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An SVYM Initiative

Performance Evaluation Study of NRHM in Karnataka

Final Report

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Department of Planning, Programme Monitoring & Statistics,

Government of Karnataka, Bangalore.

Grassroots Research and Advocacy Movement (GRAAM), Mysore, Karnataka, India
Visit us at: www.graam.org.in



Evaluation Team

Project Director

Dr. R. Balasubramaniam

Executive Director, GRAAM

Principal Investigator

Sham N. Kashyap

Research Officer, GRAAM

Research Team

Vighnesh N V, Thriveni Gandhi,

Divya B.V, Govindraju B.D,

Mahesh H.P, Nandini K.V,

Praveen M.N., Raghavendra D.L,

Rajendra Kumar, Sathish C.P,

Sunil Kumar B and Vedavathy N.

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Abbreviations

ANC	Ante-natal care	MCTS	Mother and Child Tracking System
ANM	Auxiliary Nurse Midwife	MHW	Male Health Worker
ANMTC	ANM Training Centre	MMR	Maternal Mortality Ratio
ARS	Arogya Raksha Samithi (Rogi Kalyan Samithi)	MO	Medical Officer
ARSH	Adolescent Reproductive and Sexual Health	MMU	Mobile Medical Unit
ASHA	Accredited Social Health Activist	NCMH	National Commission on Macroeconomics and Health
AYUSH	Ayurveda, Yoga and Naturopathy, Unani, Siddha, Homeopathy	NDCP	National Disease Control Programmes
CAG	Comptroller and Auditor General of India	NHSRC	National Health System Resource Centre
CHC	Community Health Centre	NRHM	National Rural Health Mission
DHAP	District Health Action Plan	NPCC	National Program Coordination Committee
DHO	District Health Officer	OPD	Out Patient Department
DPMO	District Programme Management Officer	P&MC	Planning and Monitoring Committee
FBNC	Facility Based Newborn Care	PA	Prasuti Araiike
FMG	Financial Management Group	PHC	Public Health Centre
FMR	Financial Management Report	PIP	Program Implementation Plan
FRU	First Referral Unit	P&MC	Planning and Monitoring Committee
FMW	Female Health Worker	PNC	Postnatal care
GDP	Gross Domestic Product	PPP	Public Private Partnership
GoI	Government of India	PRI	Panchayathi Raj Institution
GoK	Government of Karnataka	RCH	Reproductive and Child Health
HBNC	Home Based Newborn Care	RHS	Rural Health Statistics
HDI	Human Development Index	RI	Routine Immunization
HI	Health Inspector	RKS	Rogi Kalyana Samithi
HMIS	Health Management Information System	RoP	Record of Proceedings
HR	Human Resources	SC	Sub-Centre
IEC	Information, Education, Communication	SHS	State Health Society
IMR	Infant Mortality Rate	SHSRC	State Health System Resource Centre
IPHS	Indian Public Health Standards	SMS	Short Message Service
JHA	Junior Health Assistant	SRS	Sample Registration Survey
JSY	Janani Suraksha Yojana	THO	Taluk Health Officer
KHSDRP	Karnataka Health System Development and Reforms Project	TLH	Taluk Level Hospital
LHV	Lady Health Visitor	UNICEF	United Nations Children’s Fund
		VHSC	Village Health and Sanitation Committee

Executive Summary

The National Rural Health Mission (NRHM) was introduced in the year 2005, as a flagship programme of the United Progressive Alliance (UPA) government, to rejuvenate the public system of health care in the country. As the initially drafted time frame of NRHM comes to an end, significant challenges remain in translating all the expected outcomes of NRHM into realities. Mainly, the targeted increase in budgetary allocation and the expected decline in IMR and MMR are not met. Decentralised planning, community monitoring and governance and the reduction of regional disparities in health have not been effectively achieved.

Although it is difficult to measure the full scope of NRHM's impact on the status of health care, an evaluation of the current status of NRHM's planning, fund flow and expenditure patterns in relation to its intended goals is crucial for devising future strategies to keep the momentum of growth experienced in the health sector after the advent of NRHM. Thus, the Karnataka Evaluation Authority (KEA)¹ commissioned an evaluation study aimed at thoroughly analysing NRHM's planning, fund flow and its implementation. Grassroots Research And Advocacy Movement (GRAAM), a public policy research and advocacy organization² conducted this evaluation. The evaluation assesses the planning and design of the funds allocation and expenditure under NRHM in Karnataka. Using this assessment, the project focuses on regional disparities and analysing the role of fund allocation, expenditure on physical and human infrastructure and development indicators on the health indicators of the region. Further, the results of this analysis were validated across representative districts of the state.

The first phase of the performance evaluation study of NRHM in Karnataka focussed on review of relevant literature, analysis of a. planning documents including the state PIPs and DHAPs from representative districts, b. the structure and design of fund flows, c. patterns in fund allocation and expenditures, and d. analysis of regional disparities in the state, and conducted correlation tests to relate the trends in various expenditure heads under NRHM with the status of health indicators at state and district levels.

In the second phase, field validation was carried out to confirm the principal findings of the secondary data analysis of the first phase of the study. It also aimed to understand local NRHM related processes, perspectives and interpretation of NRHM related activities among service providers, including the status of bottom up planning, allocation and expenditures from local perspectives. Further, in this phase, community involvement in public health at the grassroots level was also explored.

¹ The Karnataka Evaluation Authority (KEA), established by the Government of Karnataka (GoK) is a registered society (Registered under the Karnataka Societies Registration Act, 1960), initiated to systematically assess the performance, process of implementation, effectiveness of the delivery systems and impact of policies, programmes and schemes of the government.

² GRAAM is an initiative of Swami Vivekananda Youth Movement, working towards advocating policy change based on empirical evidence and research carried out with grassroots perspectives that works towards advocating policy change based on empirical evidence and grassroots perspectives

The major findings of the study are presented below.

About 78% (Rs 651 Crores) of the funds allotted by the Centre went through the State Health Society in 2011³. NRHM flexipool⁴ is the major component of funds under NRHM (about 44%), followed by RCH flexipool (27%) and infrastructure and maintenance grants (channelled through the treasury route (22%). Funds for Routine Immunization form only 1%-2% of the total funds under NRHM.

Karnataka's rates of fund utilization have considerably increased in the previous years. However, increased utilization capacities are also a matter of concern, especially because of the critical loopholes in planning and PIP preparation related processes, as seen in the analysis of planning documents (successive PIPs and DHAPs) and field observations. Interactions with field personnel reveal that although health officers have a broad understanding about the overall goals and strategies of NRHM, their perceptions about planning and monitoring were limited, as well as their beliefs in community participation. The capacities of health personnel in internalizing the bottom-up planning processes envisioned under NRHM, its management and accounting practices and community engagement have to be strengthened at the earliest, to increase the efficiency of the department in translating policy objectives of NRHM into health outcomes.

Planning processes of NRHM in Karnataka do not show long term practical strategies and commitment to reduce regional disparities (other than converting PHCs in North Karnataka to 24 X 7 PHCs). The analysis of expenditures shows that in general, NRHM funds have been transferred considerably to districts with actual needs. However other districts have also been benefitted substantially (and in some cases, more than those districts that are vulnerable). Barring RCH flexipool funds, NRHM flexipool and Routine immunization funds have not targeted the disparities in health indicators. Thus, there are no clear trends of prioritized fund flows to districts identified as vulnerable.

The implementation and expenditure patterns of NRHM are driven by a top-down, stand-alone system with pre-defined priorities, rather than priorities emerging through a bottom-up process. This system of implementation does not provide a practically efficient way to implement need based funding for health institutions. It indirectly affirms the easily implementable, but dangerous 'one size fits all' mode of facility based funding, rather than need based funding patterns.

The study indicates a more complicated problem: higher utilization levels, reduced field presence, lagging health infrastructure and health indicators in districts of Gulbarga and Belgaum divisions, and at the same time, lower utilization levels, ill-equipped PHCs with

³ Funds under NRHM are channelized through a. the state health society route and b. the treasury route

⁴ RCH Flexipool supports all activities and programmes related to Reproductive and Child Health.

NRHM Flexipool (or Mission Flexipool) supports additional activities under NRHM (excluding RI and NDCP activities)

comparatively larger shortage of HR in southern districts. In a way this means that regions with proportionately higher 'low utilization level' PHCs get more funding than regions with proportionately higher 'high utilization level' PHCs. Hence, the bulk of the NRHM flexipool expenditure, due to such facility based funding mechanism is less effective in improving health indicators of the state.

The presence of field based personnel; ANMs and ASHAs has majorly contributed towards increasing awareness levels in the communities and improving RCH related process indicators. Measures have to be taken to provide sufficient confidence, physical and emotional security to these field workers. There is scope to increase the field presence of several other field based personnel (like MHWs, JHA, LHV's) if the clerical and administrative positions at the grassroots level are filled. The field presence of such staff can relieve the work pressure on ANMs and ASHAs and also provide them with a feeling of security due to the simultaneous presence of other experienced field workers in community engagement and related activities.

The reporting and documentation activities of the department take considerable time and effort of the field personnel, especially, the support and field staff of PHCs. This is due to the existence of multiple and overlapping reporting formats, inefficient reuse of existing data, and lack of trained personnel for data entry. Hence, a single, homogenous and well-defined data collection and monitoring system is needed. Such a system would streamline reporting activities and seamlessly merge data requirements for planning, analysis as well as regular monitoring.

Community involvement in management and governance of health institutions is a complex issue and needs considerable thought before future decisions can be taken. The findings of the study show that until a clearer picture emerges, the role of community based institutions as strong monitoring bodies has to be strengthened, but with sufficient checks and balances.

Based on this analysis, the study makes the following recommendations

- Mandatory capacity building of personnel about NRHM and its activities, Community engagement, Administrative and financial procedures, computer training and other technical issues,
- Addressing regional disparities through NRHM
 - a. For the 6C⁵ and high focus districts, focus on the improvement of infrastructure, field presence (specifically ASHAs and ANMs) and ***larger facility based funds*** (like Untied Funds, Maintenance and Corpus Funds).
 - b. For other districts, focus on ***demand/need based funding mechanisms*** and optimization of HR based on rotation and shared responsibilities
- Providing better work environments for ANMs and ASHAs by 1) increasing field

⁵6C Districts: Bagalkot, Bidar, Bijapur, Gulbarga, Koppal, Raichur (districts recognized by the GoI as lagging in health indicators), Other Vulnerable districts: Bellary, Chamarajanagar, Chitradurga, Davanagere and Kolar (districts recognized by the GoK). In this study, these districts shall be together referred to as vulnerable districts.

presence of other health workers by 2) instilling confidence and providing security, 3) periodic increase in salaries and incentives for ASHAs, 4) recruitment of clerical staff at PHCs,

- Making the planning processes of NRHM more meaningful and useful,
- Shifting from facility based funding to need based funding mechanisms,
- Implementing a single, homogenous and well-defined data collection and monitoring system and
- Clarifying the role of community based committees like P&MC, ARS and VHSCs (w.r.t governance and monitoring of health institutions). Until this clarity emerges, strengthen the role of community based institutions as effective monitoring bodies

1. Introduction

Since India's independence, the Government of India (GoI) has been trying to enhance the healthcare services provided to its people by focusing on improving the primary health care system and also by enabling the entry of private sector to the health care sector. At present the health sector in India comprises the healthcare activities provided by public, private and voluntary institutions. Despite the combined efforts of these sectors, the health status of the country, as a whole, has not improved to the extent desired. Though India's population is growing, the public health expenditure in India has been comparatively low over the years. According to the estimate of the World Bank in 2005, 41.6% of India's total population falls below the international poverty line of US\$ 1.25 a day which means almost half of India's population is among the poor for whom the available health care services are very expensive. Over the years, public expenditure on health care has been declining. It was 1.3% of India's Gross Domestic Product (GDP) in 1990 which declined to 0.9% by 1999. Then it increased slightly to 1.1% between 2002-2009 (Government of India 2005a; Government of India 2010a).

The National Rural Health Mission (NRHM) was introduced in the year 2005, as a flagship programme of the United Progressive Alliance (UPA) government, to rejuvenate the public system of health care in the country (Government of India 2010b). In the 8 years of its implementation, NRHM has brought fundamental, long lasting and visible changes in the rural health sector in India.

Some of the salient features of these changes include

- a. the impetus given to enhancement of rural physical infrastructure,
- b. the thrust on reduction of Maternal Mortality Ratio (MMR) and Infant Mortality Rate (IMR) and prevention of communicable and non-communicable diseases,
- c. the introduction of community health workers and communitization of rural health governance.

NRHM has been able to significantly improve the penetration of public sector health care in rural India with the increased investment in the creation of rural health infrastructure and human resources, provision of an 'Accredited Social Health Activist' (ASHA) for every revenue village in the country and communitization of public health governance with the creation of monitoring committees at various levels of rural health governance.

Further, NRHM has initiated an umbrella of practices like the emphasis on rural public health, bottom up planning (beginning at the individual village level and moving up to the state and national level), integrating vertical programmes, funnelling of funds from multiple sources within the health sector, bringing in aspects of professional health governance and the provision of financial assistance for innovative schemes suggested by local authorities.

The next section briefly introduces the health profile of Karnataka, with a focus on critical indicators of health indicators rural health infrastructure.

1.1 Health Profile of Karnataka

According to the Karnataka Human Development Report, 2005, “the health scenario of Karnataka today is a combination of achievements and challenges”. While Karnataka has achieved consistent improvement in the life expectancy at birth since 1971 (from 50.6 years in 1971 to 66.1 in 2001) and key health indicators like IMR and MMR are lower in the state than the national averages, the state lags behind the other south Indian states. Further, persistent regional imbalance in health indicators has been a troubling reminder of the inequities in access and provision of health care services within the state. However, Karnataka is one of the forerunners in the country in bringing reforms in the health sector. Furthermore, Karnataka’s health sector is endowed by multiple initiatives like KHSDRP, UNICEF’s Projects, 12th Finance Commission grants and other schemes which provide the financial resources for implementing public health related activities in the state. The Karnataka State Integrated Health Policy 2004 states that the mission of the Karnataka Government’s Department of Health and Family Welfare is to provide quality health care which is equitable, locally responsive, participatory, accountable and transparent.

National Rural Health Mission was first implemented in Karnataka in 2005 (although the full fledged activities began in full swing in 2007-08), along with the other states and union territories. In Karnataka, the implementation plan for NRHM has been developed by integrating different strategies suggested by the state health policy as well as core strategies of NRHM. The district health action plans from all the districts of the state are integrated to form the state Program Implementation Plan (PIP) with a focus on the backward districts and high focused districts. The program implementation plan mainly gives an overview of the present health status, situational analysis of the infrastructural facilities of the state and the plan of implementation for the current year. It highlights the strategies and activities to be undertaken by different components of the program in detail so as to meet the goals and objectives of the program. As evident in the next sections, the mission has been able to improve the health status of the state in terms of the health indicators such as decreased MMR, IMR, increased number of institutional deliveries etc.

1.1.1 Important Health Indicators of Karnataka

Table 1 presents the comparison of important health indicators at the national and state levels. While Karnataka has made progress in the these three health critical indicators, other than TFR, Karnataka still lags behind other southern states in the status of IMR and MMR (as discussed in pp 24) and more importantly, large gaps exist between the target and current status of IMR and MMR.

Table 1. Important RCH Indicators - NRHM targets and status

Health Indicators	Target (under NRHM)	India		Karnataka	
		2005	2011	2005	2011
IMR	30	58	47*	50	38*
MMR	100	254	212**	213	178**
TFR	2.1	2.9	2.6**	2.1	2.08**

Sources: NRHM Mission Document, 2005, SRS Bulletins,

*SRS 2011, ** SRS 2008

1.1.2 Karnataka's Health Expenditure & Infrastructure

As evident from Figure 1 and Figure 2, the state's own finances form a major component of public health expenditures in Karnataka. NRHM's share in the overall health expenditure of the state ranges between 22% - 25%.

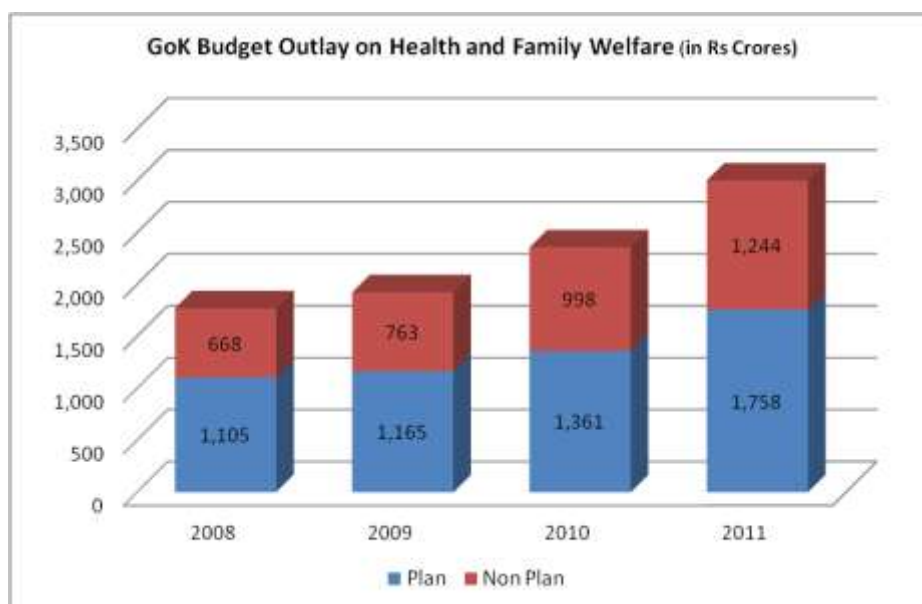


Figure 1. Karnataka Budget Outlay for Health and Family Welfare

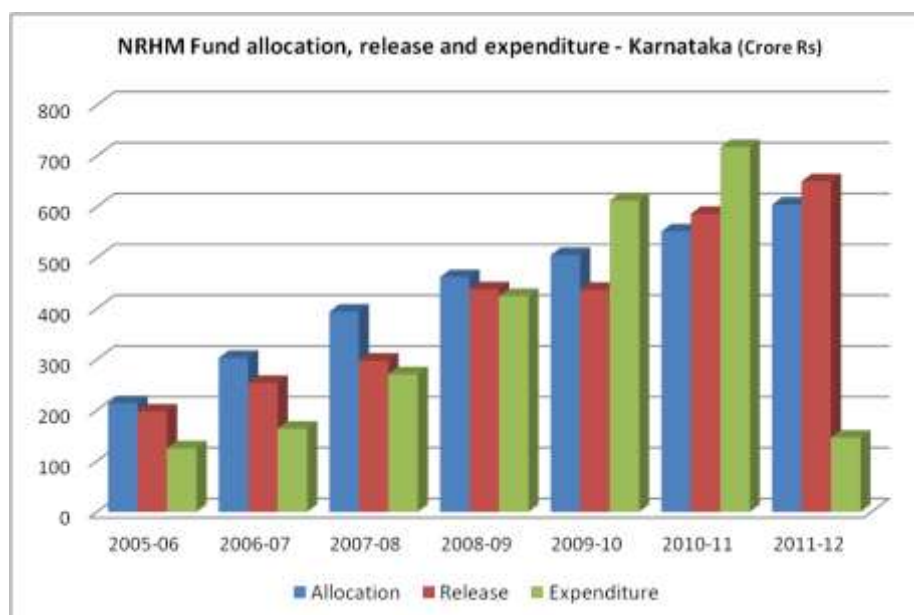


Figure 2. Fund allocation, release and expenditures under NRHM (Karnataka)⁶

Table 2 presents the comparative picture of the status of infrastructure and key grassroots personnel in India and Karnataka for the years 2005 and 2011. It helps analyze the trend in rural health infrastructure and human resources through the period of implementation of NRHM. The figures reported by the state on its HR status (specifically ANMs and Staff Nurses) show excess staffing of ANMs and staff nurses. However, if Indian Public Health Standards (IPHS) based staffing recommendations are considered (as prescribed in the core strategies of NRHM, pp 11),

⁶ Expenditure reported in 2011-12 limited to December 2011.

there is a shortage of ANMs and staff nurses (3 staff nurses for 24X7 PHCs as suggested by IPHS), that is not reported in the requirement of human resources. Further, while improvement of infrastructure has been impressive (additionally, as shown in Table 7, pp 59, often excessive and concentrated), improvements in staffing has been marginal.

