water supply, toilets, bathing facilities, proper waste disposal system, etc. Although several of these facilities fall under the purview of the Ministry of Health and Family Welfare, not everything falls under its purview, e.g. electricity supply to households, public lighting and to the HFs.

Table 5: Ideal Public Healthcare System for Rural Rajasthan – Norms & Infrastructure					
Sr. No.	**Geographical Unit**	**Health Facility**	**Population Norm**	**Staff & Infrastructure**	**Functions**
1	Village	Health Centre	1000 in Plain; 600 in Hills and Tribal & Desert Area	1 *Angan Wadi* Worker (AWW) + 1 Female (ASHA)	Maternal & Child Health, Nutrition and Immunization.
2	Village *Panchayat*	Sub-Centre	5000 in Plain; 3000 in Hills and Tribal & Desert Area	1 Male (MPHW); 1 Female (ANM); 1 Male (ANM) Telephone + Toilet + Labor Room.	Material & Child Health, Family Welfare, Nutrition, Immunization, Diarrhea and Communicable disease control.
3	Block	PHC	30,000 in Plain; 20,000 in Hills and Tribal & Desert Area.	1 BMO 1 Child Specialist 1 LHV + 12 Medical & PMS 4 to 6 beds + Labor Room + Vehicle and Residence for Medical Staff + Telephone + Toilet.	Referral Unit for 6 Sub-centers, Curative, Preventive, Promotive & Family Welfare Services.
4	*Tehseel*	CHC	1,20,000 in Plain 80,000 in Hills and Tribal & Desert Area	1 BMS + 6 Specialists (Surgeon, Gynaec, Pediatric, Anesthetic) + 2 AYUSH + 23 PMS and other staff + 30 beds + OT + X-ray + Blood storage + Laboratory + Vehicles (2) & residence for Medical Staff + Telephone.	Referral for 4 PHCs + Emergency Obstetric care + Specialist Consultation.
Source: Department of Health & Family Welfare: Annual Report, 2005-06 and findings of our field Survey, 2006.					

Table 6: Estimates of Required Health Facilities & Staff in Rural Rajasthan, 2007-08

Facility	Required Number (R)	Existing Number (P)	Shortfall (R-P)	Unit Capital Cost (Rs.'000)	Unit Recurring Cost (Rs.'000)
Healthcare	60,770	35,627	25,143	-	5
SC	12,154	10,512	1,642	450	36
PHC	1,945	1,713	232	3,000	240
CHC	486	326	160	15,000	1,200
Manpower					
Physicians	2,431	1,956	475	-	160
Surgeons	486	254	232	-	240
Pediatricians	486	205	281	-	240
Obstetricians & Gynecologists	486	202	284	-	240
Anesthetists	486	140	346	-	240
AYUSH Doctors	2,917	-	2,917	-	120
Lab Technicians	2,431	2,065	366	37	96
Radiographer	486	269	217	37	96
MPW/ANM (F)	24,308	11,425	12,883	37	66
HA/LHV (F)	2,431	1,358	1,073	37	84
MPW (M)	12,154	2,528	9,626	37	66
HA (M)	2,917	714	2,203	37	66
Other PMS	130,000	65,000	65,000	-	36

Notes: 1. Cols. 5 & 6 are in Thousand Rupees
2. For HCs, cost of kit and contingency.
3. For SCs, Capital cost includes cost of 1,000 sq. feet building with toilets, labor room, 4' oil paint, tap water, furniture, and platform.
4. Recurring costs for SC, PHC and CHC does not include salaries of medical & PMS and is taken @ 8% of the Capital cost.
5. Capital cost for PMS represents Training cost per person.
6. With appropriate policies, it should be possible to train doctors and specialists without additional direct capital cost to government.

Source: Tables 1 to 5 and our Survey, 2006.

We now attempt to estimate the gap in the primary healthcare services between the required HFs and medical and paramedical staff (PMS) based on the norms given in *Table 5* and the existing situation in the rural areas of Rajasthan. *Table 6* provides the estimates. In order to estimate the required HFs, population projection for the mid-year 2007-08 is made by extrapolating the 2001 census figures of rural Rajasthan population assuming an annual growth of 1.8% p.a. Rural population of Rajasthan in mid-2007-08 is 48,615,680. As per the third memorandum submitted by the Government of Rajasthan (2004) to the Twelfth Finance Commission, about 60% of the total area and 40% of the population of

the state is in the hilly and desert areas. It implies that about 22.6 million people lived in the hilly and desert areas (HDA) in the state in 2001. If all this population was in rural areas, it would be 52% of the rural population. However, considering tentativeness and approximations involved, we can safely take 50% of the rural population in Rajasthan as living in the HDA. In mid-2007-08, the estimated rural population living in HDA would be 24.31 million.