Table 2. Comparison of health infrastructure and human resources

Infrastructure and Human Resources	India				Karnataka			
	2005		2011		2005		2011	
	Required	In Position	Required	In Position	Required	In Position	Required	In Position
Sub-Centres		146026		148124		8143		8870
PHCs		23236		23887		1681		2310
CHCs		3346		4809		254		180*
ANMs	169262	133194	172011	207868	9824	8544	11180	11433
Doctors at PHCs	23236	20308	23887	26329	1681	2041	2310	2089
Staff Nurses at PHCs and CHCs	46658	28930	57550	65344	3459	3100	3570	4722

Source: Rural Health Statistics – Comparative Statements, 2011

*The number of CHCs has been reduced due to upgradation of CHCs to Taluk Hospitals in all taluk headquarters.

1.1.3 Limitations of the NRHM in Karnataka

Despite Karnataka's high level of performance in rural health care compared with the northern states, it lags behind all the southern states (Government of India 2011a). There still remain inter-district gaps in the health care provided in Karnataka. There have been overall improvements in health indicators, but each region and district vary in their success. Gulbarga division (Bidar, Koppal, Gulbarga, Raichur, Bellary), the Belgaum division (Bijapur and Bagalkote), and the tribal district Chamarajnagar remain among the less successful in regards to healthcare. Furthermore, of high concern still are the following (Government of Karnataka, 2011):

- Lack of emphasis on malnutrition in under-five children and anaemia in women
- Insufficient emphasis on women's health, mental health and disability care
- Ineffective and unaccountable management practices that delay local responses to health problems

Some of the major infrastructure-related issues as noted in Karnataka's PIP in 2011:

- Lack of indicators and local health status assessments for local planning
- Poor physical infrastructure
- Non-availability of doctors/paramedics in PHCs and CHCs
- Shortage of doctors
- Shortage of ANMs/MPWs.
- Lack of any plan for career advancement or for systematic skill up gradation
- Non-availability of specialists for anaesthesia, obstetric care, paediatric care, etc.
- Insufficient action on promoting healthy lifestyles whether it be fighting alcoholism or

promoting tobacco control or promoting positive actions like sports/yoga etc.

- No community worker in all districts
- Absence of a Health Information System facilitating smooth flow of data from grassroots level to the State.

On a positive note, the NRHM has brought in flexible financing, community ownership and management in India's health care delivery system. With a relatively young program of such high ambition and magnitude, the impact of the implementation is difficult to measure just yet.

However, as the initially drafted time frame of NRHM is coming to an end, significant challenges remain in translating all the expected outcomes of NRHM into reality. The targeted increase in budgetary allocation, decline in IMR and MMR are some of the major issues in which NRHM has not met its planned outcomes. Further, the cornerstone of NRHM, the District Health Action Plan is yet to be meaningfully devised and implemented in most districts of the country. Decentralisation in governance and monitoring of health systems has a long way to go. Many persistent issues affecting the health sector of the country, like lack of sufficient human resources, especially in public health and substantial regional and demographic disparities in health indicators still continue to exist and in some cases, these disparities have increased⁷.

1.2 Objectives of the evaluation

Based on the context set above, this evaluation aims to thoroughly analyse NRHM's planning and its implementation in two phases. In the first phase, the study assessed the planning and design of the funds allocation and expenditure. Using this assessment, the project focused on regional disparities and analysing the role of fund allocation, expenditure on physical and human infrastructure, and analysis of regional imbalances. In the second phase, the results of this analysis were validated across representative districts through collection of quantitative and qualitative information.

In the first phase of this project, a detailed review of existing literature was carried out, to understand the context in which NRHM was introduced and to recognize crucial issues that affect its implementation and outcomes. Based on the literature review and our own field experiences, a critique of NRHM and public health policy was provided. Further, using detailed secondary source information pertaining to NRHM's planning activities, fund flow and health indicators, the following activities were carried out in the first phase of the study.

1. Process evaluation of the PIP preparation,
2. Mapping of fund allocation, fund flow and expenditure (up to the district level),
3. Detailed analysis of expenditures at the state and district levels,
4. Analysis of trends in health related process and outcome indicators,
5. Analysis of regional disparities in health indicators, physical infrastructure and human resources,
6. Correlation analysis of expenditure and infrastructure variables, development status with health indicators.

⁷This will be elaborated in the following sections of the report.

Based on the results obtained during the first phase of the study, the second phase field validation study was formulated. In the second phase, the following activities were carried out:

1. Corroborate the findings of the first phase through field validation,
2. Understand local processes and issues related to planning, fund allocation, implementation and expenditure of NRHM funds,
3. Understand the local perspectives on NRHM related processes like bottom up planning, community participation in the monitoring and governance of local health institutions,
4. Identify possible gaps between existing planning processes, expenditure patterns and local health issues

Thus, the activities in the second phase also explored pragmatic, bottom-up policy advocacy options to address issues of critical importance in planning, fund flow and utilization of NRHM funds in the state.

1.3 Organization of the report

The report is organized as follows. The next section outlines the summary of literature reviewed, followed by a critique of NRHM based on the literature and related field experiences. This is followed by the chapter on secondary data analysis regarding important aspects NRHM; viz. analysis of Karnataka's PIPs and DHAPs, trends in fund flows and expenditures at the state and district levels, analysis of regional disparities in Karnataka and correlation analysis of expenditure, infrastructure and health indicators. The next chapter explains the activities of the second phase of the study together with the methodology for field validation, selection of field sites, instruments used and the analysis of quantitative and qualitative data collected during the field visits. Chapter 5 presents the summary of findings from the evaluation study. It discusses the results of secondary data analysis and the results of qualitative and quantitative analysis of data collected during field validation. The final chapter encapsulates the conclusions and recommendations drawn from this evaluation study.

2. Literature Review

This literature review draws from various policy documents, evaluation reports and academic publications that lay out the context and the necessity of such a large scale intervention as NRHM. It analyses the various dimensions of public health in the country (and Karnataka in particular) to understand critical issues that continue to influence the outcomes of NRHM. The intention of the literature review is to identify key policy perspectives on health care, the design, implementation strategies and immediate outcomes of NRHM, and critical issues that continue to affect these outcomes. The review is categorized into three sections: 1) policy overview and description of NRHM, 2) review of important evaluation studies of NRHM and 3) a critique of NRHM based on existing literature and field experiences.

2.1 Review of Health Policies

In this section, review of important health related policies including the description of NRHM itself is presented. The section provides an overview of the policy space in which the mission is envisioned and the primary outcomes expected from the initiative.

2.1.1 The National Health Policy, 2002

GoI has long recognized the role of health of people in the economic development of nation. The National Health Policy (Government of India 2002) documented the condition of the public health sector of the country and admits that there are many critical issues like low quality of health indicators, widespread regional disparities, low levels of public investment in health, lack of accountability of the public health system and under-utilization of public health infrastructure and services which need immediate attention.

The policy suggests the road-map and strategies to take in order to tackle these issues. Some of its important recommendations are: considerable increase in public investment in (and the role of centre/state) in health sector, the involvement of local governments in planning, implementation and monitoring of the health sector, the emphasis on primary health care and particularly Primary Health Centres (PHCs), the importance of women's health and inter-sectoral approach towards primary health care. The policy emphasizes that *all the strategies suggested by it will be contingent on capacity of the service providing agencies to absorb the intended increases in investment, the attitude of the service providers and improved standards of governance*. Hence the emphasis is not particularly on radically new strategies in health governance, but on changing mind-sets and attitudes of health service providers in individual states.

Looking at inability of the states to meet the financial burden of drastically improving the health sector, the National Health Policy recommends an active role for the Central government in the health sector. This is a crucial *change in perspective* in health governance since health is a state subject (and a major portion of the public health expenditure is borne by state governments).

In summary, among the umbrella of issues discussed, the National Health Policy underlines the need for higher investment and active role of the centre in the health sector and more involvement of local governments in monitoring and governance of health systems.

2.1.2 The Karnataka State Integrated Health Policy, 2004

The Karnataka state health policy (Government of Karnataka 2004) followed the formulation of the national health policy. It attempts to meet the expectations of the National Health Policy as well as reform the health sector in the state by recognizing the changes in the policy environment and the unique state specific requirements in the health. The Karnataka State Health Policy was based on the specific needs of the state and was an attempt to recognize and reconcile the large regional disparities that exist in the state's health sector. Further, it was the first of its kind in the state and drew a majority of its recommendations based on the report by the Task Force on Health and Family Welfare submitted to the state government in 2001⁸.

The policy reviews the gains made in health indicators and improvement in infrastructure made over the past decades. It also focuses in detail on the existence of 'health gaps' within the sector in the state. These gaps exist between rural and urban sectors (IMR: 70 in rural, 25 in urban areas based on SRS 2008), between different regions of the state (highlighting the districts in Hyderabad Karnataka and Belgaum division, for example, as shown in Table 3), between different communities and between genders. It mentions the "relatively low level of public confidence in public sector health services, particularly at Primary Health Centres" that affects the various health programmes implemented by the state.

Table 3. Selected district-wise Health Indicators in Karnataka

District	Safe Delivery*	Complete Immunization* (%)	Composite Health Index* (%)
Well Performing Districts			
Hassan	69.7	92.8	81.55
Shimoga	83	92.9	80.37
Kodagu	79.4	94.8	80.06
D Kannada	91.5	86	78.77
U Kannada	86.1	89.9	76.11
Udupi	91.5	86	75.97
Average Performing Districts			
Mandya	61.9	88	75.86
Mysore	69.7	92.7	75.7
Bangalore Rural	79.1	83.7	75.34
Bangalore Urban	90.6	77	75.19
Chitradurga	53.8	88.4	73.98
Tumkur	63.5	88	73.97
Dharwad	65.3	74.8	73.03
Chamarajanagar	69.7	92.7	72.18
Chikmagalur	78	83.5	72.13
Kolar	59.2	90.6	71.92

⁸ The task force recognized 12 major action items which included creation of public health cadre, integrated approach towards health care, involvement of community and PRIs, rigorous planning and monitoring mechanisms and focussing on minimizing disparities in health outcomes and access to health infrastructure.

Gadag	65.3	74.8	69.72
Belgaum	68.6	64.8	68.75
Haveri	65.3	74.8	65.66
Poor Performing Districts			
Bellary	54	52.6	65.54
Davanagere	53.8	88.4	65.43
Bijapur	50.1	53.2	62.86
Bidar	52.5	50.3	60.55
Raichur	48	37.2	58.34
Gulbarga	47	25.3	58.31
Bagalkot	50.1	53.2	54.71
Koppal	48	37.2	53.09

Source: Karnataka State Integrated Health Policy, 2004.

*Indicators devised by the National Commission on Population, 2001

Recognizing these issues, the policy indicates the prioritization of primary health care and addressing community health needs as the major approaches towards attaining better health indicators in the state. For this, it suggests a *synergistic approach through inter-sectoral coordination and involvement of PRIs*. In this regard, the policy agrees to provide equitable proportions of funding to primary, secondary and tertiary health care (55%, 35% and 10% respectively).

Other important forward looking aspects of the policy are: the *establishment of planning and monitoring unit* for organized health planning and tracking of established process and outcome indicators, *creation of two cadres within the department, namely medical care and public health cadres* and centralized and specialized sections within the department for drug procurement, engineering, construction and infrastructure maintenance.

The strategies adopted by the state health policy reflect on the challenges faced by the department of health and family welfare. Together with high gaps in health indicators across different geographical locations and communities and the reduced share of public finances on health expenditure, the health policy dedicates considerable thinking on reforming the existing administrative setup of the health department. The working of the department prior to recognizing these needs was essentially similar to that of any other line department of the government, with centralized planning and expenditure, compartmentalized activities, vertically alligned, disease specific interventions, less devolution of funds and little community participation and hence the lack of sufficient focus on primary health. These and similar challenges are documented in the report of the Task Force on Health and Family Welfare (2001).

In summary, the State Health Policy provides a conceptual framework for future health related policy reforms in Karnataka, as well as documenting the reasons why wide-spread governance reforms are needed within the health sector. It covers the major aspects of the agenda items recommended by the state's task force on health and family welfare. It is a broad but comprehensive statement of Karnataka's intentions and objectives with respect of health. Two important aspects of the policy that stand out are: *the recognition and understanding of existing disparities in the health sector (from human resources, infrastructure, process indicators to health outcome*

indicators) and the emphasis given to planning, standardization of health indicators and monitoring of health related issues.

2.1.3 The National Commission on Macroeconomics and Health, 2005

The report of the National Commission on Macroeconomics and Health (NCMH)(Rao, K.S *et al*, 2005) documents the decline in public expenditure on health in India (from 1.3% of GDP in 1990 to 0.9% of GDP in 1999, and the continued trend during the pre-NRHM). This trend is reflected at the state level as well, with the share of health in revenue budgets of states including Karnataka (Figure 3), exhibiting a gradual decline.

Evidence generated through the NCMH provided a broad platform for GoI to plan and implement interventions that sought to ensure equitable access to quality healthcare by its citizens, especially the rural population. Further, the report documented in detail some of the critical failures of the public health system of the country. It highlights *the lack of a synergistic approach that links health interventions with determinants such as hygiene, sanitation, drinking water, and nutrition, and the existence of vertical health programs that posed challenges in efficient management of the sector*. It was found in the NCMH study that, over a quarter of hospitalized Indians fall below the poverty line after expenses for hospitalization, which underlined an urgent need to strengthen public health system to minimize out-of-pocket expenses.

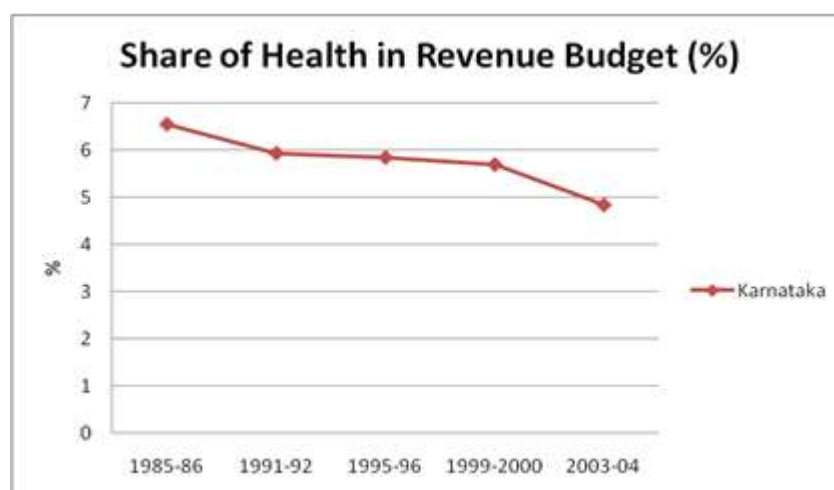


Figure 3. Share of health in Karnataka's Revenue Budget

The above three documents capture the thinking and approach towards public health policy in India (and specifically in Karnataka) in the years during which NRHM was conceptualized. *While the strategies that were included in NRHM were not new individually, NRHM as a mission provided the space, the urgency and the financial support to integrate these strategies and implement them in a time-bound framework under one broad umbrella*. The next sub-section describes aspects of NRHM that are important for the current evaluation study.

2.1.4 The National Rural Health Mission, 2005

In 2005, the UPA Government launched its flagship program – National Rural Health Mission (NRHM) – with the goal of *improving the availability of and access to quality health care by people, especially for those residing in rural areas, the poor, women and children*(Government of India 2005a).

The mission is aimed at carrying out ‘architectural corrections’ necessary for an efficient public healthcare delivery system. NRHM is one of the largest ever public health schemes in the world aimed at improving the maternal and child health services (Kaveri Gill 2009; Shekhar 2009), through the enhancement of rural health infrastructure and decentralised public health governance.

NRHM aims to “provide effective healthcare to rural population throughout the country with special focus on 18 states which have weak public health indicators and or/weak infrastructure”. As part of the mission, GoI committed to rise public spending on health from 0.9% of the GDP to 2% – 3% by the end of the mission period. The high focus states are Uttar Pradesh, Bihar, Rajasthan, Madhya Pradesh, Orissa, Uttaranchal, Jharkhand, Chhattisgarh, Assam, Sikkim, Arunachal Pradesh, Manipur, Meghalaya, Tripura, Nagaland, Mizoram, Himachal Pradesh and Jammu & Kashmir. The goal of the program is to improve the availability of and access to quality health care for people, especially those residing in rural areas, the poor, women and children (Government of India 2005a)

Objectives of NRHM

- Reduction in Infant Mortality Rate (IMR) and Maternal Mortality Ratio (MMR)
- Universal access to public health services such as Women’s health, child health, water, sanitation & hygiene, immunization, and Nutrition.
- Prevention and control of communicable and non-communicable diseases, including locally endemic diseases
- Access to integrated comprehensive primary healthcare
- Population stabilization, gender and demographic balance.
- Revitalize local health traditions and mainstream AYUSH
- Promotion of healthy life styles

Core strategies

The NRHM mission document proposes 10 core strategies for realizing the proposed objectives. The important core strategies of the mission were:

- Capacity building of PRIs to own and govern public health services.
- Promote access to improved healthcare at household level through ASHAs.
- Community based, inter-sectoral bottom up planning for health beginning from health plans for each village, integrated at each up to the state and national level
- Preparation and implementation of an inter-sectoral District Health Plan prepared by the District Health Mission, including drinking water, sanitation & hygiene and nutrition
- Integrating vertical Health and Family Welfare programmes at National, State, Block, and District levels.

- Strengthening sub-centres and providing infrastructure in existing PHCs and CHCs based on Indian Public Health Standards (IPHS)⁹ recommendations.