Based on the unit costs given in *Table 6* along with the estimates of the shortfall in HFs and medical staff, we can generate the required financial resources for scaling up the rural healthcare services in rural Rajasthan. Moreover, we may have to consider upgrading the existing HFs by providing the lacing facilities like own building, labor rooms, toilets, telephones, electric connection, water tap connection, repairs, paints, etc. *Table 2* above provides the percentage of existing HFs having various infrastructural facilities. There are 3,679 SCs, 480 PHCs, and 49 CHCs which do not have their own building. We should provide for the capital cost as given in *Table 6* above. We can also see that 6,833 SCs, 103 PHCs and 108 CHCs additionally do not have a proper labor room. We can provide Rs.125,000 each for constructing either an additional room or converting one of the existing room with toilet, electric and water connections, oil painting it, constructing a platform and providing appropriate furniture. Similarly, we should provide for a vehicle to all 1945 PHCs and an additional vehicle to 218 CHC who own a vehicle. The remaining 268 (=486 – 218) CHCs should be provided 2 vehicles. For one vehicle, we can provide Rs.600,000. Correspondingly, the recurring costs would also be provided @8% of the capital costs. With all this included our cost estimation for scaling up primary healthcare services in rural Rajasthan is presented in *Table 7*.

Table 7 shows that Rajasthan needs to spend additional Rs.17 billion to scale up the rural primary healthcare services. On per capita basis, it comes to Rs.263 which is almost the same as in Madhya Pradesh (Bajpai, Dholakia & Sachs, 2005). However, the major difference is that in M.P., the recurring cost was as high as Rs.140 per capita and the capital cost was only Rs.122 per capita, whereas in Rajasthan, the capital cost is higher at Rs.173 per capita and

the recurring cost is lower at Rs.90 only. This shows that Rajasthan lacks in terms of spread and basic infrastructure like building, labor rooms and vehicles much more than M.P. This could be on account of its difficult terrain-desert and hills – which only partly gets recognized and compensated under the existing norms. Desert, for instance, does not get the same treatment as hilly and tribal area. We have realized during our field visits in April-May, 2006 how crucial it is to modify the standard norms applicable to plains when dealing with desert area.

Table 7: Additional Expenditure Required in Rajasthan for Scaling Up Primary Health Services in Rural Areas, 2007-08

Sr. No.	Item	Details	Unit Cost (Rs. Million)	Cost (Rs. Million)
1	Building	5,321 SCs	0.450	2,394
		712 PHCs	3.0	2,136
		209 CHCs	15.0	3,135
2	Labor Room	6,833 SCs	0.125	854
		103 PHCs	0.125	13
		108 CHCs	0.125	14
3	Vehicles	2,699 for HFs	0.6	976
4	Training of PMS	26,368	0.037	976
	Total Capital Cost	**-**	**-**	**11,141**
5	Recurring Cost per annum @ 8% of Capital Cost for SC,PHC & CHC	-	-	813
6	Recurring Cost of Village Health Centre	25,143	0.005	126
7	Salaries of Doctors	475 GPs	0.16	76
		1,143 Specialists	0.24	274
		2,917 AYUSH Doctors	0.12	350
8	Salaries of PMS	583 Technicians	0.096	56
		24,712 Nurses	0.066	1631
		1,073 LHV	0.084	90
		65,000 Lower level staff	0.036	2,340
	Total Recurring Cost	-	-	**5,756**
	Total Cost	-	-	**16,897**
	Per Capita Basis	Estimated Population of Rajasthan for (October) 2007-08 is 64,269,484		
	- Capital Cost	Per Capita		**Rs.173**
	- Recurring Cost	Per Capita		**Rs.90**
	Total Cost	Per Capita		**Rs.263**

Source: Table 6 and Text.

We have, therefore, suggested to include desert area among the exceptional areas like hilly and tribal belt. Our resource need estimates are based on such a special treatment of the desert area. As a result, the existing network of HFs in rural Rajasthan falls significantly short of the requirement which, in turn, leads to higher capital costs.

Secondly, since trained nursing staff is in real scarce supply in the country, leave aside the state, we have provided for training costs for more than 26 thousand nurses. It is both resource intensive and time consuming. Currently, it takes about 18 months of training. If the syllabus and pedagogy can be effectively modified, the period of training can be reduced by almost the half. It can also lead to a cost saving of about Rs.0.5 billion, and save the time to achieve better health outcomes. Simultaneously, there is a need to pursue appropriate liberal policy of medical education to produce about 4,500 additional doctors including about 1,600 allopathic and 2,900 AYUSH practitioners. This will necessarily take time.

It is important to note that the Central Government has accorded high priority to rural primary healthcare and has also selected Rajasthan as one of the eighteen states for a focused attention and help. NRHM is launched in 2004-05 and a substantial increase in the allocation of Central Budget is made in 2005-06. Rajasthan has allocated Rs.10.573 billion to medical & Public Health, Rs.1.987 billion to Family Welfare and Rs.7.9773 to Water Supply & Sanitation on revenue account of its budget in 2005-06. Similarly, it has allocated Rs.0.763 billion and Rs.11.857 billion on capital account respectively to Medical & Public Health and Water & Sanitation. On per capita basis, this works out to Rs.183, Rs.32 and Rs.321 of combined revenue & capital expenditure on Medical & Public Health, Family Welfare and Water & Sanitation respectively. If we combine the three types of expenditures, Rajasthan has allocated Rs.536 per capita on the health, water, sanitation sector in 2005-06. On the other hand the combined centre and all states in India allocated only Rs.362 per capita in 2004-05 and even with a significant increase achieved during 2005-06, it would be only around Rs.470. Thus, Rajasthan already allocates higher amount per capita out of its budget.