Expected outcomes

The NRHM mission document lists 24 expected outcomes, grouped into two sections: national level and community level. These outcomes are presented in full in the NRHM Mission document (Volume 2 of this report). The comparison of health indicators and infrastructure before and during NRHM implementation at the national level and state level is presented in Section 1.1.1, pp. 2). The important expected outcomes are:

a. At the national level

- Infant Mortality Rate reduced to 30/1000 live births
- Maternal Mortality Ratio reduced to 100/100,000
- Total Fertility Rate reduced to 2.1
- Upgrading Community Health Centres to IPHS standards.
- Increase utilization of First Referral Units from less than 20% to 75%

b. At the Community level

- Availability of trained community level worker at village level, with a drug kit for generic ailments
- Regular Health Days at Anganwadi level for provision of immunization, ante/post natal checkups and services related to mother & child healthcare, including nutrition
- Availability of generic drugs for common ailments at Sub-centre and hospital level
- Good hospital care through assured availability of doctors, drugs and quality services at PHC/CHC level
- Improved access to Universal Immunization
- Improved facilities for institutional delivery through provision of referral, transport, escort and improved hospital care subsidized under the Janani Suraksha Yojana (JSY) for the Below Poverty Line families
- Provision of household toilets
- Improved Outreach services through mobile medical unit at district levels

Role of states in NRHM

Although NRHM is a clear confirmation of the Central government taking a more active and hands-on approach in public health governance of the country, health is a state subject. Hence NRHM proposes the activities under the mission to be carried out under the leadership of the states. Hence, the modalities of implementation, innovative schemes and other activities are planned by individual states, based on the broad framework proposed under NRHM. The 18 high focus states receive special assistance from the Centre. Further, states have to make commitments on key features of NRHM like increasing their yearly public health budget by at 10%, increased devolution to PRIs in implementation and governance of NRHM and adherence to the stipulated national performance benchmarks based on which central funds shall be released.

⁹ Indian Public Health Standards are a set of standards prescribed by the Directorate General of Health Services, Ministry of Health & Family Welfare, in order to provide optimal quality of health care. These standards have been prescribed for Sub-Centres, PHCs, CHCs and other health institutions.

Implementation Approach

The Mission identified five main approaches (Figure 4) to enforce actions towards establishing an accountable and functional public health system (Government of India 2006). *Community involvement in the management of local health system is one of the approaches that reflect NRHM's strategy of decentralisation. This is realized by building capacities of PRIs in health planning; supporting decentralisation with untied grants; developing community health functionaries such as ASHAs; and forming hospital management committees with adequate representation to the local community.* NRHM mandated that every village shall have a Village Health and Sanitation Committee (VHSCs), which is constituted to reflect and articulate the aspirations of local community.

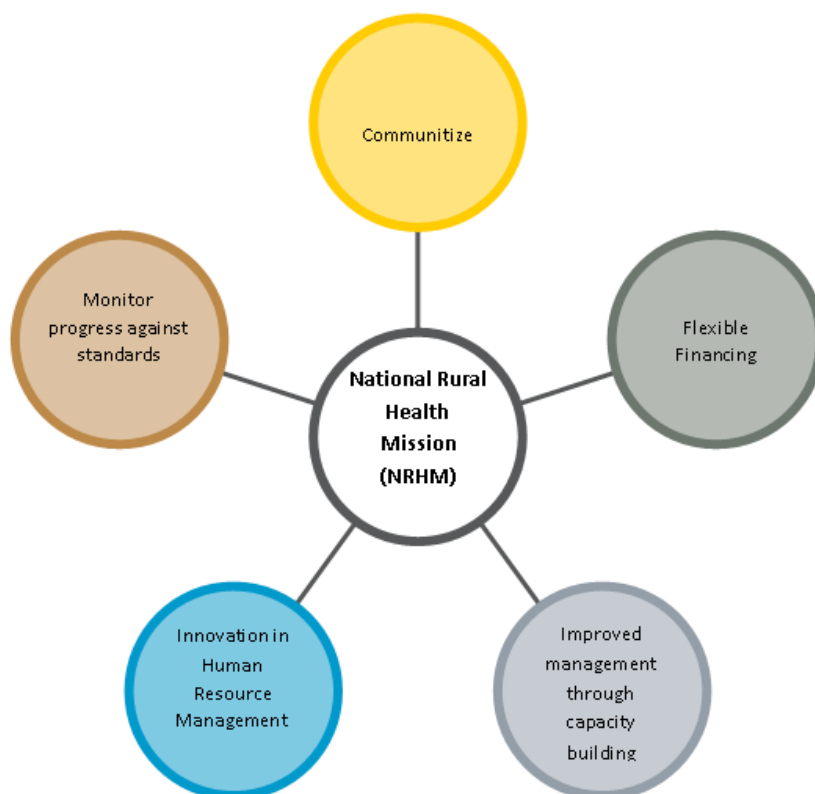


Figure 4. Five Main Approaches of NRHM

NRHM seeks to integrate vertical health programs and emphasizes a synergy between health and its determinants, which is achieved by inter-sectoral convergence. A flexible financial pool was envisaged to support this holistic approach to the development of public health system in rural areas. Funds are granted to health centres at every level: VHSCs are provided with an annual untied grant of Rs. 10000 to initiate community actions at the local level; Sub-Centres (SCs) are entitled to an annual untied grant of Rs. 10,000 to meet financial needs of urgent activities; Public Health Centres (PHCs) get an annual untied grant of Rs. 25000 for local health action and Rs. 50,000 as Annual Maintenance Grant and Rs 1,00,000 as Corpus Grants to maintain and improve their physical infrastructure. One of the mandates of NRHM is also to upgrade all SCs, PHCs, and CHCs to conform to the standards set by IPHS. For an ambitious national initiative such as

NRHM, success to a greater extent rests on the efficient management of programme. This requires capacity building of health officials and functionaries in management skills.

NRHM allows for long-term engagements with NGOs in training implementing officials with requisite skills. Human Resource Management is a critical area that needs to be addressed and NRHM plans to strengthen human resource by additional nurses, preferably selected from the local community, and AYUSH doctors. As the mission progresses, this initiative results in increased number of 24 x 7 PHCs providing medical services round the clock. Independent monitoring committees at various levels, along with the National Health Systems Resource Centre (NHSRC) and State Health Systems Resource Centre (SHSRC), ensure the progress of the Mission with periodic evaluations. Public health institutions are evaluated against IPHS, thereby encouraging constant improvement in health infrastructure.

ASHA

The Accredited Social Health Activist is called by the acronym ASHA. She must be a primary resident of the village with formal education of at least the eighth class, and preferably in the age group of 25-45 years. She would be selected by the Gram Sabha through an intense community mobilization process, and provided with training. She would also be equipped with a drugs kit. After selection, ASHA will be given induction training for 23 days spread over a period of 12 months. ASHA will be given periodic training, re-training and on-the-job training. She will act as a mobilizer, facilitator and a link between ANM at sub-centre, Anganwadi worker (under the Integrated Child Development Services programme) and the community, and play a major role in forging ownership of the community for the health programme. ASHA will be the first port of call for any health-related demands of deprived sections of the population, especially women and children, who find it difficult to access health services. She will ensure better access to universal immunization, safe delivery, new-born care, and prevention of water-borne and other communicable diseases, nutrition and sanitation. She will be accountable to the Panchayat, and will be entitled to receive performance-based compensation for providing health services.

The mission has brought about significant nation-wide changes with respect to health status, which is widely acknowledged by researchers and policy makers alike. It has been possible through the mission to reduce MMR and IMR, which is one of the critical outcomes set for this program. The MMR at the national level has reduced from 254 per 1 lakh live births in 2004-06 to 212 per 1 lakh live births in 2007-09. At this rate, it is estimated that in 2012, the MMR would drop to 156 per 1 lakh live births. However, this figure fails to reach the target of 100 per 1 lakh live births, set by the eleventh five year plan.

While at the national level NRHM provides an impressive picture of its outcomes, there exist substantially wide disparities between states and within states. Of all southern states, Kerala and Tamil Nadu remain at the top with an MMR of 100 per lakh live births, while Karnataka has only managed to achieve an MMR of 178 per lakh live births (Government of India 2011a). Such inequities are also reported within states, with certain districts or regions significantly lagging behind the rest, an issue that requires immediate attention and measures to minimize imbalance.

The national IMR has recorded a decline of 7 points from 57 per thousand live births in 2006 to 50 per thousand live births in 2009 (Government of India 2011a). The under 5 mortality rates at the national levels are also encouraging, with similar trends as that of IMR.

A major outcome of NRHM is the creation of a pool of community health workers: Accredited Social Health Activists (ASHAs). ASHAs were envisaged as a link between the community and health institutions and an important health functionary at the grassroots level. Under NRHM, it was stipulated that every village with a population of 1000 be provided with one ASHA, who is trained and oriented towards the goals of NRHM. *India is now home to a whopping 849331 ASHAs (as on Dec 2010) as a result of perhaps the world's largest community health volunteer program* (Government of India 2011a).

Though the Mission has not been able to meet its target to increase public spending to 2-3% of the GDP, it has been successful in reversing the alarming trend of dip in public health spending prior to NRHM. Figure 5 highlights the rise in public expenditure on health as percentage of GDP (Government of India 2010b).

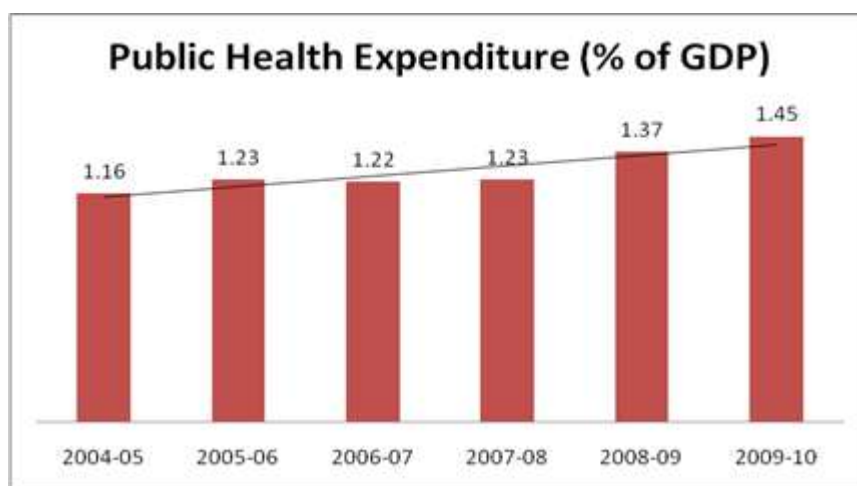


Figure 5. Public Health Expenditure as % of GDP

Planning in NRHM

It can be seen from the discussions above that the core strategies of NRHM requires a governance structure which is in stark contrast of what existed in the state (described in the discussion on the State Health Policy, pp 6). *One of the most important underlying principles of NRHM is decentralisation, which is the key to bottom-up planning and community participation.* NRHM envisages the District as an important unit of planning and consequently, the District Health Action Plan (DHAP) is used as an instrument to evolve the state's Program Implementation Plan (PIP). The DHAP should be, to the maximum extent possible, an aggregation of Village and Block Health plan (Government of India 2006). This hierarchy ensures that plans rise from the villages to block to district to state.

The decentralised planning envisaged under NRHM (Figure 6) requires setting up of planning teams and committees at various levels – Habitation/Village, Gram Panchayath (SC), PHC (Cluster level), CHC/Block level and District level. At Village, PHC and Block levels, broadly representative committees would perform both planning and on-going monitoring functions. A similar

committee at District level would be involved in reviewing plans, based on drafting by the specialized district planning team.

Besides large scale consultations, planning teams have to conduct household surveys, help select ASHAs, and organize training for community groups and health functionaries. NGOs have a role in the entire planning process. Orientation of planning team and contractual engagement of professionals as per need has to be the starting point for the planning process. Village Health Plans are likely to take time and therefore District, Block and Cluster level consultation may have to form the basis for initial District Plans. Even then, Block will be the key level for development of decentralised plans. Village level Health and Sanitation Committee would be responsible for the Village Health Plans. ASHA, the Anganwadi the Panchayath representative, the Self Help Group leader, the Parents Teachers' Association Secretary and local Community Based Organization representative would be key persons responsible for the household survey, the Village Health Register and the Village Health Plan.

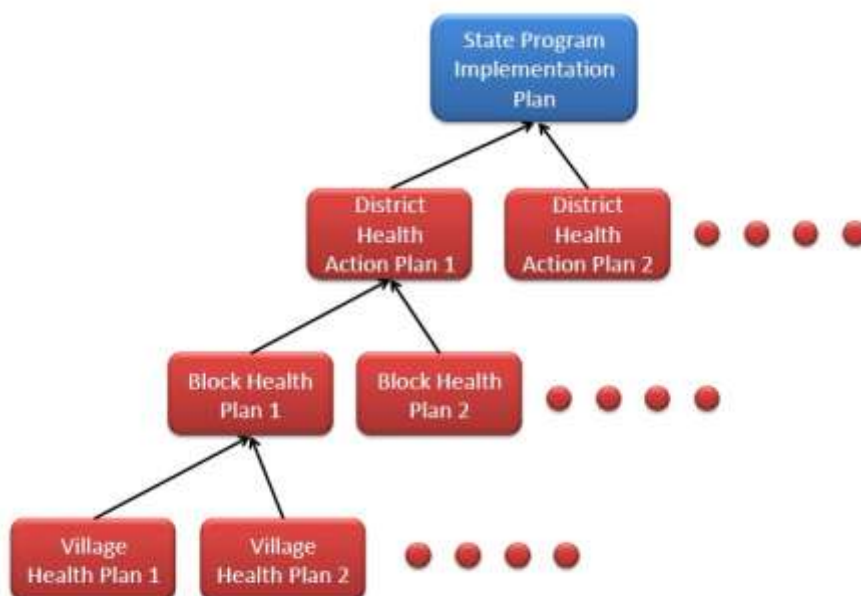


Figure 6. Planning Process in NRHM

The Gram Panchayath Level Health Plans, comprising a group of villages in many states and a single village in a few, will be worked on at the Sub Centre Level. The Gram Panchayath Pradhan, the ANM, the MPW, a few Village Health & Sanitation Committee representatives will be responsible for the Gram Panchayath Health Plan. They will also be responsible for over view and support for the household survey, preparation of Village Health Registers and preparation of Village Health Plans- the Gram Panchayath /SHC level would also organize activities like health camps to facilitate the planning process.

The Cluster level will be led by the PHC/Additional PHC. Ordinarily there will be 1-4 Clusters in a Block. The PHC Health Monitoring and Planning Committee (P&MC) will facilitate planning inputs of Panchayath representatives, along with other inputs from the community to formulate a

broad plan. In this context the Medical Officer in charge of PHC will work in close coordination with the Pradhan/s of the Gram Panchayath/s covered in that Cluster. The Cluster level would be responsible for over viewing the work of Gram Panchayath/s and for organizing surveys and activities through the SCs.

The Block/CHC level monitoring and planning committee will review the Block Health Plan. The Adhyaksha of the Block Panchayath Samithi, the Block Medical Officer, the Block Development Officer, NGO/CBO representative, head of the CHC level Rogi Kalyan Samithi will be key members of this team. Additional social mobilization professionals and planning

resource persons will also be contracted at the Block level to develop a good Resource team at that level. The Block level Health Mission Team will finalize the Block Health Plans. The Block Health Teams would also supervise household and health facility surveys. They would also organize public hearings and health camps in order to make the planning process activity intensive.

The DHAP is to be prepared by the District Health Society and the plan is approved by the District Health Mission. The District Health Mission will have a Health monitoring and planning committee responsible of providing overall guidance and support to the planning process. A draft plan will be formulated by the DHS, and presented for discussion to the broader committee.

After relevant discussion and modifications in the committee, the district plan will be finally streamlined, which, besides a few existing government functionaries, will also have NGO representatives and a few professionals specially recruited to meet planning and implementation needs. The District Planning team will be responsible for household Surveys and Health facility surveys. They would also facilitate organization of health camps and public hearings in order to make the planning process activity intensive.

The Zilla Panchayath President, the District Medical Officer, the District Magistrate would be key functionaries of the District Team. During the planning exercises at the state level, three approaches for equity based allocation of resources has been suggested by NRHM (Government of India 2006):

Equal distribution of resources to all districts: 10% of the funds from the ministry is retained by the state for expenses at the state level and the rest of the funds are equally distributed among districts. However, this method of fund distribution often fails to take into account the specific

Contents of District Health Action Plan

- I. Background
- II. Planning Process
- III. Priorities as per the background and planning process
- IV. Annual Plan for each of the Health Institutions
- V. Community Action Plan
- VI. Financing of Health Care
- VII. Management Structure to deliver the programme
- VIII. Partnerships for convergent action
- IX. Capacity Building Plan
- X. Human Resource Plan
- XI. Procurement and Logistics Plan
- XII. Non-governmental Partnerships
- XIII. Community Monitoring Framework
- XIV. Action Plan for Demand generation
- XV. Sector specific plan for maternal health, child health, adolescent health, disease control, disease surveillance, family welfare etc.

needs of each district and regional variations. It is assumed that all districts are of same size and population, which is hardly possible in real cases.

Equity based distribution based on socio-demographic characters: This approach assigns weights to each district based on its social and demographic indicators, thereby ensuring that backward districts are adequately funded. The socio-demographic indicators that can be considered include % of urban population, % of SC-ST population, IMR, MMR, and physical infrastructure. The values for each indicator are grouped and respective scores are awarded to the districts. Based on this score, districts are categorized as a) Most Vulnerable; b) Vulnerable, and c) Least Vulnerable. Subsequently, a weightage of 1.3 and 1.15 could be assigned to the Most Vulnerable and Vulnerable districts respectively.

Need based approach: This allocation approach responds to the specific needs of each district. In reality however, a mixture of the three approaches can be seen in the preparation of state PIPs and actual fund disbursements. Further analysis of PIPs reveals that a large portion of the fund allocation is based on number of units of SCs, PHCs, CHCs rather than actual indicators of equity and specific needs of the district (for example: NRHM allocates fixed amount of funds for maintenance, untied funds and drug procurement which make significant proportion of funds received by individual districts, all of which are dependent on existing number of units of health infrastructure). These issues are discussed in detail in the following sections.

Fund Flow in NRHM

The NRHM integrates all related; inter linked and stand-alone schemes in the health sector including RCH, National Disease Control Programs (NDCP), Integrated Disease Surveillance as well as new initiatives proposed under NRHM and National Commission on Macro Economics and Health. A common and flexible fiscal pool has been designed to cover all NRHM activities and various financial resources including external aid have been rationalized and compressed into four categories. These include: (i) operational support to states (released through treasury route); (ii) operational cost of institution supported by ministry; (iii) activities centrally implemented; and (iv) activities in the State Programme Implementation Plan (released through State Health Societies). Support for the District Health Action Plans falls under the category of support to activities in the State PIP.

The NRHM funds are released to states through integrated health societies under following components:

- Reproductive and Child Health Programme (RCH Flexipool)
- Additionalities under NRHM (Mission Flexipool)
- Routine Immunization (including Pulse Polio) (RI)
- National Disease Control Programs (NDCP)
 - a. National Vector Borne Disease Control Programme (NVBDCP).
 - b. Revised National Tuberculosis Control Programme (RNTCP).
 - c. National Leprosy Control Programme (NLCP).
 - d. National Trachoma & Blindness Control Programme.
 - e. National Iodine Deficiency Disorder Control Programme (NIDDCP).

f. Integrated Disease Surveillance Project (IDSP).

Figure 7 illustrates the fund flow mechanism from the central to the state and subsequent levels. NRHM stresses on providing financial autonomy to states and districts, so that local requirements are taken care of through immediate health actions.

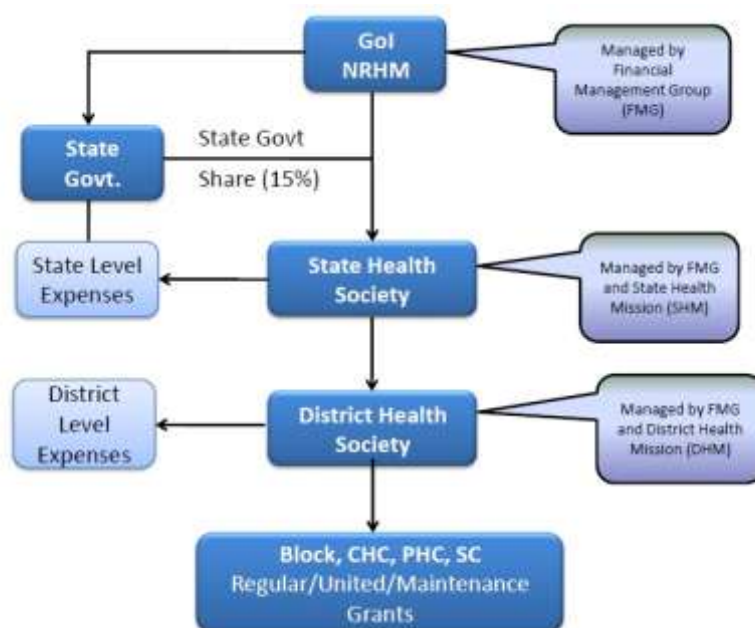


Figure 7. Fund Flow under NRHM

NRHM also aims to increase public health expenditure by 10% annually during the mission period and the states are expected to contribute 15% of the outlay annually towards health. Following the submission of state PIP, the National Program Co-ordination Committee (NPCC) approves the same and funds are released for the upcoming financial year. The funds are transferred to the State Health Society in four components and additionally, the society will receive the state's share of 15% of the total outlay. The funds are generally released to states in 3 or 4 tranches upon submission of Utilization Certificate and other documents.

NRHM has evolved the concept of 'funneling' for effective horizontal integration of programmes at the district level (Figure 8). All activities and programs under RCH are supported by RCH Flexipool and additional activities under NRHM utilize financial resources in the NRHM Flexipool. Innovative fund transfer mechanisms such as e-transfer are encouraged under the mission.

Funds for components A, B, and C are transferred to the bank account of SHS, to which the Mission Director, State Accounts/Finance/Program Manager, and State Program Officer act as joint signatories. Similarly, at the district level, the Chief Medical Officer, District Accounts/Program Manager, and District Program Manager are joint signatories for the bank account of District Health Society. However, for NCDPs (Component D), each vertical program is handled by separate bank accounts managed by respective program managers.

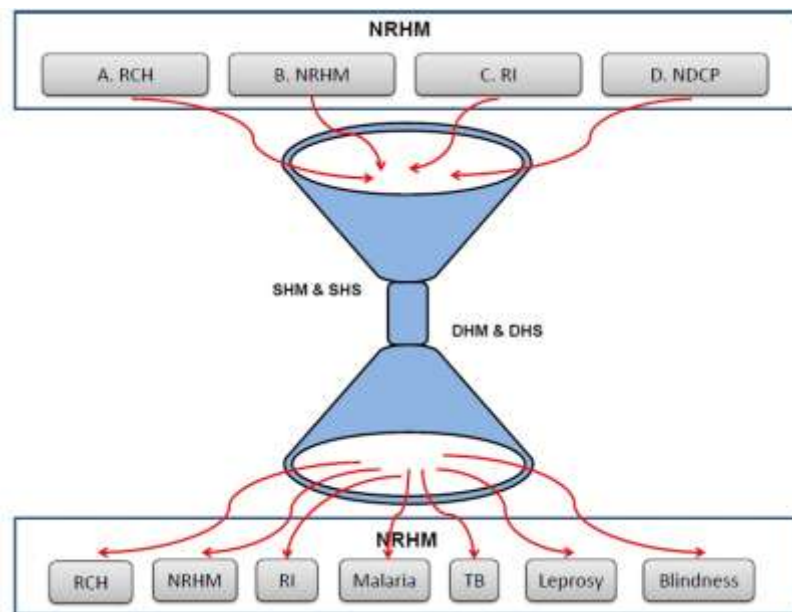


Figure 8. Funnelling of Funds in NRHM

2.2 Review of important evaluations related to NRHM

2.2.1 Common Review Missions¹⁰ - Second Common Review Mission, 2008

The Common Review Mission has been created with the mandate of yearly review concurrent evaluation of NRHM. It is conducted every year selecting 10 – 15 states. In the Common Review Mission evaluation conducted in 2008, Karnataka was one of the states selected for the common review. The activities under the review included state briefings, field visits, review of state programmes and activities. It documents Karnataka's state picture (infrastructure, human resources, health indicators) and experiences from field visits in Raichur and Tumkur (Government of India 2008). It also suggests recommendations on key issues of NRHM based on observations.

- Karnataka's health finance status is good since it is endowed by multiple initiatives similar to NRHM: KHSDRP, UNICEF Projects, 12th Finance Commission and other schemes. Karnataka has been able to streamline KHSDRP funds with NRHM.
- Infrastructure in Karnataka is impressive, although the quality of works needs to be reviewed.
- The shortage in HR has been highlighted in the document. Shortage of specialists, MOs, ANMs, vacancies in ANMTCs, DTCs have been mentioned as crucial factors hampering the success of NRHM implementation in Karnataka. The document suggests redeployment, contractual appointments and partnering with private organizations and NGOs for delivering health services in remote areas.
- *Most prerequisite structures and processes prescribed by NRHM are in place. However, the quality of outputs needs to improve:*
 - a. Communitization processes in place, however, doctors need to be sensitized

¹⁰Two rounds of the Common Review Mission were selected: 2008 and 2011 for literature review in this study. These two rounds included the review of Karnataka's implementation of NRHM.

- towards participatory methods in planning.
- b. At the district level, institutional involvement of PRIs exists. However, officials complain that public representatives are not showing enough interest (resulting in delays in decision making and expenditure, political interference and serious violation of guidelines).
 - c. At taluk and PHC levels, infrastructure is in place, grants have been utilized but the mission team observed the lack of maintenance in existing facilities. In FRUs and upgraded PHCs, utilization levels needs to improve.
 - d. HMIS is in place, but needs to integrate with Geographical Information System to help in decision making for planning and monitoring.
 - e. In many PHCs, contractual AYUSH doctors have been recruited. However, role clarity with respect to MOs and contractual AYUSH doctors working in the same PHCs has to be achieved.
 - f. Untied funds and maintenance funds are being released at all levels. However, streamlined monitoring mechanisms have to be put to review and monitor expenditures done at the PHC, SC and VHSC levels.
 - g. The use of sub-centres for curative care is minimal. Considering the fact that Karnataka's infrastructure is relatively better positioned, there could be opportunities to better utilize these facilities, provided sufficient, qualified human resources are in place. This is a good opportunity to look at ways in which the planned "public health cadre" can be employed at the grass root levels.

2.2.2 NRHM - Meeting People's Health Needs in Partnership with States - The Journey So Far - 2005 - 2010

The GoI compiled various evaluations and independent studies that analysed the performance of NRHM in the country and produced this report in 2010 (Government of India 2010b). This document helps to analyse whether the strategies adopted through NRHM have started yielding the expected results, measured through process indicators as well as outcome indicators. The critical approaches of NRHM: partnerships with states, importance of rural primary health care, the Centre's major role as a provider and facilitator (rather than absolute guide) are the major objects of analysis in the document. The document discusses the merits and demerits of this approach and allows for states to suggest alternate ways. The document is based on results and inferences drawn from a wide variety of reports and evaluations of NRHM – DLHS, SRS, Annual Common Review Missions, Performance audit from Comptroller and Auditor General of India (CAG), Citizen and Community Monitoring reports, independent studies etc.

Important issues

Although the intended public investment in health (expressed as % of GDP, and % of Centre and State budgets) have not reached the targeted levels, there is a substantial increase in the Centre's yearly outlays of NRHM (an average annual increase of 20% over the last 8 years). The report suggested that, as priority tasks for the future, clear action plans addressing health issues in most backward districts have to be developed.

The report presents the following aspects as the major successes of NRHM:

- Increase in infrastructure, personnel, creation of community represented committees at various levels of health governance and allowing their participation in planning and management and monitoring of rural health institutions.
- Improved process indicators like drug availability, use of infrastructure, presence of community health workers, increased institutional deliveries, community participation in primary health management
- Innovations taken up by various states (since NRHM is seen as a State government led initiative)
- Major challenges faced in the 5 years of implementation of NRHM:
 - a. Although investment has been made, quality of planning processes (that are responsive to local needs) have to improve.
 - b. Monitoring of efficiency of expenditure of untied resources is yet to evolve
 - c. Streamlining logistics for faster achievement of goals (many health outcomes are not in pace with the expected outcomes of NRHM)
 - d. The pace of decentralisation is slow initially. The document tends to blame individual states for the perceived challenges of decentralisation.
 - e. The mismatch between speed of increase in demand from public health institutions and the speed of building resource/infrastructure capacities.
 - f. The problem of human resources within the health sector

The document captures in a nutshell the implementation and experience of NRHM over the period of 4-5 years. However, it does not capture how NRHM explicitly ensures that individual state PIPs (and DHAPs) and their expenditures contribute to achieving the health targets of NRHM.

While the presence of disparities in access to health care and outcomes are acknowledged, the report (and NRHM implementation documents in general) does not prescribe specific measures to counter disparities (that can be adopted in PIPs and directly linked to health outcomes). This is left to the '*leadership*' of the states. It does not analyse the relative disconnect between quantity of increased expenditure, and relatively less progress in process and outcome indicators of health.

Karnataka specific comments in this report are:

- Karnataka started late but its HR position has improved.
- Issues like low utilization of inpatient services, true community participation etc needs closer monitoring.
- Further reorganization of the health sector is needed (as mentioned in the Karnataka State Integrated Health Policy, 2002) and the establishment of public health trust at the directorate level.

2.2.3 Fifth Common Review Mission, 2011

The document describes Karnataka's implementation of NRHM since 2005 (specifically after the second review mission). It documents Karnataka's state picture (infrastructure, human resources, and health indicators) and experiences from field visits in Bijapur and Chamarajanagar (Government of India 2011b). It also suggests recommendations on key issues of NRHM based on observations.

The review points out that Karnataka has more infrastructure than prescribed by IPHS (PHCs, FRUs, CHCs and District Hospitals). Bed Occupancy Rate in FRUs and 24 x 7s is decreasing every year (to about 39.37% in 2010). This denotes that either there was inefficient demand analysis in FRUs or there is no matching increase in HR to take up the expected increase in patients. This observation matches with the 2008 observation on low utilization rates of physical infrastructure. Construction of new PHCs has stopped and only maintenance and up-gradation work is being taken up since 2008 (*although statistics provided by the state in the PIP, successive Rural Health Statistics refute this*)

Instead of deciding to go for wholesale up-gradation of infrastructure (from PHC to CHC), the state should do comprehensive data analysis to find out if demand/load exists for the new facilities

The 5th review commission specifically comments on issues raised in the 2nd review commission's reports:

- the quality of new infrastructure seems to have been improved (based on field observations in the two districts visited)
- The District Training Centres still continue to have high amount of vacancies. However, they are conducting training programmes as planned in PIPs. The review mission does not comment on the nature of training programmes being conducted in the DTCs.
- ANMTCs are functioning properly, although ANMs are not being recruited in the state (students have to be employed in other states). However, it is not known whether ANMs are not being recruited even on contractual basis in the state.
- HR supply situation has improved although the state does not have a long term strategy to map requirements, supply and individual growth.
- Based on its field observations, the review commission comments that maintenance and cleanliness issues have definitely improved (but the inference is made by visiting different hospitals).
- Outreach activities of SCs have improved substantially. However, deliveries at SCs are not given importance (and may not be treated as institutional), and are not happening widely. If this happens, utilization may improve as well as create better monetary benefits for the ASHA.
- Variation in planned numbers and expenditures in JSY are substantial (actual numbers are smaller than planned)
- State component of funds are not being released in time (and there is a net deficit of funds)
- Fund management, record maintenance and transparency in expenditures need improvement. In many cases, the review found delays in payments.
- Communities feel that VHSC expenditures are not transparent. Further, ARS members need orientation on proper utilization of untied funds.
- As mentioned in the 2nd review mission, the infrastructure and processes are in place. The state needs to implement the mechanism of "outcome oriented supportive supervision", especially at the sub-district level.
- All maternal deaths are not captured (42% not represented). They need to be profiled

and analyzed to understand common trends and reasons for deaths.

The review mission also commented on the status of irregularities in PPP model of running PHCs. In Bijapur, the mission found that in a hospital run in this model, an Ayurvedic doctor was prescribing Allopathic medicines to patients. The Mobile Medical Unit being run in this model provided only OPD services, although it was fully equipped and did not link ANC check-ups and other regular services that can be provided by the staff present in the Mobile Medical Units (MMU).

The state has reported that the FMRs and other formats required to be submitted and maintained are complex and keep changing. This complicates and confuses record keeping. However, the review mission does not capture the problems and inefficiencies that arise due to this issue.

DHAPs are based on taluk plans (which are budgets rather than action plans). Funds are released to districts based on DHAPs. Hence, it is difficult to judge whether taluk and district plans are actually based on needs and priorities.

2.2.4 Report of the working group on NRHM for the twelfth five year plan (2012 - 2017)

A working group was formed to contribute towards the health aspects of the 12th five year plan under the chairmanship of Shri K Chandramouli, Secretary, Dept. of H&FW, GOI. The document captures the NRHM experiences, strategies, current outcomes, innovations, assessment of strengths and weaknesses and the way forward in the 12th five year plan (Government of India 2011a).

- In the four southern states, Kerala and Tamil Nadu have already achieved the goal of a MMR of 100/100000 live births but, within the group, Karnataka lags significantly behind with a MMR of 178/100000 live births and at current rate of decline would only reach about 130/100000 live births in the year 2012.
- The report recognizes the low absorption rates initially (till 2008). It says this was due to the long 'expenditure cycle' in procurement and civil works (2/3 years).
- Most of the NRHM funds released (31%) went to finance the health system strengthening taken up under NRHM flexi-pool. This is followed by funding the maternal and child health interventions under RCH-II (28%), immunization and disease control programmes (14%) and on Sub Health Centre expenses (27% under the head "infrastructure maintenance" – which flows through the treasury route and not under society route)
- The period of NRHM has not only seen substantial increase in central government's expenditure on health, but also in the state government expenditures as well. The instances of substitution of state expenditures with NRHM funds have been few. However, this view is contested by authors like Dr Ravi Duggal (Duggal 2009). Further, the increase in state expenditures is in non-plan items (however this could be increase in salaries only) and need not reflect increased investment for health.
- The study notes that funds flow within the districts was on a '*per facility normative basis*' and not responsive to utilization patterns leading to scarcity in some facilities and

stagnant funds in others. This is corroborated in the CAG's report on NRHM as well (Comptroller and Audit General of India 2008). This report states that states with low health infrastructure and less population tend to receive lesser allocations, although their health indices are not necessarily better. This results in states having weaker health indices receiving lesser amounts of funds (and similarly, intra-state disparities too continue to exist). Facilities which have higher volume of cases and which are more utilized because of central location or better quality service providers need to be prioritized for better infrastructure. Similarly *mapping areas of lack of access and using such gap identification to locate new facilities must also be done*. The document says that *it is impractical to achieve the same level of service delivery and the same range of services across all facilities of a same type (contesting the IPHS recommendations which are universally applicable)* and suggests provision of infrastructure based on existing demand for health services. However, this view is contested in the field level rapid appraisal study in Karnataka (James et al. 2009), which says that utilization is directly linked to available infrastructure (rather than providing infrastructure based on current levels of utilization).

- The expansion of management structures and institutions, has not kept pace with requirements and this results in the slowdown in the pace of the implementation of programmatic activities.
- *Non-inclusiveness in "expanding capacity to spend" is also a major constraint to expanding expenditure* (Limited absorptive capacity, awareness about expenditure options, fear of audit etc) at the grass root level. This is corroborated by the field based study (Gayithri 2012) in Karnataka as well. The report further points to the fact that the PIP and the actual resource support are not in-sync.
- Though there are concerns of under-utilization and lower absorption of funds at the micro level, trends have started emerging as NRHM implementation reaches its maturity. The utilization rate of RCH Flexipool funds has increased from 27% to 104% during 2005-2011. The utilization rate of Mission Flexipool funds has catapulted into a staggering 142% in 2010-2011 from 4% in 2005-06. On an average, in the period of six years of NRHM, RCH and Mission flexipools have been utilized at an impressive rate of 93% and 98% respectively. Major reasons cited for improvement in absorption of funds are better understanding of NRHM programs and procedures through capacity building of institutions and increased deployment of skilled human resource.

2.3 Critique on NRHM and the public health policy of India

Based on the review of important policies related to NRHM both at Centre and State levels, review of evaluations and academic literature, this section presents our critique on specific aspects connected to NRHM. These include our impressions on the overall picture of governance in the health sector, the important aspects of NRHM like fund flow, planning, devising of tools to measure outcomes, the amount of flexibility provided to states and the pattern of reviews of the mission. The aim of this critique is to summarize and capture the important issues of debate, which can be addressed as part of the evaluation study.

2.3.1 Health Sector Governance

Looking at academic literature, policy documents and evaluations, it is clear that the status of health as a subject of concern and critical issues in it has been expressed continuously and in detail in the discourse of development in India (Peters et al., 2002; Banerji, 2005; Government of India, 2005b; Qadeer, 2008; Sinha, 2009).

Problem analysis in policy documents, evaluations and even in NRHM's mission documents are accurate, comprehensive and present a detailed enquiry of the existing problems. Issues like

- Disparities in access to health services and facilities, health indicators among groups like Urban and Rural, Men and Women, different social class groups
- Share of health expenditure in BPL households, its effect on their livelihoods
- Ideal share of public expenditure, state and centre's components in it
- HR problems in the health sector
- Importance of public health in the health sector

have all been well documented and many cases, the suggested solution paths are also plausible. However, in implementation, we find that scheme/programme activities do not directly address these issues and the problems persist. Further, successive evaluations and review missions note the problems without going to the root cause of the problem or providing solutions for it.

Further, critiques of the path health governance has taken have tracked and highlighted many recurring issues (relevant to the current design and practice of NRHM as well) like *lack of epidemiological vision towards public health, selective primary health care* (Banerji, 2005, p. 3255; Nayar, 2004, p. 4873), *drift towards unregulated privatization, continuous neglect of public health (both in increasing efficiency of public health activities and creating competent public health professionals), failure to attain ground level inter-sectoral approach towards health* (Ashtekar 2008, 25), *political interference and misplaced priorities* (Banerji, 2005; Qadeer, 2008) within public health.

Specifically Banerji, (2005) and Qadeer, (2008) critique the evolution of health governance in the country and articulate how the policy of liberalization and the adoption of structural adjustment programmes have eroded the foundation of public health sector in the country. They document how the initial gains made with the assertion of the importance of investment in health and emphasis on public health by the Bhore committee (1946) have been lost in subsequent years. Further, the political economy of vertical programmes for disease control and how convergence of these programmes is still not meaningfully implemented in reality are given as evidences of how health sector policies are being influenced by flawed thinking.