The increase needed in Rajasthan is almost 49% in the allocation on per capita basis. While it is not impossible, it is certainly a big challenge.

We may point out that the additional resources required to scale up the services need not be entirely contributed and spent only by the state government. Actually, under NRHM some part of the salary, buildings and infrastructural facilities are provided for. Moreover, there is always a scope for public-private partnership in matters like infrastructure, buildings and training. Even in the matters of vehicles, private sector enterprises can be brought in. There are also possibilities of the "salary" of ad hoc staff like ASHA or other PMS getting substituted by the incentives or payments received for the services they provide. This not only helps to reduce the burden on the state government, but also improves accountability, regularity and commitment of the staff thereby improving the effective delivery and quality of service.

VI. Recommendations

The draft Approach Paper of 11th Plan (2006) has spelt out several measures to improve the quality and quantity of rural primary healthcare system and its services. Their strategy is to generate demand for public HFs, provide options to population and increase participation by NGOs and private sector in the healthcare provision. Simultaneously, it rightly does not treat the problem as exclusive to the public health department. An integrated approach involving different departments like sanitation, construction, water supply, education, power, roads, etc. is well recognized. NRHM is a comprehensive effort in this direction. Appointment of ASHA and AYUSH practitioners and full involvement of *Panchayati Raj* Institutions (PRIs) in monitoring and delivering healthcare services to local population are important ingredients of the strategy. In view of this our specific recommendations are as follows:

- There is a need to consider entitlement benefits to the BPL or poorer sections of the society. In the BPL survey conducted in every village, 19 points can be considered an effective cut off to identify the BPL families. These families should be given a Smart Card with clear entitlement to

spend an amount, say Rs.2,000 p.a. on hospitalization, treatment, medicines, consultations, visit fees, etc. Once these cards are distributed to the BPL families, the public HFs can also charge regular (unsubsidized) fees from the patients and get their regular revenue for meeting most of their recurring and capital expenses. This in itself would act as a strong incentive to improve quality of services in public HFs because it would put them in direct competition with private sector. Moreover, the managers or service providers in public HFs would also find themselves directly accountable to the local population and can face a reward / punishment system.

- Introduction of a Smart Card to BPL families can also be conducive to the idea of introducing the social or community based health insurance. It will facilitate generation and investment of the required resources. The Smart Card to a BPL family can also be very helpful when they have to migrate for food, fodder and employment. Moreover, it can also promote some trade and exchange among the people with shortages and surpluses, thereby encouraging better utilization of the state resources.
- There is a need to carry out frequent supervision of lower level HFs in rural areas. There should be enough powers vested in the supervisory / monitoring authority to immediately punish the defaulters like absentee staff, indifference to replenish the stock of medical supplies, rude behavior with patients, lack of cleanliness and hygienic conditions in the HFs, etc.
- There is a need to introduce accreditation system based on annual or more frequent visits to the HFs for their infrastructure, human resources and drug and medical supplies.
- There should be annual awards for best performing HFs in various categories. This should be a handsome cash reward from the state government and the selection should be made on the basis of a weighted feedback from people (beneficiaries), village *Panchayats*, and departmental higher-ups. There can be different types of awards ememphasizing different aspects of the quality of healthcare service like

cleanliness, cure, disease control, customer satisfaction, etc. All such awards should be distributed among the relevant staff in the winning HFs.

- The medical and paramedical staff at the Sub-Centre, PHC and CHC level should be stabilized for longer periods so that they can start living in the village. Under NHRM, District Health Missions should be made responsible to monitor, supervise and if required transfer such staff more as a punishment with adverse remarks in their Confidential Reports (CR).
- There is an urgent need to focus comprehensively on the living conditions of the BPL families. Availability of basic facilities like toilet, bathing, electricity (or light), drinking water, etc., has to be ensured to them without which scaling up of primary healthcare services in the rural areas may not be effective for them on its own. For drinking water, the most effective solution is rainwater harvesting. However, these families do not have even adequate storage facilities!
- Most importantly, we strongly recommend consideration of desert area on par with the hilly and tribal area for applying the norms of setting up HFs in rural areas.

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APPENDIX A
Methodology of Sample Survey of Households in Rajasthan

The basic objective of the present study was to assess the prevailing conditions of primary education and health facilities in terms of quantity and quality in the rural areas of Rajasthan. The adequacy of these services had to be considered from the perspectives of the access of vulnerable sections of the society. A sample survey of households was conducted to get this perspective.

Rajasthan is geographically the largest state in the country because desert covers almost one-third of its area. Parts of the state also fall under the tribal belt in the country. These two specific features needed special attention for provision of basic services like primary education and health, particularly in the rural areas. It was, therefore, decided to survey some households in the two districts – Jalore, a desert area; and Chittorgarh, a tribal area. In order to select a sample of households for a detailed survey to reflect conditions of the vulnerable sections in the rural areas of the district, it was necessary to select poorer households from different parts of the district. We, therefore, selected five *Tehseels* / *Talukas* (or blocks) in each of the two districts, and then, selected one medium sized village from each of those *Tehseels* for survey. Since *Tehseel* is a second level of the administrative unit having about 75 to 200 villages, selecting 5 *Tehseels* in a district would capture geographical diversity in the district.

Selection of villages depend on several criteria, viz., literacy rate, female literacy rate, percentage of scheduled cast / tribe population, worker population ratio, sex-ratio, average size of households, and absolute number of households. The main consideration was that the selected village should reflect the conditions of rural areas of the *Tehseel* as closely as possible on all these counts. All the same, the selected village should not be too large or too small. We could consider all these aspects while selecting the villages because *Census of India, 2001* readily provided data on all these aspects by villages. *Table A-1* provides data on all these variables for the list of selected *Tehseels* and villages in the two districts for the year 2001. It can be seen from the table that the aggregate of the

Table A-1: Characteristics of Selected Villages and Tehseels in Chittorgarh and Jalore Districts, 2001.

Level	Name	No. of HH	Total Population	Total Population - Males	Total Population - Females	ST Population	SC Population	Literate Population	No. of Literate Females	Working Population	Average Members/ HH	% Literate Population	% Literate Female	% ST Population	% SC Population	WPR	Sex Ratio	SC +ST %
Chittorgarh																		
Rural Districts	Chittorgarh	300125	1514255	767555	746700	377641	213085	609259	185075	835750	5.0454	0.4023	0.2479	0.2494	0.1407	0.5519	0.9728	0.3901
Tehseel	Rashmi	15230	75326	37282	38044	4411	15859	27730	7998	43018	4.9459	0.3681	0.2102	0.0586	0.2105	0.5711	1.0204	0.2691
Village	Jagpura	145	662	334	328	32	181	273	81	395	4.5655	0.4124	0.0247	0.0483	0.2734	0.5967	0.0982	0.3218
Tehseel	Rawatbhata	16505	82701	43420	39281	29391	8959	30530	8707	42554	5.0107	0.3692	0.2217	0.3554	0.1083	0.5146	0.9047	0.4637
Village	Gujarori Ki Morvan	127	532	292	240	200	27	108	26	330	4.0189	0.0203	0.1083	0.3759	0.0508	0.6203	0.8219	0.4267
Tehseel	Dungla	18711	89975	44919	45056	12213	13801	35913	10836	51501	4.8087	0.3991	0.2405	0.1357	0.1534	0.5724	1.0003	0.2891
Village	Jal Kheri	114	493	255	238	64	90	226	78	303	4.3246	0.4584	0.3277	0.1298	0.1826	0.6146	0.9333	0.3124
Tehseel	Pratapgarh	37466	201229	102788	98441	113195	15363	84277	27808	113145	5.0371	0.4188	0.2825	0.5625	0.0763	0.5623	0.9577	0.6389
Village	Ratniya Kheri	120	563	287	276	370	00	276	84	346	4.6917	0.4902	0.3043	0.6572	00	0.6146	0.9617	0.6572
Tehseel	Arnod	22074	119837	60826	59011	80577	6006	44092	13776	65647	5.4289	0.3679	0.2334	0.6724	0.0501	0.5478	0.9702	0.7225
Village	Karadia	76	363	181	182	354	9	103	20	206	4.7763	0.2837	0.1099	0.9752	0.0248	0.5675	1.0055	1
Total	**Sample Villages**	**582**	**2613**	**1349**	**1264**	**1020**	**307**	**986**	**289**	**1580**	**4.4897**	**0.3773**	**0.2286**	**0.3904**	**0.1175**	**0.6047**	**0.937**	**0.5078**
Jalore																		
Rural Districts	Jalore	219457	1338946	679637	659309	240252	121310	469691	136120	692597	6.1012	0.3508	0.2065	0.0906	0.1794	0.5173	0.9701	0.27
Tehseel	Ahore	38808	207961	102790	105171	40031	24009	86345	30382	91161	5.3587	0.4152	0.2889	0.1154	0.1925	0.4384	1.0232	0.3079
Village	Tormi	72	401	212	189	71	56	170	68	189	5.5694	0.4239	0.3598	0.1397	0.1771	0.4713	0.8915	0.3167
Tehseel	Jalor	29932	174551	87879	86672	36818	18897	59306	16942	66877	5.8316	0.3398	0.1955	0.1083	0.2109	0.3831	0.9863	0.3192
Village	Kuaber	120	717	356	361	93	120	91	19	280	5.975	0.1269	0.0526	0.1674	0.1297	0.3905	1.014	0.2971
Tehseel	Bhinmal	30917	182266	91159	91107	30233	18947	57438	14963	76255	5.8953	0.3151	0.1642	0.0104	0.1659	0.4184	0.9994	0.2698
Village	Bheempur	230	1375	968	677	269	208	381	70	502	5.9783	0.2771	0.1034	0.1513	0.1956	0.3651	0.9699	0.3469
Tehseel	Bagora	20206	130895	66774	64121	13828	13201	40744	10447	68382	6.0478	0.3113	0.1629	0.1009	0.1056	0.5224	0.9603	0.2065
Village	Jogao	149	1043	519	524	4	77	431	130	561	7	0.4132	0.2481	0.0738	0.0038	0.5379	1.0096	0.0777
Tehseel	Sanchore	52070	342120	176546	165574	61350	15330	121168	33477	239113	6.5704	0.3542	0.2022	0.0448	0.1793	0.6989	0.9379	0.2241
Village	Chandpur	97	593	316	277	141	40	221	65	326	6.1134	0.3727	0.2347	0.0675	0.2378	0.5497	0.8766	0.3052
Total	**Sample Villages**	**668**	**4129**	**2101**	**2028**	**578**	**501**	**1294**	**352**	**1858**	**6.1811**	**0.3134**	**0.1736**	**0.1213**	**0.14**	**0.45**	**0.9653**	**0.2613**

Source: Census of India , 2001 (Rajasthan State)

5 selected villages from each district compares very well with the rural district in terms of all these characteristics.