As pointed out in (Qadeer 2008, 52), the frequent "delegitimation of public sector institutions by labelling them as inefficient, lethargic and corrupt" without holding the medical bureaucracy accountable, even in evaluations and planning documents¹¹ by the government itself, gives an impression that *the state itself may have moved away from owning responsibilities to issues like lagging*

¹¹For example, a SWOT analysis in a DHAP mentions that doctors are not interested to serve in rural areas (as a threat), without looking at reasons for this and specific strategies (already available in NRHM) to mitigate this 'threat'.

health indicators, under-utilization (although sufficient evidence exists that communities prefer public institutions wherever services are available), the unaccountability of public health systems and perpetual regional disparities.

From these observations, it seems that the *implementation agencies/departments do not have sufficient opportunity to set and internalize the goals and objectives of new policies and missions*. They seem to have very little role to play in the actual design of the policies (Duggal 2009). The design process often involves non-departmental personnel including policy analysts, civil society representatives, activists, academicians etc. Several studies also claim the overarching influence of organizations like the World Bank and other donor agencies¹², whose stance on health policy is widely contested (Nayar 2004, 4873; Ashtekar 2008, 24; Qadeer 2008, 52). Hence, irrespective of changes in policies and schemes, the pattern of execution and implementation does not seem to change much and in many cases, the ground level implementation strategies are often contrary to the scheme/policy's goals (for example, in a field visit, we found the case of having all PHCs send their cases of pregnancy to 24 X 7s so that the 24 X 7 hospitals have the maximum number of deliveries in them, to substantiate their presence).

2.3.2 Fund flow under NRHM

It is obvious from many studies that NRHM has not been able bring the expected amount of financial resources to the health sector. However, there is a substantial increase in the Centre's yearly outlays of NRHM (an average annual increase of ~20% in Karnataka). The 'mission mode' of operation for NRHM also meant that a substantial amount of money is transferred to states and districts through 'health societies' rather than the usual treasury route. The method of fund transfer itself has been a matter of debate (Ashtekar 2008, 24; Sinha 2009, 75) since mission mode of operation often skips due discussions and deliberations at the state legislature. While utilization of funds was low in the first few years of NRHM, it has increased nationally as well as in Karnataka. However, the matter of concern is that utilization may not be translated to better health outcomes (Government of India 2011a). An important issue that determines the utility of funds at the PHC level (specifically in Karnataka) is the transfer of funds on time. Many Medical Officers have expressed that funds for schemes like JSY as well as maintenance funds are not released in time for them to implement the planned activities efficiently.

Based on our literature review, it emerges that while many studies have explored inter-state patterns of fund allotment and utilization¹³, not many studies have explored the various aspects (including disaggregated analysis) linked to the relative patterns of allotment, expenditure and the efficiency of fund utilization in NRHM under different heads of accounts, each of which may translate to different health outcomes, and with different lag periods.

¹²For example, the operating manual and PIP preparation guidelines for RCH II and Immunisation components of NRHM are proposed by the 'Donor Coordination Division's Technical Coordination Agency' of the Ministry of Health and Family, GoI (Government of India 2007; Government of India 2010c)

¹³For example: (Berman et al. 2011; Gayithri 2012)

2.3.3 Planning process

Studies have shown (and even evaluations by various government teams (Government of India 2008; Sinha 2009; Government of India 2011b; Government of India 2011a)) that there is a wide gap in the PIPs and action plans that are approved and the actual actions taken during the implementation stage. The existing context in which planning has to take place: acute shortage of grassroots health personnel and public health specialists, facility based normative funding mechanisms, mistimed fund flows etc are not conducive to true need based decentralised plan outcomes (Baruah, Priya, and Jain 2012), thus, eroding the importance and necessity of the planning activity. Thus, planning exercises are not internalized and during the implementation stage, there are no valid benchmarks against which implementation activities can be compared.

For example, in each year's PIP, plans are made to reduce health indicators like IMR and MMR from current levels to the expected levels by the end period of NRHM. A glance of this table reveals that to reach the expected goals of NRHM, drastic (often unrealistic) achievements have to be made during each of the next 2-3 years.

3.1. CURRENT STATUS & GOALS:

Sl. No.	Goals and its Indicators	Indicator Type	Current status	Projected			
				2008-2009	2009-2010	2010-2011	2011-2012
1.	Reduction in Maternal Mortality(MMR)	HI	228 SRS (2001-03)	190	150	125	100
2.	Reduction in Infant Mortality Rate (IMR)	HI	47 (SRS- 2007)	40	30	28	25
3.	Total Fertility Rate (TFR)	HI	2.1 NFHS-3	2.04	2.0	1.9	1.8

Figure 9. Excerpt from Karnataka NRHM PIP, 2009-10(Government of Karnataka 2009)

When the outcomes of NRHM activities are analysed, the actual reduction in these indicators is considerably different. A critical analysis of the variance between planned and actual cannot be made (at the state/district/taluk levels) because the planned reduction in IMR/MMR is so unrealistic that the actual levels of achievement cannot be judged in a suitable context. Work completed in a year are mentioned in the situation analysis of next year's PIP but not mentioned as planned activities in the PIP of that year. Thus, such large variations between planned and actual achievements result in independent evaluations and reviews to concentrate more on just the current activities and achievements rather than understand the reasons for the inconsistent planning and then evaluate the outcomes of the activities.

Further, NRHM assumes that at the state and district levels, effective complementary decentralised structures like District Planning Committees already exist which are going to evolve and review truly local health action plans (Sinha 2009, 73). The expected formats in which situation analysis and planning have to be represented leave a lot to desire(Ashtekar 2008, 24). Qadeer observes that *planning tends to suppress reality by presenting huge amounts of descriptive data (and hence bulky planning documents) without disaggregation or analysis*(Qadeer 2008, 67). In the situation analysis of PIPs, while it is noted that there is a variance in planning, the analysis of why the variance

happened and how it is planned to be overcome are not discussed. Hence, important issues like scope for process improvements, hurdles found in current year's implementation do not find explanation in the PIPs.

Thus, Gayithri, (2012), a study on fund flow and service delivery in two districts of Karnataka, finds obvious mismatches between funds released and needs of the district. The study focused on two districts Gulbarga and Chitradurga, of which the former is considered backward with respect to health indicators. In terms of per-capita allocation, Gulbarga lags behind Chitradurga, which is a less needy district. Further, the author notes that expenditure is not in sync with the rise in fund allocation, indicating lack of skills to utilize resources in the sub-district levels.

2.3.4 Assessing tools for mission outcomes

In understanding the outcomes and impacts of the complex set of activities undertaken in NRHM, very specific process indicators have to be prepared to understand whether the right kind of strategy is being adopted. NRHM has evolved a complex, but comprehensive database that covers a variety of process and health indicators. However, we find that the indicators used to measure the impact of some activities are grossly inadequate to depict the true situation on the field. Thus, while evaluations, critiques and planning documents frequently mention that decentralisation has a long way to go (Nayar 2004; Banerji 2005; Ashtekar 2008; Sinha 2009; Government of India 2010b), other than anecdotal experiences, the current position of decentralisation and its contribution to primary health care are not understood through the indicators devised to measure them.

For example, to understand the level of communitization achieved, number of VHSCs and ARS formed, amount disbursed to them and amount utilized are frequently used as indicators. Similarly, the numbers of PHCs/SCs/CHCs built/upgraded are taken as indicators to assess improvements in infrastructure. These indicators although helpful in simple scenarios, do not capture all the dynamics involved in attaining meaningful community ownership and long term infrastructural benefits. In the case of communitization, field anecdotes have shown that community bodies generally lack transparency and their expenditure patterns are erratic (and not captured in state-wide assessments). In the case of infrastructure and construction activities, the long expenditure cycles are ignored and the efficiency of investment gets arbitrarily affected based on the time lag between estimation, construction and completion.

Thus, use of inadequate indicators depict simplistic situations of the issues at hand and prevent deeper probing into reasons for success and failure of implementation with respect to these issues.

2.3.5 Flexibility for states and internalization of NRHM related guidelines

NRHM specifically emphasizes the expected leadership from individual states in successful implementation of its activities. States are also encouraged to come up with innovations and are also given the opportunity to showcase their achievements. State innovations are a major source of learning and experimenting and a unique feature of NRHM as well (Government of India 2005a; Sinha 2009). However, the complex set of expectations and regulations placed in NRHM (in terms of planning constraints, available resource envelopes, caps on spending under different heads,

funds tied to particular line items(Government of India 2005b; Government of India 2006), multiple reporting activities at all levels, revisions and modifications of guidelines etc (Government of India 2011c)) tend to obfuscate the management of the mission and implementation strategies of the state and district machineries. While success stories in innovation and state leadership exists (as captured in Sinha 2009, pp 73), field experiences show that widespread confusion exists at the ground level with regards to NRHM guidelines.

Thus, lack of information on types of activities allowed and types that are not, creates a situation wherein inefficiency and transaction costs thrive. This also creates non-inclusiveness and centralized mode of operation. Preliminary field evidences reveal that

- Medical Officers are ill-equipped to understand the nitty-gritty of decentralised planning, scheme related information and various reporting and accounts related tasks.
- Due to the non-inclusive nature of setting targets and planning, effective absorptive capacities (including expenditure) of Medical Officers at the grassroots level is limited.
- The overall chaos created within the system creates a situation of unaccountability and unreliability (ranging from doctors/specialists/facilities/services not being dependable at hospitals to multiple versions of progress reports and different values of health indicators, etc).
- Observations made in the rapid appraisal of NRHM in the district of Hassan, Karnataka corroborate this situation on the ground(James et al. 2009). Under-utilization of untied funds was apparent, which was attributed to the confusion in guidelines for expenditure of untied funds and lack of co-operation from members of Gram Panchayath.
- This situation is reflected in the maintenance of accounts and patterns of fund utilization across the nation as well, as found in the Comptroller and Auditor General (CAG) report on NRHM conducted in some states in 2008(Comptroller and Audit General of India 2008).

2.3.6 Review mechanism in NRHM

NRHM features a commendable review and evaluation process wherein implementation status of states are constantly monitored and evaluated. However, exercises like the Common Review Mission do not have concrete ways in which a state's implementation can be reviewed (as discussed earlier, due to lack of realistic PIPs and DHAPs). As it can be seen in this document, these reviews do not provide critical insights and solutions on important persistent issues like equitability of expenditures and the impact of shortage in HR on health indicators. Hence, such reviews state the obvious, without offering solutions.

Further, due to the lack of clarity on reporting formats and the general lack of authentic data, multiple reviews (and multiple systems of data collection) are in place, leading to multiple versions of information¹⁴ collected and disseminated.

¹⁴For example, numbers listed for Karnataka in Bulletin on Rural Health Statistics in India, 2011 varies from numbers presented in the PIP for 2011 for the state.

Thus, for review exercises to be able to provide the true picture of the health situation and guide NRHM's implementation, formulation of tangible review and evaluation metrics is essential. These metrics have to coincide with those used in PIPs as well as in the monitoring formats collated by the health department. This not only provides a true picture of the implementation but also helps the host states to gain useful insights in tackling issues they face.

3. Secondary Data analysis (Phase 1)

As stated earlier, the secondary data analysis in the first phase of the study was carried out to understand patterns and priorities in NRHM's planning activities, fund flow and overall trends in expenditures and health indicators of Karnataka. To understand these issues, the following activities were carried out:

1. Analysis of PIPs and DHAPs,
2. Mapping of fund allocation, fund flow and expenditure (up to the district level),
3. Detailed analysis of expenditures at the state and district levels,
4. Analysis of trends in health related process and outcome indicators,
5. Analysis of regional disparities in health indicators, physical infrastructure and human resources,
6. Correlation analysis of expenditure and infrastructure variables, development status with health indicators.

The secondary data analysis was initially proposed to be carried out having the taluk as the lowest unit of comparison. However, analysis in this chapter is limited up to the district level since taluk level expenditure data was not made available to the study.

3.1 Analysis of Karnataka's PIPs

The Program Implementation Plan (PIP) in NRHM is the fundamental planning document based on which state-wide NRHM activities are implemented. The PIPs are drafted at the national as well as state levels, based on District Health Action Plans (DHAPs) developed at the district level in the state (Section 2.1.4, pp. 10, gives the detailed account of planning processes in NRHM). In this section, the successive PIPs of the state and DHAPs are analysed (both qualitative and quantitative analysis) to understand planning priorities and trends in fund allocations.

3.1.1 Qualitative analysis of PIP preparation processes

PIPs are the basis for integrating the financial resources available to the state (through NRHM funds from the GoI and the state) and the plan to achieve the health objectives the state wants to attain through NRHM. The PIP mainly gives an overview of the present health status, situational analysis of the infrastructural facilities of the state and the plan of implementation for the current year. It highlights the strategies and activities to be undertaken by different components of the program in detail so as to meet the goals and objectives of the program.

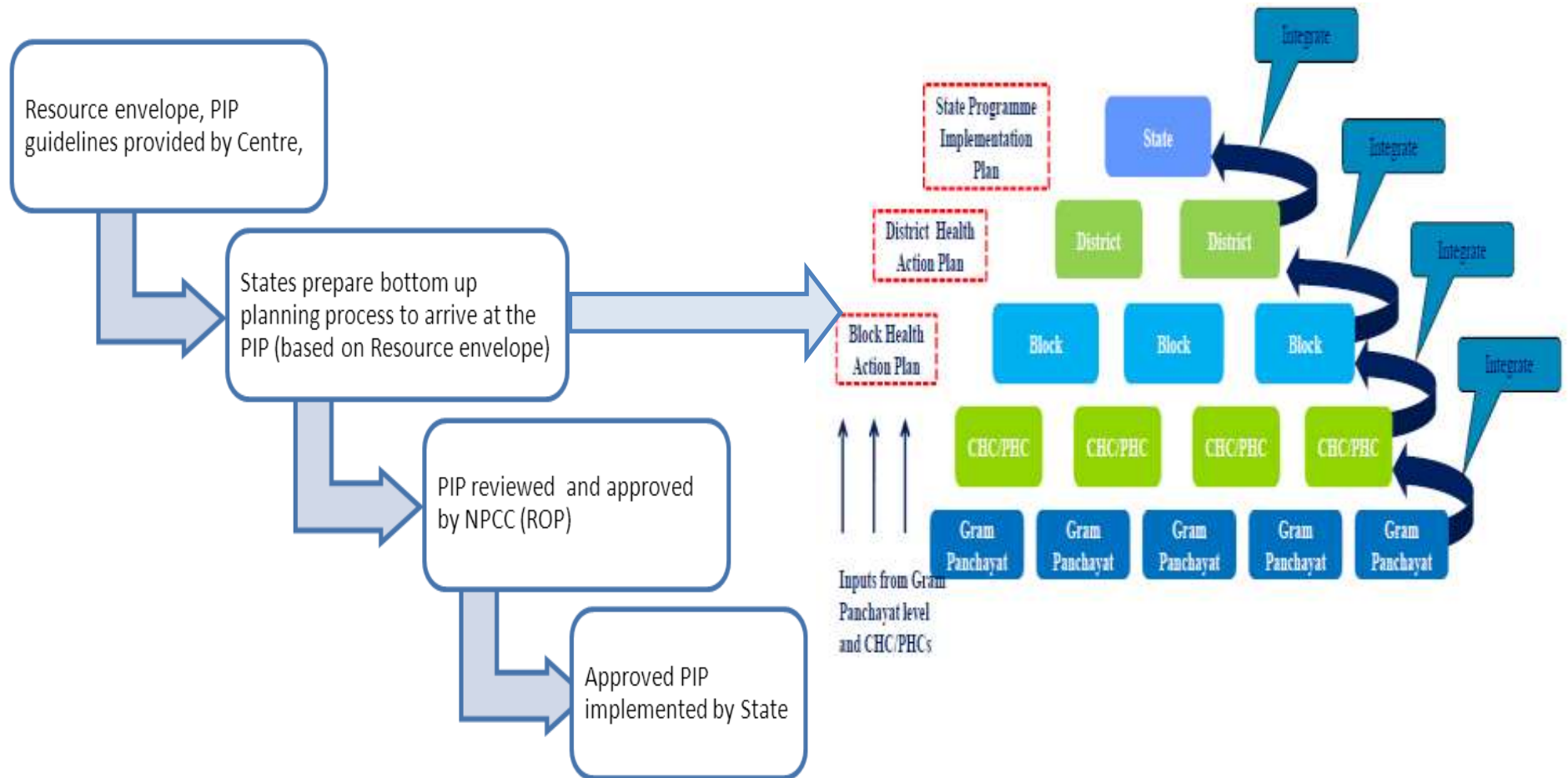


Figure 10. PIP preparation process under NRHM

Figure 10 gives the flow chart of the processes that are involved in the development of the PIP. This process follows the following steps:

- Every year, individual states prepare their PIPs based on the Resource Envelope provided to individual states by the GoI. The Resource Envelope provided by GoI to a particular state takes into consideration
 - The commitment to increase financial allocation under NRHM by 10%-15% from previous year,
 - The available budget at the Centre,
 - The performance of the state in terms of utilization of existing funds, its own allocation of funds (as committed by the states) and
 - The comparative status of health indicators of the state vis-à-vis others.
- PIPs are prepared at the state level, keeping in view, the available financial resources and the state specific health requirements. This includes the following processes:
 - PIP templates are given to the states, based on which, DHAP formats are deployed to districts (this in-turn translates to planning templates given to taluks and individual health institutions).
 - Training, orientation workshops that may be required to carry out the planning processes.
 - Teams are prepared for collecting information.
 - Extensive information regarding status of health and process indicators, infrastructure, human resources etc. is collected at all levels.
 - The information collected is integrated to prepare action plans at the PHC, taluk (Block) and district levels.
 - The DHAPs prepared through this bottom approach are integrated and the state PIPs are prepared.
- The state PIPs are submitted to GoI and are reviewed by the National Programme Coordination Committee (NPCC), revised if necessary based on suggestion by the NPCC and the Record of Proceedings (RoP) gives the final approval to the PIP
- Based on the RoP and the commitments made by the state (with regards to submission of modifications in activities, financial documents, as suggested by the NPCC), funds are released from GoI to the state.

Issues related to the preparation of PIPs in the state

The description above presents the prescribed processes for the development of PIPs at the state level. Ideally, the PIPs are supposed to reflect the region specific health needs, and thus help in overcoming regional disparities within the state. This bottom-up process should also ideally help to identify innovative ideas/schemes implemented in one particular location and adopt them wherever such innovations are needed and applicable. However, an analysis of PIPs in Karnataka shows that there are gaps in actual implementation of this process. It is also true that the same concerns are applicable to the planning processes of other states as well (Baruah, Priya, and Jain 2012). Some of these issues are highlighted below:

- Analysis of successive PIPs shows that PIPs do not capture district specific needs and

innovations.