At the second stage, we had to select households from the weaker section in each village for the survey. It is important, therefore, to identify households belonging to the vulnerable section. Fortunately, government of Rajasthan conducted a detailed census of all households in the rural areas to identify economically weaker section. It was called the BPL survey and was conducted in 2002-03 by respective school teachers at village level. The survey collected information on land and other asset holding, physical living conditions, broad consumption items, literacy, source of livelihood, condition of children, etc. Based on the survey data, points were awarded to each household. The scheme of awarding points to households on the basis of possible responses to the 13 different questions in their survey is presented in *Table A-2*.

Till the time we decided to go on the field to conduct our sample survey of households, the government of Rajasthan had not decided about the aggregate cut-off points for identifying the BPL families. We had, therefore, decided to derive the aggregate cut-off points by considering question-wise points for the purpose as follows: Q.1 – 2 pts.; Q.2 – 2pts.; Q.3 – 1pt.; Q.4 – 3pts.; Q.5 – 1pt.; Q.6 – 0pt.; Q.7 – 1pt.; Q.8 – 1pt.; Q.9 – 2pts.; Q.10 – 0pt.; Q.11 – 1pt.; Q.12 – 0pt.; and Q.13 – 0pt. Summation of al these question-wise points is 14. Any household scoring 14 points or less would be weakest on almost all fronts. We have to provide for households not being the weakest on all fronts, but still are considered in the weaker section when the aggregate picture is considered. Hence we added 5 points to the minimum of 14 points and took 19 points as the cut-off for identifying the weaker section.

Given the objective of our sample survey, we chose a purposive sample only from the weaker section of the rural society in the two districts in Rajasthan. It was decided to survey about 250 households from each district[3]. In Jalore

[3] The ideal sample size is given by $S = (z^2 \cdot p \cdot q / \alpha^2)$ where z and α are respectively the standard normal variate at the required confidence level and the significance level; and p and q are probabilities of required variate. Considering z = 1.96, α = 0.05, p = 0.8 and q = 0.2, sample size (S) works out to be 246.

Table A-2: Scheme of Awarding Points on Possible Responses in the BPL Survey, Rajasthan, 2005						
Sr. No	**Questions**	**Points**				
		0	**1**	**2**	**3**	**4**
1	Land (in Ha.)	No land	<1 non-irrigated <0.5 irrigated	1-2 non-irrigated <0.5 irrigated	2-5 non-irrigated 1-2.5 irrigated	>5 non-irrigated >2.5 irrigated
2	House type	No house	*Kachcha*	Partial *kachcha*	*Pukka*	City like
3	Cloths (per person)	<2	2-3	4-5	*5-9*	>10
4	Meals a day	<1	One but sometimes less	Once sufficient	Two but sometimes less	Sufficient food available
5	Toilet facility	Open space	Common toilet w/o water supply	Common toilet with water supply.	Common toilet with water supply & sweeper.	Personal toilet.
6	Consumer durables: TV, Elec. Fan, Pressure cooker, Radio.	None	Any one	Any two	Any 3 or all	All and more
7	Literacy level of most educated member of family.	Illiterate	5^{th} standard	10^{th} standard	Diploma	Professio nal
8	Labor situation in the family.	Bonded labor	Women & child labor	Only adult women labor.	Only adult man labor.	Other
9	Source of livelihood	Agricultural labor	Farmer	Rural artisan	Salary	Other
10	Situation of children	Do not got to school & employed	Going to school and employed	Not going to school and not employed	Going to school but working.	Going to school and not working.
11	Type of debts	For daily use from non-insti. sources.	For agriculture from non-insti. sources.	For other use from non-insti. sources.	Only insti. Sources	No debts.
12	Reason for staying away from family.	Accidental work	For seasonal employment	Any other type of employ.	Not staying away.	Any other reason.
13	Requirement of aid.	For employment	For self-employment	For training and skill addition.	For housing.	Aid not required.
Source: BPL Survey, Rajasthan, 2002-03.						

district, 650 households and in Chittorgarh district 560 households from the selected villages belonged to the weaker section as per our definition of the 19 points cut-off. Accordingly, we selected 38% and 45% of the households belonging to the weaker section from each of the selected villages respectively in Jalore and Chittorgarh. *Table A-3* provides the distribution of the total and sample households in the selected villages in the two districts.

We conducted the sample survey during April and May, 2006. These are the peak months of summer heat in Rajasthan and several families in the rural areas are migrating out to neighboring state of Gujarat in search of water, fodder and livelihood or employment. While selecting the families for our sample survey, this was an added constraint. It was also important to avoid very small households without children below 14 years and women considering the purpose of the survey. We collected information from selected households through a 5 page questionnaire (given below for ready reference). In all we surveyed 247 households in Jalore and 253 households in Chittorgarh.

Table A-3: Distribution of Total and Sample Households by Selected Villages in Jalore and Chittorgarh

District	***Tehseel***	**Village**	**Total HH.**	**Weaker Section HH with Points ≤ 19**	
				Total	**Sample**
Jalore	Raniwada	Chandpura	90	38	16
	Bhinmal	Bheempura	359	182	66
	Bagoda	Jogao	243	160	62
	Jalore	Kuaber*	646	228	86
	Ahore	Tormi*	99	42	17
Chittorgarh	Dungla	Jalkhedi	123	100	45
	Rashmi	Jagpura	176	126	57
	Rawatbhata	Morwan	125	112	51
	Pratapgarh	Rataniakhedi	196	151	70
	Arnod	Karadia	92	70	30

**Note: The HH list of these villages was merged with other surrounding villages under the same village Panchayat.*

Source: BPL Survey, GoR and the methodology described in the Text.

Household Questionnaire (Rajasthan)

(For "Scaling up Services in Rural India" project by the Earth Institute, Columbia University and IIM Ahmedabad sponsored by Hewlett Foundation.)

Village: _____ Tehsil: _____ District: _____

Head of HH: _____(M/F); Investigator: _____
Date: _____

A. **1 Type of HH:** MF/SF/OF/AL/RA/Others; **2.** Size of HH: _____

2. Land owned _____ (Ha./Acre/____)

3**.** Caste: SC/ ST/ OBC/ Muslims/Others;

B. **1.** No. of Animals/ Cattle: _____
Buffalo: ____; Cows: ____; Bullocks: ___; Goats & Sheep: ___;
Donkey: ___; Camel: _____; Poultry: ____

2. How far do you take them for grazing? ___ km. 3. Who takes them? _____

C. **Information on HH Amenities:**

1. Is the HH electrified? Yes/ No.

2. Electricity available for_____ days/week and ____ hrs./ per day

3. Source of drinking water:
Winter: Tap/ Well/ Public Well/ Public Hand pump/ Pond/ Canal/ Other (_____)
Summer: Tap/ Well/ Public Well/ Public Hand pump/ Pond/ Canal/ Other (_____)
Monsoon: Tap/ Well/ Public Well/ Public Hand pump/ Pond/ Canal/ Other (____)

4. Distance to the source of drinking water: _____ k.m. **5**. Who fetches drinking water? _____ **6.** Do you filter water? Yes/ No
7. Do you boil the water? Yes/ No.
8. Facility for Latrine and Toilet: Exclusive/ Common/ Open space
9. Sewerage: Underground/ Covered path/ Open path/ No system

10. Drainage: Underground/ Covered path/ Open path/ No system

11. Road cleaning and waste removing facility: Yes/ No; ____ times per week.

D. Information on HH Members:

Sl. No	Questions	Member							
		1	2	3	4	5	6	7	8
1	Name								
2	Relation with Head of HH.								
3	Sex (M/F)								
4	Age (yrs.)								
5	Main activity during year @								
6	Subsidiary activity@								
7	Level of education.								
8	Enrolled in school? (Y/N)								
9	Gainfully employed (Y/N)								
10	Where?--In Family/Outside								
11	For how many days / year?								
12	Earnings per month. (Rs.)								
13	Hospitalization last year (Y/N)								
14	Any major sickness last year								
15	How many days in the year for the sickness?								
16	Is medicine taken? (Y/N)								
17	For how many days?								
18	From where? (Public/ Private)								
19	At what cost? (Rs. /p.a.)								

@ Farmer – **Ag**.; Animal Husbandry – **AH**; Poultry – **P**; Rural Artisan – **RA**; Any Service – **SS**; Agri. Labor – **AL**; Other Labor – **OL** ; Household work - **HH** ; Attending school – **ST** ; No Activity – **nil**.

E. Health Related Information:

a) Maternal Health:

1. # of deliveries performed in the HH: _____ so far.

2. # of children survived: _____ (out of the above)

3. # of children died during the delivery: _____

4. # of deliveries attended by *Dai* : _____

5. # of deliveries in hospital: _____; Govt. _____; Private: _____

6. Did the mother get antenatal checkups? Yes/No; _____ times.

7. Did the mother receive any injection / vaccination? Yes/No;
   Any medicine? Yes/No

8. Did the mother die at the time of delivery? Yes/No; which delivery?
   _____

9. Was THE delivery attended by a *Dai* / Nurse/ doctor? Yes/No

b) Infants' Health (below 1 year):

1. Is the infant looked after regularly by any health worker? Yes/No;
   How often?
   ____/week; Examination? Yes/No; Weight? Yes/No; Medicines? Yes/No

2. Are you aware about supplementary feeding program/ *Anganwadi* workers / Any govt. program for your infant? Yes/No; Which ? -
_____

3. Any emergency so far? Yes/No; What? _____

c) Child Health:

1. # of children surviving below 5 years: _____

2. # of children died within one year of birth: _____

3. # of children died before reaching 5 years of age: _____

4. Did the children receive immunization/ vaccination/ *Tika* ?: Yes/No

5. Do children (below 5 yrs.) suffer from :

   - Fever: Yes/No; _____ times/year.
   - Stomach related: Yes/No; _____ times/year.
   - Malaria: Yes/No; _____ times/year.