- PIPs may not cover actual action/implementation fully
 - For example, a PIP may not mention plans to construct new hospitals, but the progress of such constructions are mentioned in next year's PIP, as planned in the previous year. (Infrastructure Strengthening 2008-09, 2009-10 PIPs)
 - Karnataka has the unique opportunity of having financial resources made available to the health department through multiple sources (like KHSDRP). Hence, many objectives of NRHM at the state level overlap with other schemes and projects and are also funded through different channels. However, in the PIP, progress in infrastructure and other indicators are not attributed to the activities of the past year through such parallel projects and schemes. Further, the NRHM PIP documents the proposed activities from other projects like KHSDRP only for a couple of years. Thus, it becomes difficult to assess the extent of NRHM's contribution towards achieving health objectives of the state (planned through NRHM and otherwise), specifically since NRHM's contribution to the overall public health expenditure in the state is only about 25%.
- The PIPs do not present achievable estimates of planned progress. In many cases, the PIPs become too ambitious to be realistic (as mentioned in Section 2.3.3)
- While NRHM was planned as an umbrella of initiatives, where funds would be funnelled from various national vertical programmes to the state, the vertical approach to specific programmes (especially NDCP activities) still continue with separate activity and costing tables at both the state and district levels, without specifying how the funds will be integrated with other activities.

District Health Action Plans

The District Health Action Plan (DHAP) is the cornerstone of NRHM since it captures the unique needs of a particular district through bottom up planning and community participation. However, based on an analysis of successive DHAPs, we can conclude that even after 8 years of implementation of NRHM, the DHAPs do not meaningfully reflect the specific health needs of the district. As mentioned in Section 2.3.3, the *preparation of DHAPs is mostly reduced to an annual ritual with little significance to the implementation of NRHM*. Some of the issues observed during the analysis of DHAPs are mentioned below:

- DHAPs do not integrate different activities of NRHM at the district level. i.e. RCH, NRHM, RI, NDCP are all presented as individual plans. Further, the DHAPs do not present prioritization of issues and activities that are critical in addressing local needs.
- DHAPs do not have follow ups of planned activities and implementation from the previous year. This is partly because, the personnel within NRHM responsible for planning activities are fully dedicated to planning alone, and the planning exercise itself is continuous year long process(Baruah, Priya, and Jain 2012). Further, DHAPs are not used in monitoring implementation at the district level.
- *Most write-ups are copy-pastes of the DHAP framework itself and DHAPs from other states or of previous years*. Further, the same narratives are reiterated in successive DHAPs (which

means large parts of the written portion of the DHAP are reproduced as it is.

- The different steps to be followed in the document are not linked with each other. In most cases, the descriptive write-up and the work plan presented in the DHAPs are independent of each other since the work plans for districts are expected to be in a homogenous template.
 - For example, SWOT analysis in some districts (like Raichur, Davanagere and Chitradurga, DHAPs 2009-10, 2010-11) do recognize district specific issues (like migration, epidemics etc), but, these identified issues do not get adopted as specific action points in the DHAP.
- *While NRHM seeks to propose inter-sectoral approaches towards health, DHAPs hardly move beyond the health department.* No operational plans are devised for inter-sectoral approaches.
- The introduction of FMR in the DHAP (since 2010-11) hinders the true spirit of bottom-up planning because *DHAPs effectively get reduced to filling blanks for respective budget heads* (without actual planning itself). This restricts even the recognition of local issues, and adopts only a rigid costing framework for planning.
 - For example, districts in North Karnataka have higher number of contractual AYUSH doctors and hence may have different training needs, which are not expressed in the DHAPs. These appear as homogenous district requirements in the state's PIP.
- While the district's requirements for untied funds and maintenance funds are specified accurately, the DHAPs do not specify ways of spending them (with respect to priority works, priority instruments, drugs etc) judiciously. However, guidelines and circulars are issued on an ad-hoc basis to guide such expenditures.
- While RCH and NDCP programmes have over the years developed indicators of measuring the outcome of expenditures, issues like ARSH, IEC, Untied funds and maintenance funds do not have quality indicators that measure the performance of expenditure in these heads.
- Innovations: All the innovations mentioned in DHAPs are 'state-wide', 'state-led' innovations. There is no discussion on how these innovations can target local issues. *While district level innovations may exist, they are not reflected in the DHAPs, which would have helped adoption of need specific innovations.*

In summary, the analysis of PIP preparation process in Karnataka shows that while the framework for decentralised, bottom-up planning exists (as mentioned in the Second Common Review Mission, (Government of India 2008)), a lot more is desired in terms of the quality and the utility of the planning activities of NRHM in the state. Hence, while successive reviews and policy documents repeatedly raise concerns on the quality of service delivery, in actual planning these concerns are not addressed. However, regional disparities in health infrastructure and health indicators are an area widely studied and documented in Karnataka, as evident in the Karnataka State Health Policy itself (Government of Karnataka 2004). Hence, recognition of critical regions and districts, health priorities and financial requirements of individual districts may have been addressed even without effective DHAPs in place. To understand these trends, a quantitative analysis of funds allocated and expenditure under NRHM is presented in the next section.

3.1.2 Quantitative analysis of NRHM PIPs in Karnataka

This section presents a quantitative analysis of Karnataka’s NRHM PIPs. For this analysis, data is taken from 3 major sources: a. data and publications available from NRHM’s GoI website (<http://www.mohfw.nic.in/NRHM.htm>), b. Karnataka’s PIPs and approved RoPs, and c. Audited reports of Karnataka’s State Health Society.

In the first phase of the study, detailed descriptive analysis of financial data was carried out to understand various trends in allotment and expenditure within NRHM in Karnataka.

Table 4. Allocation of Funds to Karnataka from Government of India under NRHM

GOI Allocation (in Crores)						
Year	RCH Flexipool	NRHM Flexipool	Infrastructure & Maintenance	Immunization	NDCP	Total
2005-06	72.26		110.88	4.66	25.94	213.74
2006-07	85.43	71.78	108.76	13.02	23.75	302.74
2007-08	69.25	125.48	160.16	7.35	31.71	393.94
2008-09	129.92	105.85	179.73	9.99	36.34	461.83
2009-10	140.28	139.45	177.58	14.78	33.08	505.17
2010-11	156.30	164.15	185.62	9.91	35.83	551.81
2011-12	163.60	201.42	188.44	9.91	41.02	604.39
Total	817.04	808.13	1111.17	69.62	227.67	3033.63
Avg. annual increase	18%	26%	10%	31%	9%	19.52%

Source: NRHM – State-wise Progress as on 31-03-2012, NRHM Facility Centre, MOH&FW, GOI

Fund allocation, release and expenditures under NRHM in Karnataka

Table 4, shows the details of GoI fund allocation to Karnataka. Figure 11 and Figure 12 give the full details of fund allocation, release and expenditure for NRHM at the national level and for Karnataka. From these figures it is evident that GoI fund allocation for under NRHM has tripled at the national level and almost at the same magnitude for Karnataka as well.

- The average annual increase in *GoI allocation* for Karnataka under NRHM has been 19.52%. The average annual increase in GoI allotment is highest for the NRHM flexi-

pool funds (26%) and lowest for NDCPs (9%)¹⁵.

- The average annual increase in *GoI allocations* for NRHM throughout India was 21.14%. Hence, raise in GoI allocation to Karnataka is roughly equivalent to the national average.
- The average annual increase in *GoI fund release* for Karnataka for the same period was 23%. The corresponding national figures were 21%. Hence, the raise in annual release of funds from NRHM to Karnataka is higher than the national average by 2 percentage points.
- The average annual raise in *expenditures* reported by Karnataka is 43% whereas the corresponding national figures are about 39%. Hence, it can be concluded that Karnataka’s utilization capacities have increased at a higher rate than the national average.
- State government’s *budget allocation* on health and family welfare since 2008 has increased annually by 19% (Figure 1). NRHM allocation is about 22% – 25% of Karnataka’s state budget on health and family welfare.
- Thus, this analysis shows that both the Centre and the State’s outlay on health have increased substantially (although this is comparatively lower when compared to the actual objectives of NRHM). This analysis also shows that NRHM allocations have not replaced the state’s outlay for health and family welfare.

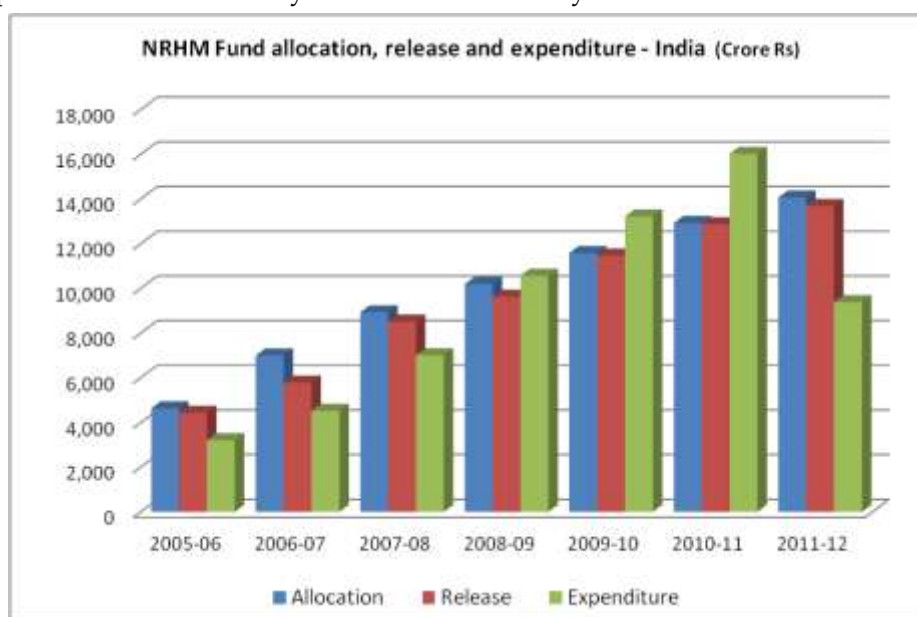


Figure 11. Fund allocation, release and expenditures under NRHM (India)

¹⁵We have ignored funds allotted to Immunization for this analysis because the quantity of funds for immunization is comparatively low.

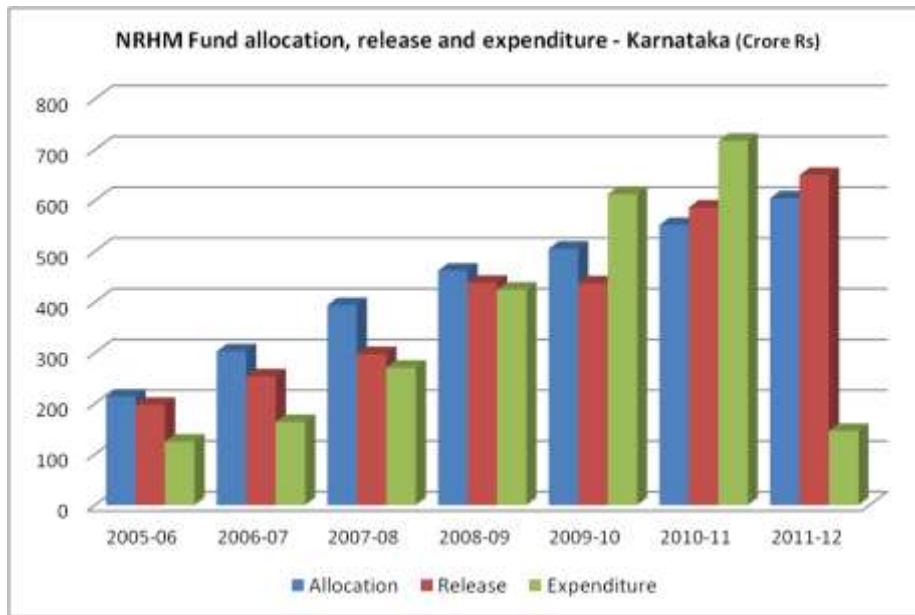


Figure 12. Fund allocation, release and expenditures under NRHM (Karnataka)

Analysis of funding routes of NRHM

An important change in policy brought in by NRHM was the establishment of the Health Society route for fund flows, which would enable faster transfer of funds from the state level to the district level and below. Further, the health societies would have larger participation of local public representatives, other concerned line departments, civil society persons and would also provide freedom and flexibility to spend funds received by them. NRHM has retained the treasury route of fund flow through which the Infrastructure and Maintenance component of NRHM funds are routed. The treasury route follows the more traditional and centralized approach towards expenditure of funds. All other funds flow through the health society route.

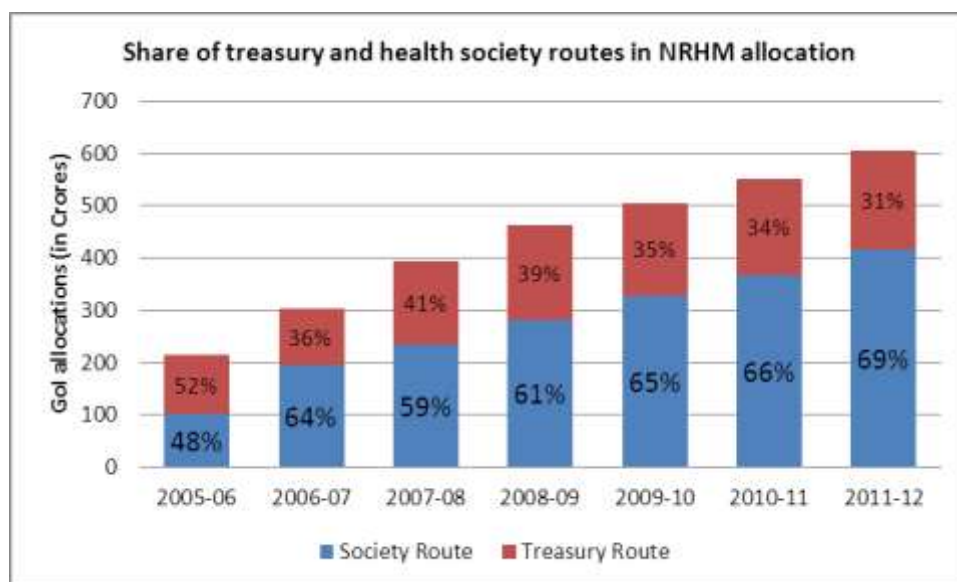


Figure 13. Analysis of fund allocation routes in NRHM in Karnataka

Figure 13 and Figure 14 present the share of funds allotted (Figure 13) and share of expenditures (Figure 14) under the treasury and health society routes. These graphs show that over years, more

and more funds (majorly because of NRHM flexipool funds which are routed fully through State and District Health Societies) are being allotted and spent through the health society route.

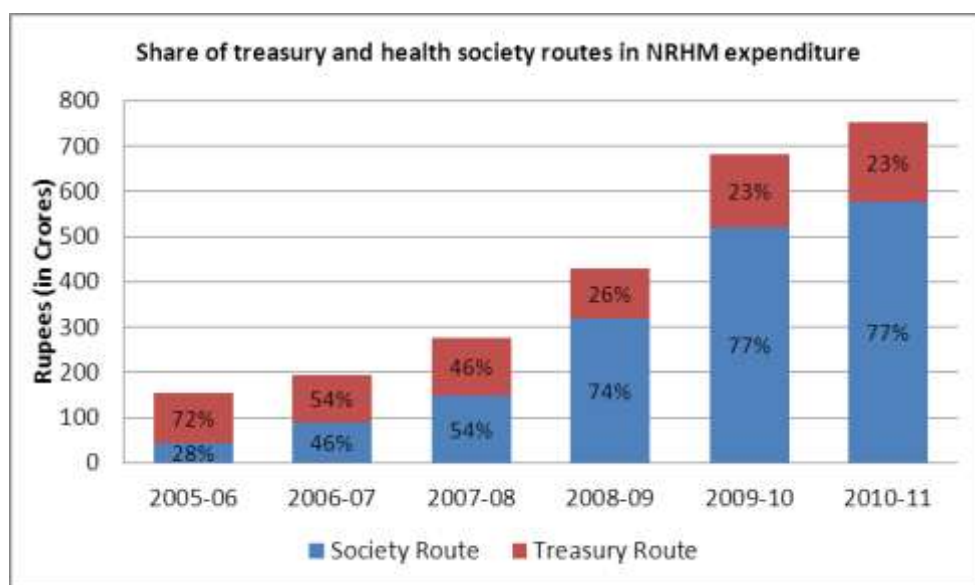


Figure 14. Analysis of expenditure through treasury and health society routes in NRHM in Karnataka

This gives more impetus to the argument that the trends in expenditure in the health society route have to be explored in more detail given the scenario that both allocation and spending have increased through the health society route.

Components of NRHM funds in Karnataka

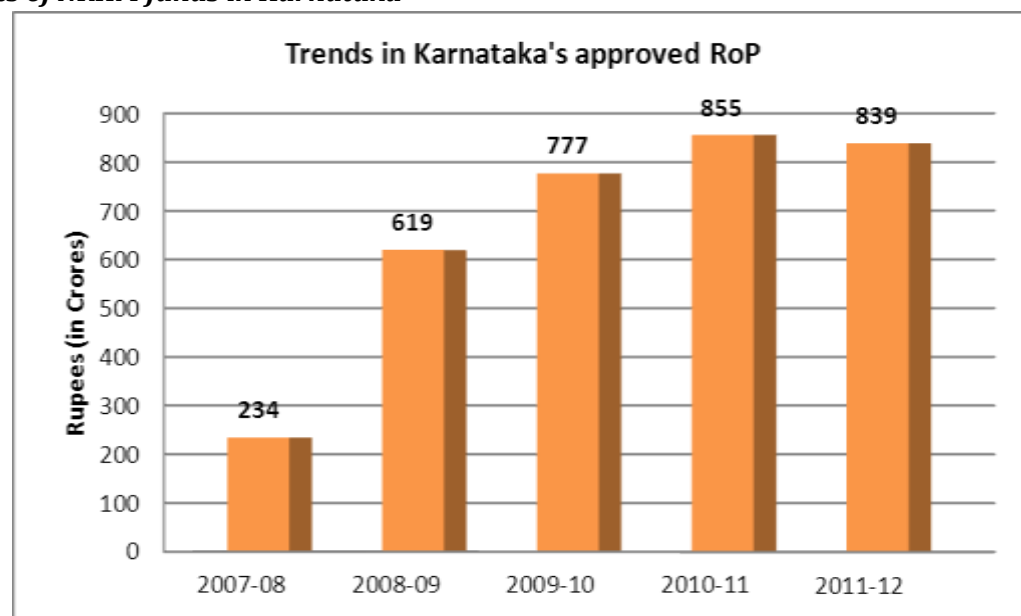


Figure 15. Trends in Karnataka's approved RoPs

Figure 15 and Figure 16 present the trends in funds approved under different heads in Karnataka's successive RoPs.

- The trends corroborate the facts stated in the previous section about the growth of fund allocation to Karnataka through NRHM. However, the differences in Table 4 and Table 5 show that there are discrepancies between funds approved in the RoPs and funds

actually allocated by GoI.

- As Figure 15 and Figure 16 show, NRHM flexipool is the major component of funds under NRHM followed by RCH flexipool and infrastructure and maintenance grants (channelled through the treasury route, green band) and Immunization funds form only 1%-2% of the total funds.
- It can also be seen from the figure that the actual amounts approved within RCH flexipool, Infrastructure and Maintenance grants and NDCP (cyan band) have reached plateaus.
- Based on these graphs, it can be concluded that over the years, the NRHM flexipool fund is the major component that has driven the increase in funds released through NRHM.