- Respiratory Disease: Yes/No; _____ times/year.

d) Medical Facilities:

1. Are you satisfied with existing medical facilities in your village? Yes/No

2. Do you go to the Govt. PHC/ CHC/ Town Referral/ Private Doctor/ *Tantrik*?

3. When you visit, is the doctor available? Yes/No

   If No, what do you do? / Go to private doctor/ *Tantrik*/ Nothing.

4. What is the distance you travel for medical facility? _____ k.m.

5. On the whole, how do you rate the medical facilities available to you ? By Govt. _____; by Private Sector: _____

(Excellent – 5; Very good - 4; Good - 3; Fair – 2; Poor – 1; Very poor – 0)

6. According to you, who manages the health facility in your village? Village Panchayat/ District Panchayat / District Administration

7. According to you, will the situation improve if the management and oversight functions are shifted to: Village Panchayat/ District Panchayat / District Administration? Yes/No

F. Education Related Information

Number of children eligible for schools (>5)

	1	2	3	4
Age				
Sex				
Going to school? (Govt./ Pvt./ No)				
Distance to school in k.m.				
Is cash subsidy given (Rs. / No)				
School uniform given? (Y/N)				
Text books given? (Y/N)				
School supplies given? (Bag, notebook, pencil, etc.) (Y/N)				
Mid-Day meal given? (Y/N)				
Food grains given? (Y/N)				
Transport provided? (Y/N)				

Library available? (Y/N)				
Sports facilities available? (Y/N)				
Attending the school regularly? (Y/N)				
How many days absent in a month?				
Does teacher come regularly? (Y/N)				
If not attending school, why? @				
Are you satisfied with the school facilities? (Low/Medium/High)				
What is the cost of studying in Rs. /p.a.				
Fees Private Tuition School supplies & text books				
@ HH activities – HH; Employment – Em; Sickness – Sk; Marriage – Ma; No interest – Ni; Irregularity of teachers – It; Behavior of teacher – Bt; Others – Ot (specify).				

1. According to you, who manages the primary school in your village? Village Panchayat/ District Panchayat / District Administration

2. According to you, will the situation improve if the management and oversight functions are shifted to: Village Panchayat/ District Panchayat / District Administration? Yes/No

APPENDIX B

Methodology and Questionnaire for Sample Survey of HFs

With a view to gaining good understanding of the ground realities in the operation and conduct of different levels of health facilities in rural areas of Rajasthan, we decided to personally visit, discuss matters with staff and obtain some information on the working from a sample of HFs. We had selected two districts based on geographical criteria of desert (Jalore district) and tribal area (Chittorgarh district). From each of these districts, we had selected 5 villages for our household survey. We decided to survey the HFs in and around these villages in such a way that we get reasonably diverse facilities in our sample. The following types HFs were surveyed by us in the months of April-May, 2006:

Table B-1: Types and Number of Health Facilities Surveyed, 2006

Facility / Type		**Jalore District**	**Chittorgarh District**
Public Facilities :	CHC	3	4
	PHC	7	9
	SC	12	14
Private Facility		8	4
	Total	**30**	**31**

Moreover, in Jalore district we also surveyed an ANM Training College.

Although, we used a formal questionnaire (given below), we carried out extensive discussions and observed things during our personal visits to gain better insights.

Health Facility Questionnaire (Rajasthan)

(For "Scaling up Services in Rural India" project by the Earth Institute, Columbia University and IIM, Ahmedabad sponsored by Hewlett Foundation.)

Village: _____; *Tehseel* : _____; District: _____; State: _____

Head of institution: _____; Investigator: _____

General

Name of the Facility/Institution: _____

Type of Facility: ANM/Clinics/Sub-Centre/PHC/CHC/Others

Managed by: Panchayat/District Panchayat/ District Administration/ Private

Overseeing Functions by : Panchayat/District Panchayat/ District Administration/ Private

Timings of the Facility: from _____ to _____; Building: Own/Rented
Number of Rooms: _____; Sq. feet (Total):_____

Number of beds: _____ ; Bed utilization rate: _____
Electricity Supply: ____hrs./day; Water Supply: Tap/Well/bore/others

No. of Employees in the Facility:

General Physician: ____ Pediatrician: ____ Gynecologists: _____
Other Doctors: _____ ANMs/Nurses: _____ Attendants: _____
Lab technician: _____ Others: _____

The Health Facility has ____ vehicles: No. of Drivers: _____

Are Doctors provided with residence: Yes/No

Are Nurses provided with residence: Yes/No

Who is available at night in the Health Facility?
Doctor: - Yes/No; ANMs/Nurse: - Yes/No; Attendants: - Yes/No;
Others:- _____

Does the Health Facility have its own medicine store/stock? Yes/No
Is it functional? Yes/No

Does the medical team visit the villages at regular intervals? Yes/No

(Get the chart for Mobile Vans)

Do Medical Representatives of companies visit the doctors? Yes/No

Major diseases prevailing in the village/area:
1._____, 2_____, 3_____.