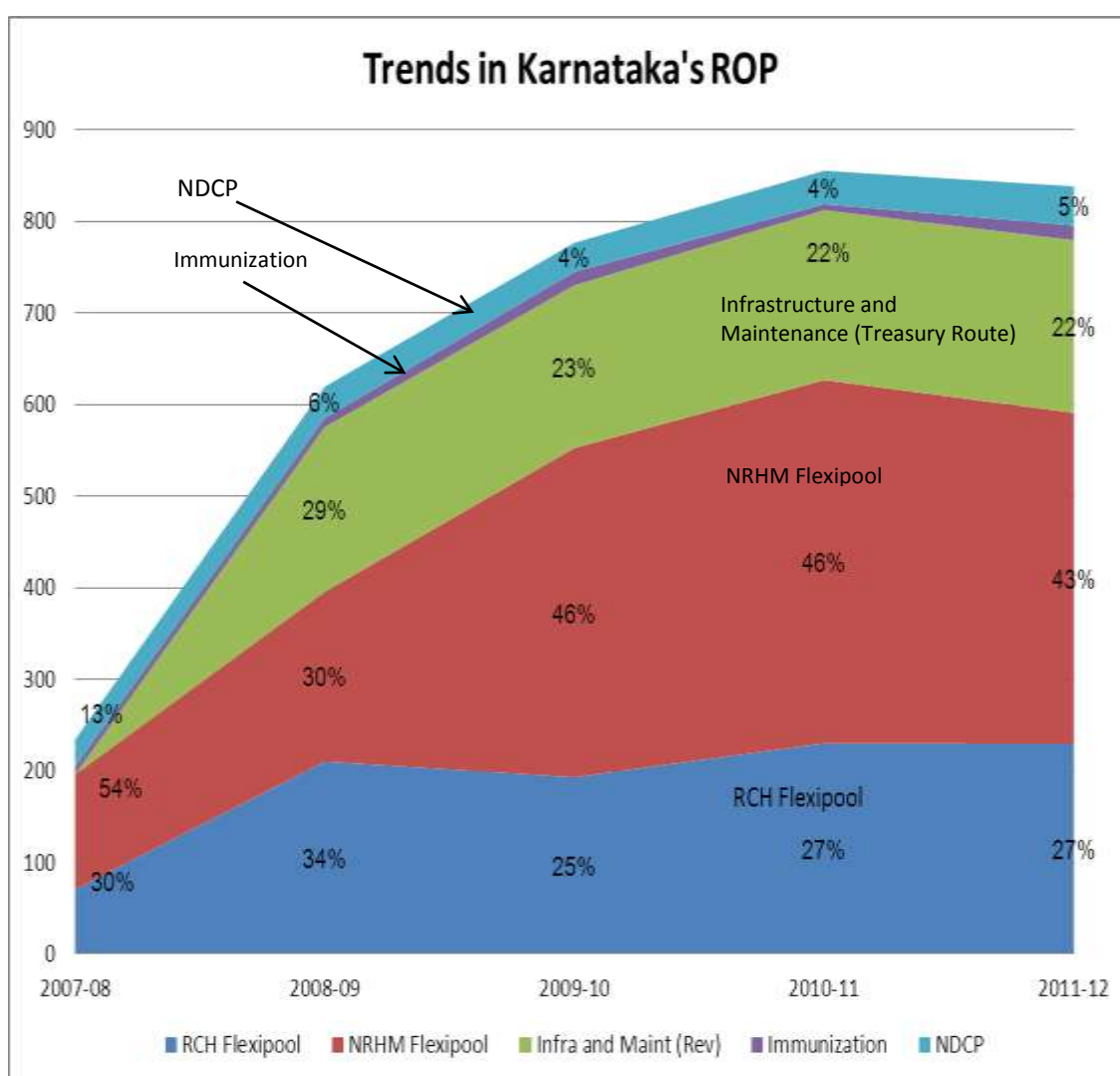


Figure 16. Trends in fund allocation in Karnataka's RoPs

Table 5. Approved NRHM fund allocations to Karnataka (including state component)

Finances allotted through Record of Proceedings (in Crores)						
Year	RCH	NRHM	Infrastructure &	Immunization	NDCP	Total

			Maintenance			
2007-08	70.64	125.48		8.51	29.5411	234.17
2008-09	210.19	185.47	179.73	9.83	34.25	619.47
2009-10	193.18	359.33	177.58	14.78	31.71	776.59
2010-11	230.13	396.51	185.6	6.5191	36.49	855.25
2011-12	229.56	361.33	188.44	16.16	42.65	838.54

Source: Successive NRHM PIPs of Karnataka

Trends in NRHM fund utilization in Karnataka

An important issue prevalent in the discussion on NRHM in India has been the capacity of states to utilize the funds released by GoI. As many studies and evaluations have shown, the utilization capacity of funds released by GoI was low in Karnataka as well. But, over the years, this has improved considerably.

The graphs in Figure 17 and Figure 18 show that the ratio of expenditures versus funds released by GoI have significantly increased and over the last 2 years, Karnataka has not only utilized the full release from GoI, but has also been able to utilize unspent amounts from previous years. This is particularly visible for the year 2009-10 when increase in expenditure under NRHM flexipool funds lead to overall increase in expenditure ratios. However, increased utilization capacities are also a matter of concern, especially because of the critical loopholes in planning and PIP preparation related processes raised in Section 3.1.1 above.

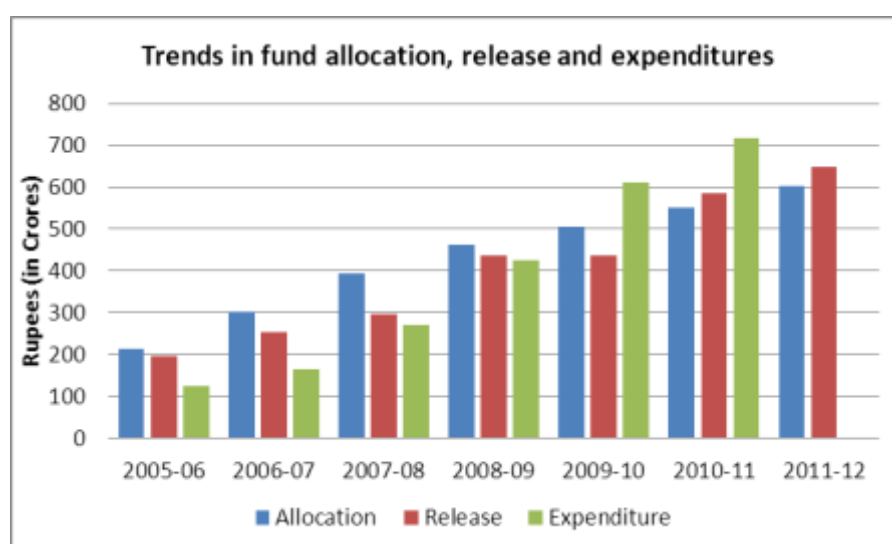


Figure 17. Trends in fund allocation, release and expenditures of NRHM in Karnataka

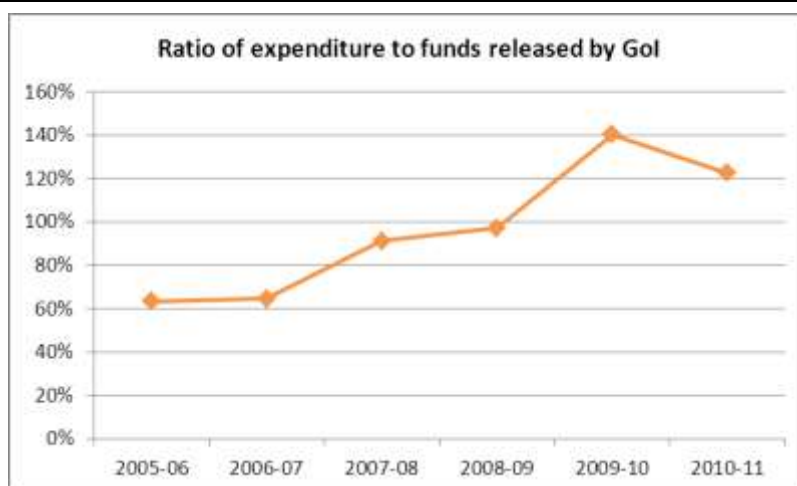


Figure 18. Fund Utilization status in NRHM

3.2 Trends in fund flows to districts in NRHM

An important change in policy brought through NRHM was the establishment of the health society route for faster transfer of funds from Centre and the State to the public health system. This new funding route was created under NRHM to strengthen decentralised system of governance within the public health system. Further, this new channel of funding would also help increase the expenditure priority for primary health care. Decentralisation can achieve better targeting and increase the efficiency of expenditure. Thus, together with decentralised bottom up planning and greater autonomy provided to state and district health societies, NRHM envisioned to boost rural health infrastructure, based on need and minimize regional disparities in health. This section analyses how much financial decentralisation has occurred within the health society route and documents the trends in fund flows to districts in Karnataka. The Audited reports of Karnataka's State Health Society are the chief source of data for the analysis presented in this section.

The Figure 19 shows that the majority of the fund received through the health society route is spent at the district level.

3.2.1 Trends in district and state level expenditures under NRHM

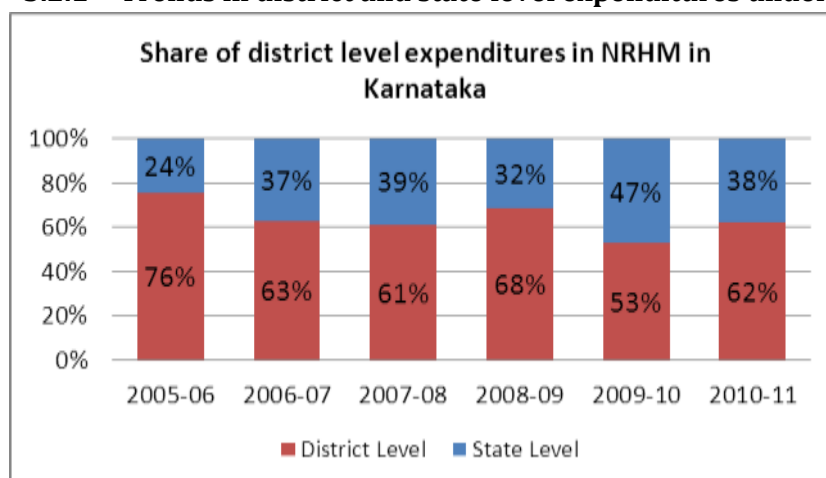


Figure 19. Expenditure shares at district and state levels in NRHM

This information, together with the trends observed in Figure 20 show that majority of the NRHM flexipool fund received by the state is spent at the state level itself. Further, it also shows that in all other accounts that receive funds through the health society route, funds are consistently and majorly spent at the district level.

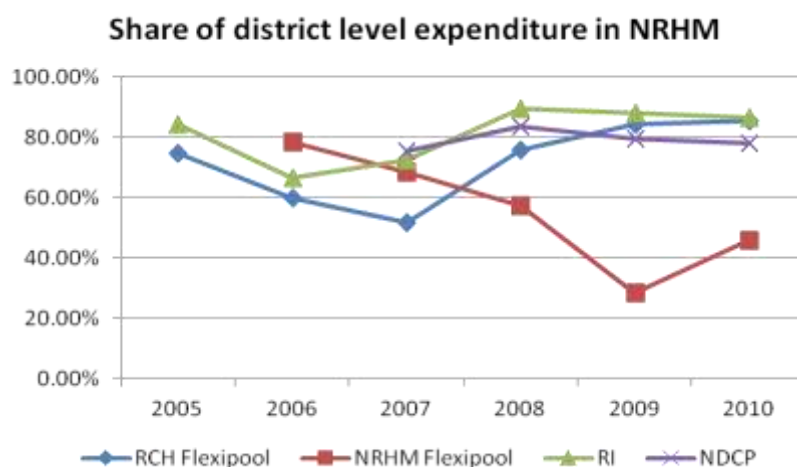


Figure 20. Share of district level expenditure for different NRHM funds

Figure 21 shows the trends in aggregate district level absorption of NRHM funds received. The figure shows only RCH flexipool, NRHM flexipool and total funds because RI and NDCP funds show very high rates of utilization. From the figure, it can be concluded that aggregate district capacities to utilize funds released have improved over the years, with sudden increase in the year 2009-10. This increase in expenditures can be linked mainly to 3 issues:

- the appointment of ASHAs in the previous year (24066 ASHAs were appointed in 2008-09, compared to 2934 in 2007-08),
- the rise in institutional deliveries in 2009-10 (167000 more deliveries in 2009-10, a rise of about 25%) and increase in coverage of beneficiaries under JSY (75000 more beneficiaries in comparison to 2008-09, an increase of about 19%),
- corresponding increase in the expenditure under NRHM flexipool funds (funds released to VHSCs, Untied and Corpus funds of PHCs and CHCs)

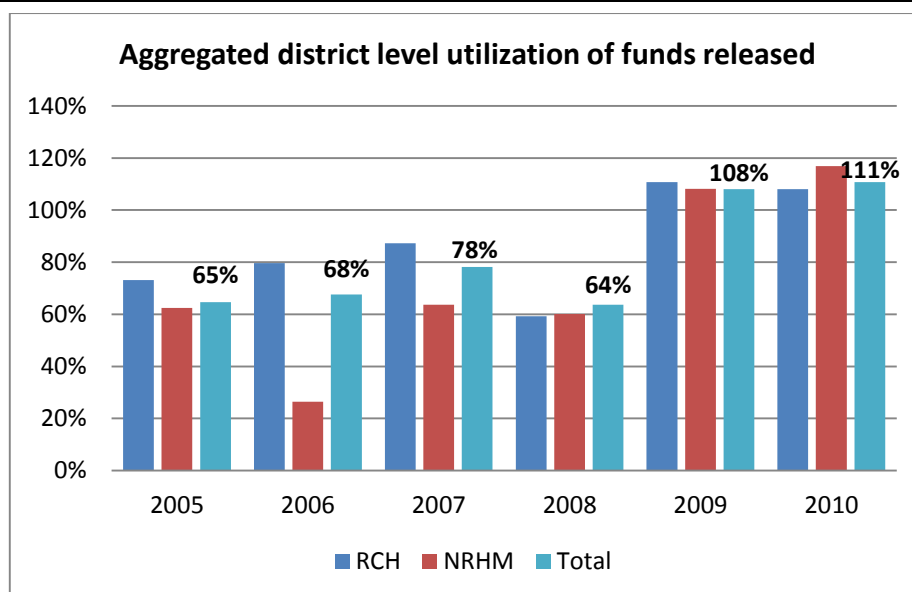


Figure 21. Aggregate district level utilization of funds

3.2.2 Trends in funds received by various district health societies

Figure 22 shows the cumulative funds received by districts of Karnataka under NRHM since 2005. The bars marked in green denote vulnerable districts as identified by NRHM and the GoK. Based on this figure, it can be seen that districts identified to be vulnerable like Gulbarga, Raichur, Bijapur etc have received larger funds. However, the figure also shows that many districts like Bangalore Urban, Hassan and Shimoga (with comparatively lesser rural population) have received more funds than other districts which may have needed more funds. The analysis of per-capita funds distributed among districts in 2010-11 further adds evidence to these trends.

Table 6 shows the district-wise per-capita funds released (based on rural population) for the year 2010-11. It shows that many vulnerable districts like Koppal, Bagalkote and Kolar have received relatively higher funds. However, many more vulnerable districts received significantly lesser funds for the rural population they have to cater. These two evidences show that in general, NRHM funds have reached out to districts with actual needs and several districts that are comparatively well off, have also been benefitted (in some cases, more than those districts that are worse off). Thus, it can be concluded that *there are no clear trends of NRHM prioritizing fund flow to districts identified as vulnerable.*

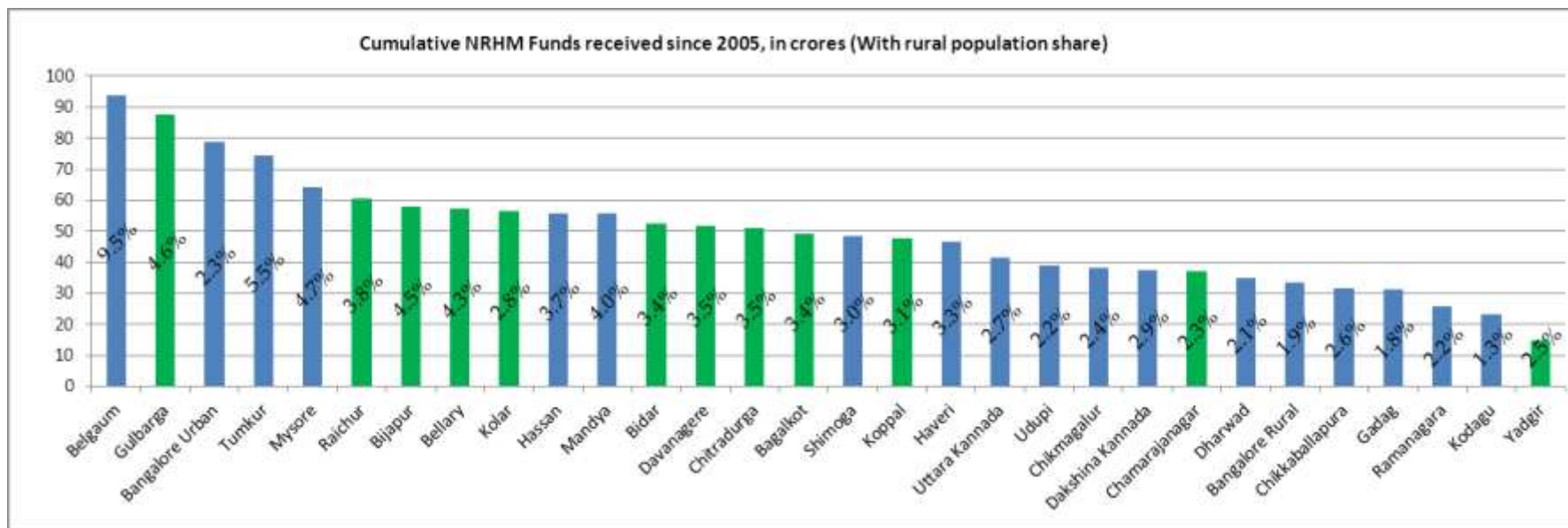


Figure 22. Cumulative funds received under NRHM (in Rupees)

Table 6. Comparison of per capita (rural population) funds (in Rupees) released to districts (vulnerable districts highlighted)

District	Release	District	Release	Disrict	Release	District	Release
Bangalore Urban	111	Chikkamagalur	86	Yadgir	74	Raichur	64
Kodagu	102	Bellary	83	Bidar	73	Mysore	60
Uttar Kannada	97	Shimoga	82	Chitradurga	73	Belgaum	54
Gadag	96	Gulbarga	82	Chikkaballapura	73	Karnataka	76
Koppal	95	Bijapur	79	Dakshina Kannada	72		
Udupi	88	Haveri	78	Ramanagaram	70		
Bagalkot	88	Dharwad	76	Davanagere	70		
Bangalore Rural	88	Hassan	76	Mandya	68		
Kolar	86	Chamarajanagar	75	Tumkur	68		

Sources:1. State Health Society Audit Reports, Census of India, 2011

3.2.3 Trends in fund allocation, release and availability

Figures 23 - 26 show the district trends in per capita funds allotted, released, available funds and expenditures for the year 2010-11 under NRHM (total), RCH flexipool, NRHM flexipool and Immunization funds respectively. These graphs provide two important types of information: a) the comparative district-wise trends in distribution of funds and b) the differences between allocation, release and expenditures within individual districts under different accounts of NRHM.