Patients registered by disease with the Health Facility in last three years

Disease	2005-06	2004-05	2003-04
T.B			
Malaria			
Typhoid			
Diarrhea Dysentery			
Respiratory			
Jaundice			
Flurosis			
Others			
Delivery Conducted			
Family planning operation			
Abortions			

Do patients consult the Health Facility regularly: Yes/No

When?- Preliminary Stage/In-between/Last stage

How do you rate awareness of village people towards the medical facilities here?
: - Excellent/Very Good/Good/Fair/Poor /Very poor

How would you rate the health facilities in terms of quality? :-
Excellent/Very Good/Good/Fair/Poor/very Poor

In your opinion, Will the situation improve, if management and oversight functions are shifted to : Village Panchayat/ District Panchayat/ District Administration?:
Y/N

How many private Health Facility beds nearby (5 km radius)? _____

How many private Doctors nearby (5 km radius) ? _____

Number of patients' hospitalized last year: _____ , Where?: _____
How many total days? : ____

Bed Utilization rate: _____% (Define: _____

What in your perception are the important causes for health problems in the village?
Drinking water Problems: _____%; Sanitation problem:_____%; Drainage problem:_____%; Lack of cleanliness(hygiene):_____%; Climate/seasonal factors :_____%; Others(specify): _____% ; (*Total should be 100%)*

Infant/Child Health:

Child (< 5 yrs) patients by disease for last thee years:

Disease	2005-06	2004-05	2003-04
Fever			
Eye & Ear Complications			
Anemia			
Diarrhea/Dysentery			
Respiratory			
Jaundice			
Typhoid			
Others			

How many children in the village suffer from malnutrition? (Get the data from ANM): _____%
Do the parents report such cases in the Health Facility? Yes/No

Does the Health Facility staff attend to such cases promptly? Yes/No

Is the village covered under Supplementary Nutrition Program? (Ask ANM) : Yes/No

How many children are covered under SNP in the village during the last year? : _____.

In case of severity of the disease, which is the nearest referral Health Facility? :
Distance in K (in hrs. and minutes) : _____;

How long does it take to travel? _____

Estimates of episodes for the following diseases per child per year:-
LRI / ARI: - _____ Diarrhea: - _____Fever: - _____
Eye/Ear Infection: - _____

Prevalence of bacterial infections among the infants:
severe/not so severe

Prevalence of feeding problem for infants: _____%

Problem of low birth weight among the infants? : _____%

Coverage under various immunization schemes during last year:-

	Number administered		Number administered
BCG: -	_____	DPT1:-	_____
DPT2:-	_____	DPT3:-	_____
Polio1:-	_____	MMR:-	_____
Polio3:-	_____	Measles:-	_____
		Total:-	_____

Total number of children (less that 5 years) in the village: - _____
Total number of live births in the village during the last year: - _____
Total number of death of children last year --
of age < 1 week ____ ; of age < 1 month _____;
of age < 1 year _____; of age < 5 years _____.
What in your opinion is the major cause of child deaths here?

On Malaria

Is malaria a major problem in the village?: Yes/No

Are all malaria cases reported to the Health Facility?: Yes/No

Number of malaria cases reported in the Health Facility during last year:
% of falciparum: - _____% Vivax: - _____

% of malaria cases receiving treatment: - _____
Monotherapy: - _____% Combination treatment: - _____%

On Maternal Health

Nature of complications during pregnancy (number of cases):-
Severe anemia: - _____ Syphilis: - _____
STDs: - _____ Miscarriages: - _____
Caesarean: - _____

How many are reported to the Health Facility? _____%

How many are receiving antenatal care and advice? : _____%

How many are having access to EmOC(Emergency obstetric care)? :_____%

How many deliveries performed by skilled attendant in this village? : _____%

Is there any practice of providing postnatal advice/care to the new mothers by the Health Facility staff? : Yes/No

What is your opinion about the awareness of the villagers on family planning?
Very much/Much/Average/Fare/Less/No

What are the prevailing practices of family planning in the village?
(Ask ANM)
Condoms: _____% IUDs:_____% Oral contraceptives: _____% Male sterilization: _____% Female sterilization: _____%

How many people come forward for family planning voluntarily? : _____%

Is there any explicit campaign by the Health Facility towards family planning? : Yes/No
Are the families provided with incentives for undergoing family planning operation? Yes/No: -
How much? : - Rs_____, Cash and/or Rs_____, kind

Is there any incentive for the Health Facility staff for achieving family planning targets? Yes/ No; What? _____

Is their any target given to the Health Facility for family planning?: Yes/ No

How many Abortions were conducted during last year? _____

- In your opinion, is there a clear difference in peoples / parents' attitude and treatment of a girl child and a boy child? Yes/No
- Do parents care equally for the healthcare of a boy and a girl child? Yes/No
- Is there a preference for a boy child over a girl child? Yes/No
- Any observations?:

G. Investigator's Notes / Observations:

Please ask about regularity and punctuality of doctors / nurses; their behavior with patients, patients behavior with the doctors, nurses and others etc.

What are the problems of the quality of drinking water in the village?