The district distribution of overall funds under NRHM (Figure 23) shows that districts like Bellary, Raichur, Bagalkot, Chitradurga, Kolar and Bijapur, although identified as vulnerable districts received less funds (per capita) in comparison to other districts like Hassan, Bangalore Urban and Mandya. Similar trends emerge from graphs showing fund distributions under NRHM flexipool and RI (Figures 25 and 26). However, trends from Figure 24 show that the *district-wise distribution of funds under RCH flexipool, in general, has better targeting of vulnerable districts* (since programmatic activities of RCH flexipool are demand based rather than facility based). Based on the trends in these graphs, it can be concluded that while the distribution of RCH flexipool funds show better targeting of funds to vulnerable districts, the *fund disbursement patterns through NRHM flexipool and RI do not show such prioritization of vulnerable districts*.

Further, the figures also show that, for all districts of the state, fund availability was more than fund allotment. This shows that the districts have more than what they were allocated (fund balance + release > PIP allocation). Further, the expenditures incurred by the districts, are consistent with the actual allotment in the PIP. The same is true for RCH flexipool and NRHM flexipool funds. However, the difference between fund allotment, release and expenditure is much more accentuated in Routine Immunization. This is visible in the huge variations between the allocations, release and expenditure bars of various districts like Dharwad, Bijapur, Chickmagalur and Bagalkote. These discrepancies may point to the fact that RI action plans under DHAPs may have been simply prepared homogeneously.

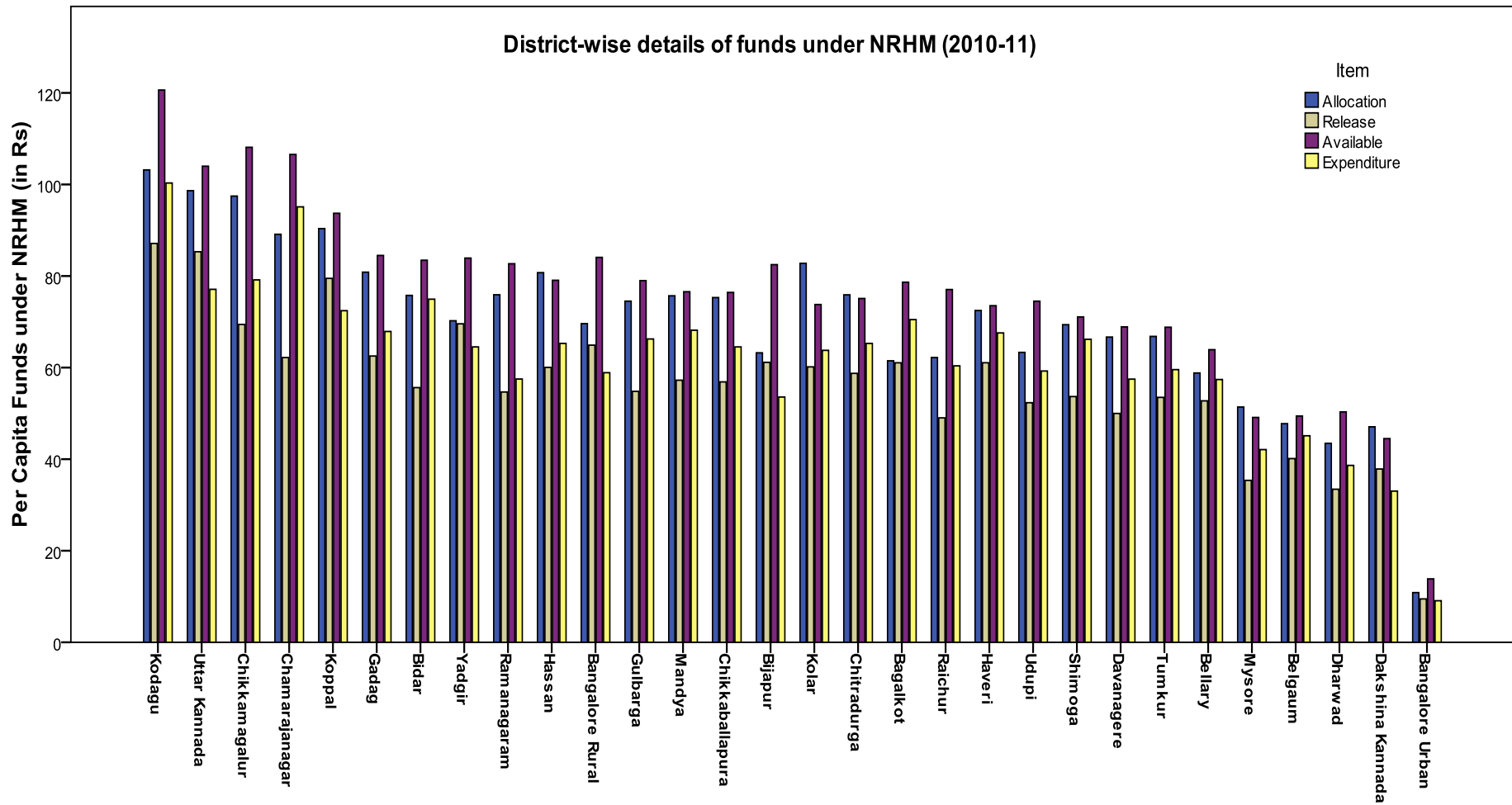


Figure 23. Trends in district level per capita fund utilization under NRHM (2010-11)

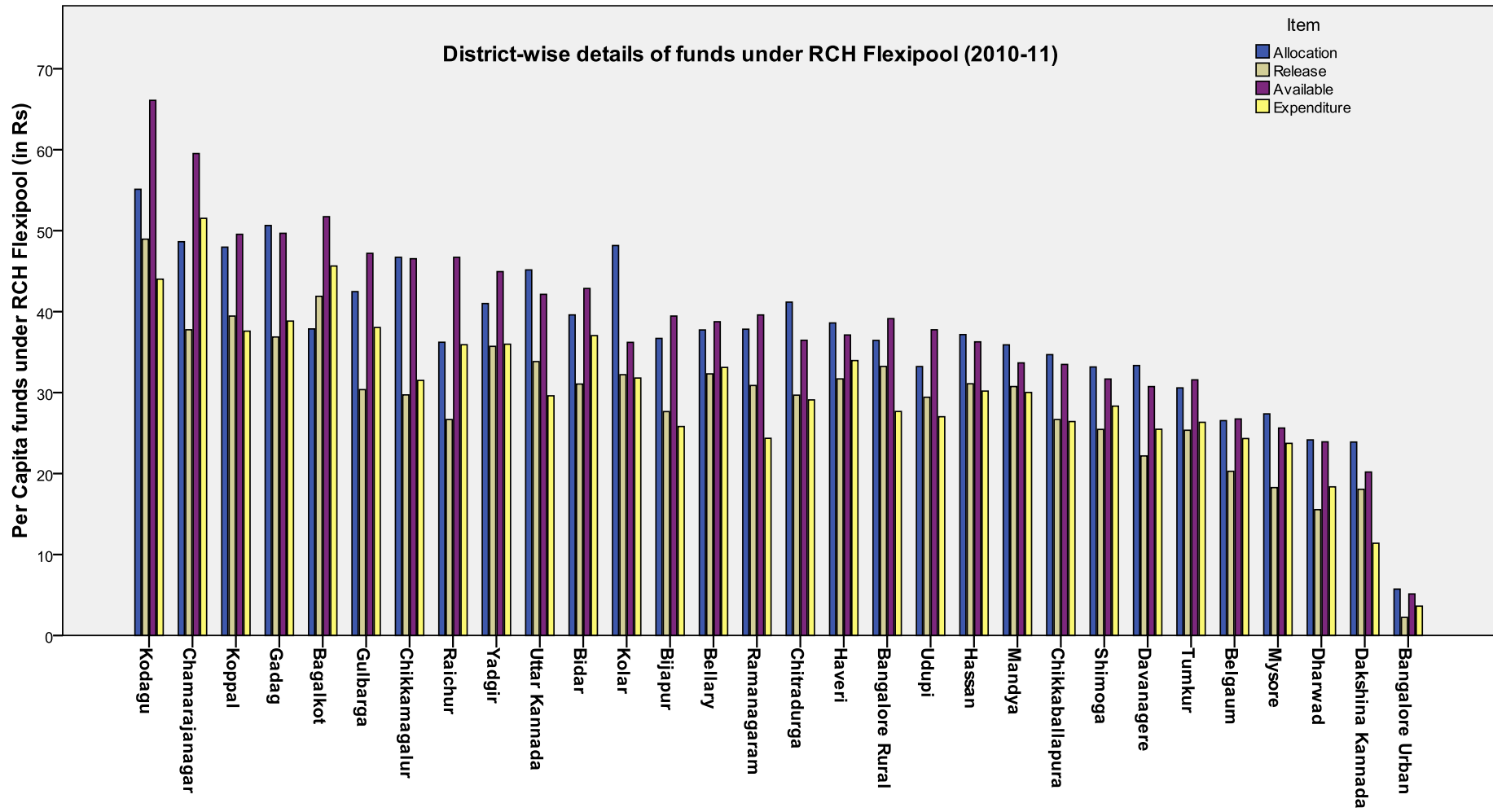


Figure 24. Trends in district level per capita fund utilization in RCH flexipool (2010-11)

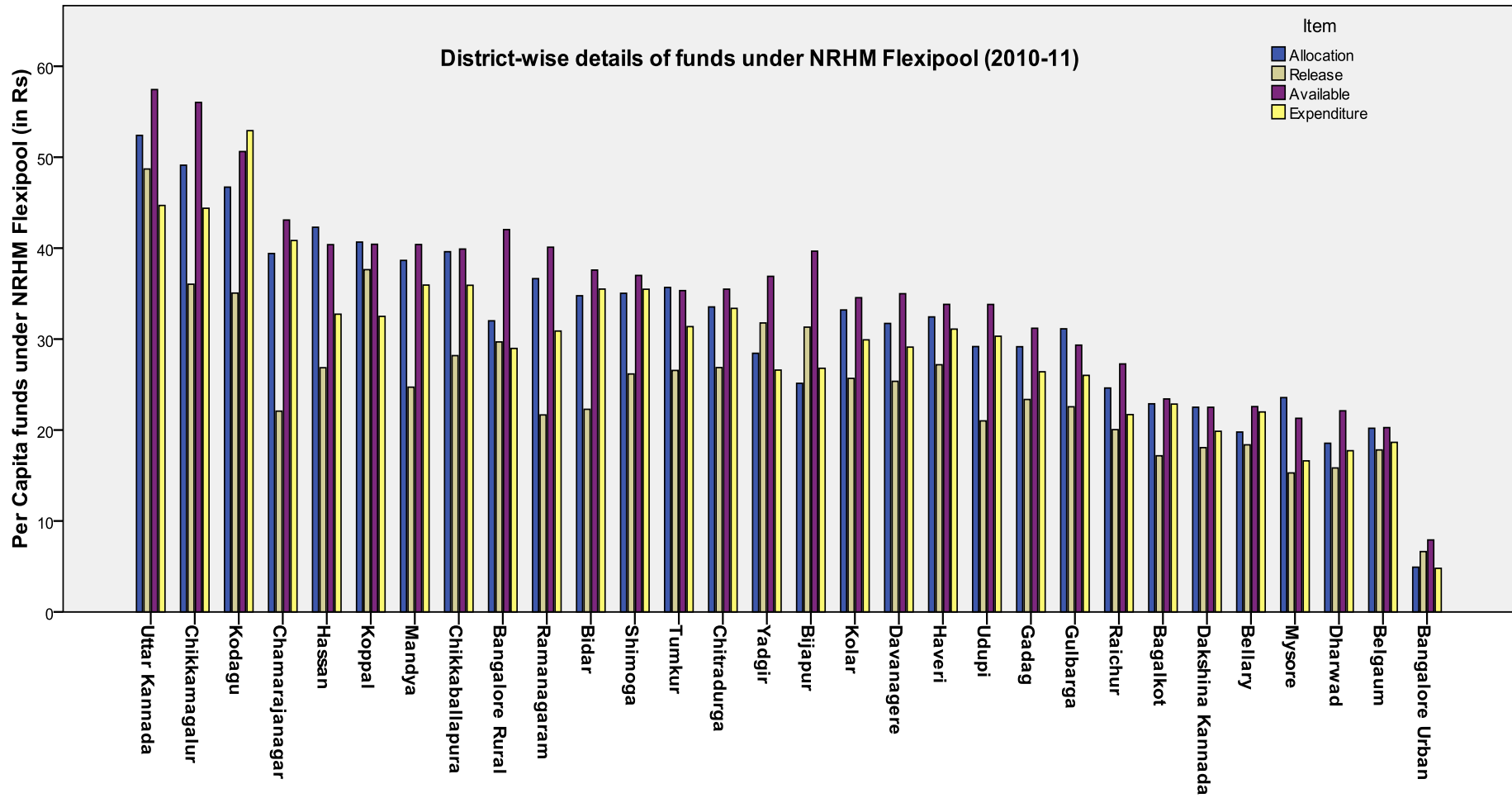


Figure 25. Trends in district level per capita fund utilization in NRHM flexipool

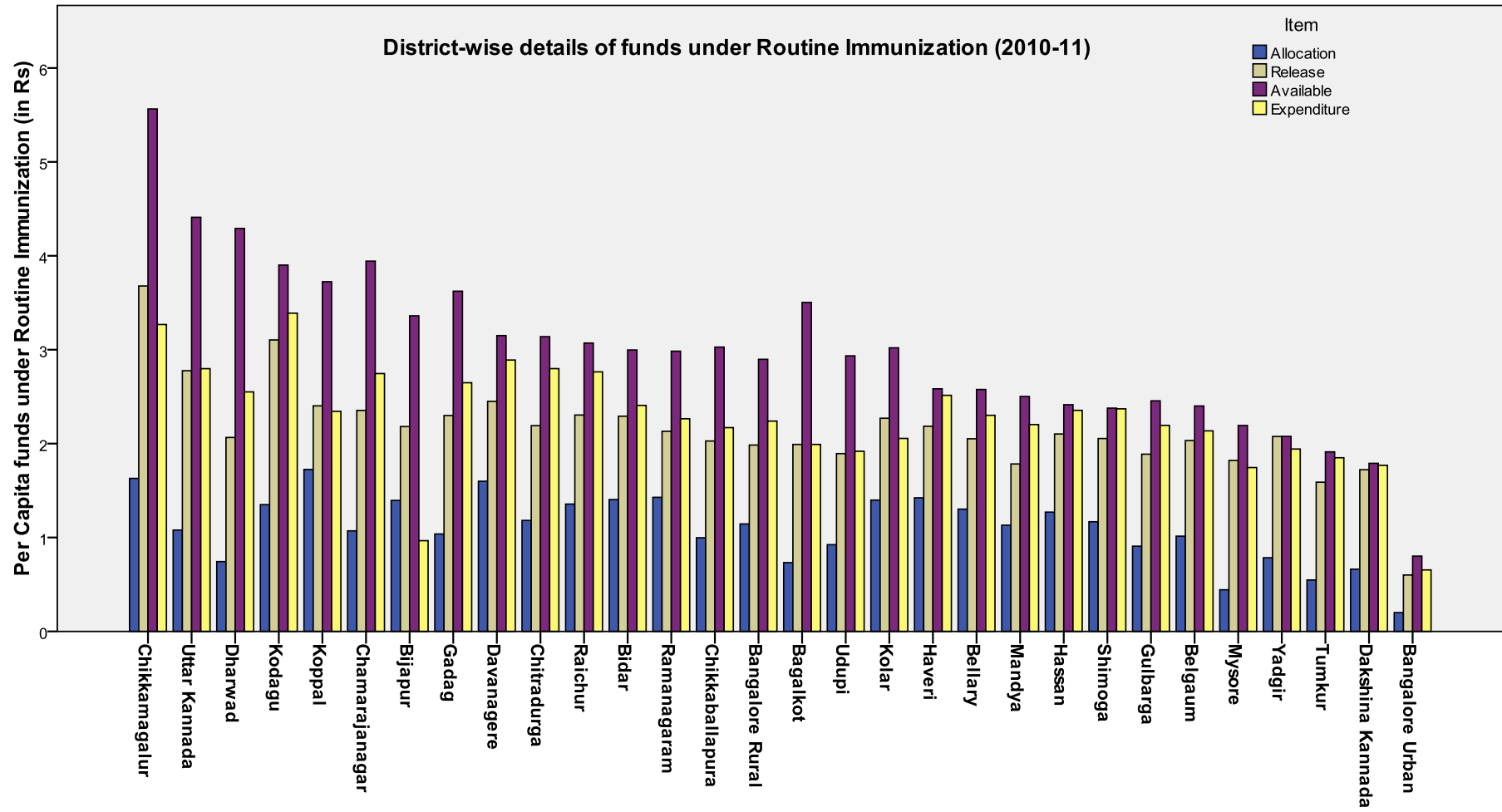


Figure 26. Trends in district level fund utilization in Routine Immunization

3.3 Detailed analysis of expenditures

The financial management report of NRHM consists of numerous major and minor heads of accounts under which funds are released based on the allotment of funds for these heads through DHAPs at the district level. Overall, there are more than 300 heads of accounts under which funds are allotted and released and specific activities are implemented. District-wise FMR based expenditure data was obtained for the year 2010-11 and analysed. Getting this FMR based expenditure data was important because it would allow us to understand the different activities/programmes/expenditures taken by each district under NRHM and analyse the trends in such expenditures.

3.3.1 Grouping of NRHM heads of accounts

In trying to understand the trends of expenditure at the district level, with respect to important expenditures like funds on human resources, infrastructure maintenance, IEC and training activities, RCH and NRHM programmatic activities, the numerous heads of accounts used in NRHM¹⁶ were grouped and remapped into the above mentioned expenditure groups. This allows for grouping of similar expenditures and activities into one cumulative expenditure head, whose trends could be later analysed and compared with trends in health indicators. Based on this grouping and mapping of NRHM's FMR account heads, the following groups of expenditures were extracted.

Group of expenditures	Details
Human Resources Expenditures	All HR related expenditures (ASHA incentives included), contractual medical staff and administrative positions
Maternal Health Programme Expenditures	All programmes like JSY, PA etc
Child Health Programmes Expenditures	FBNC, HBNC etc
Family Planning Expenditures	Sterilisation camps, incentives etc
Other RCH Programmes Expenditures	Innovations, ARSH etc
Routine Immunization Programme Expenditures	Social mobilization, cold chain maintenance, mobility support etc
Drugs Expenditures	Drugs procured under NRHM
IEC and Training Expenditures	IEC and Training Expenditures under various activities of NRHM
Admin and Logistics Expenditures	Transport facilities, Research etc
Untied Funds Expenditures	Untied funds for VHSC, SC, PHC, CHC etc
Infrastructure and Maintenance Expenditures	Equipment purchases
Other NRHM Programmes Expenditures	Ayush, Suvarna Arogya Chaitanya, Madilu Kits etc

¹⁶ Based on the scope of this project, this analysis restricts to 3 major heads of accounts: RCH Flexipool, NRHM Flexipool and Routine Immunization

3.3.2 Trends in grouped expenditure activities

Major trends in these groups of expenditures are presented below¹⁷. In this section, trends within these major groups of expenditures are explored. Figure 27 shows the share of the major groups of expenditures of the state at the district level in 2010-11.

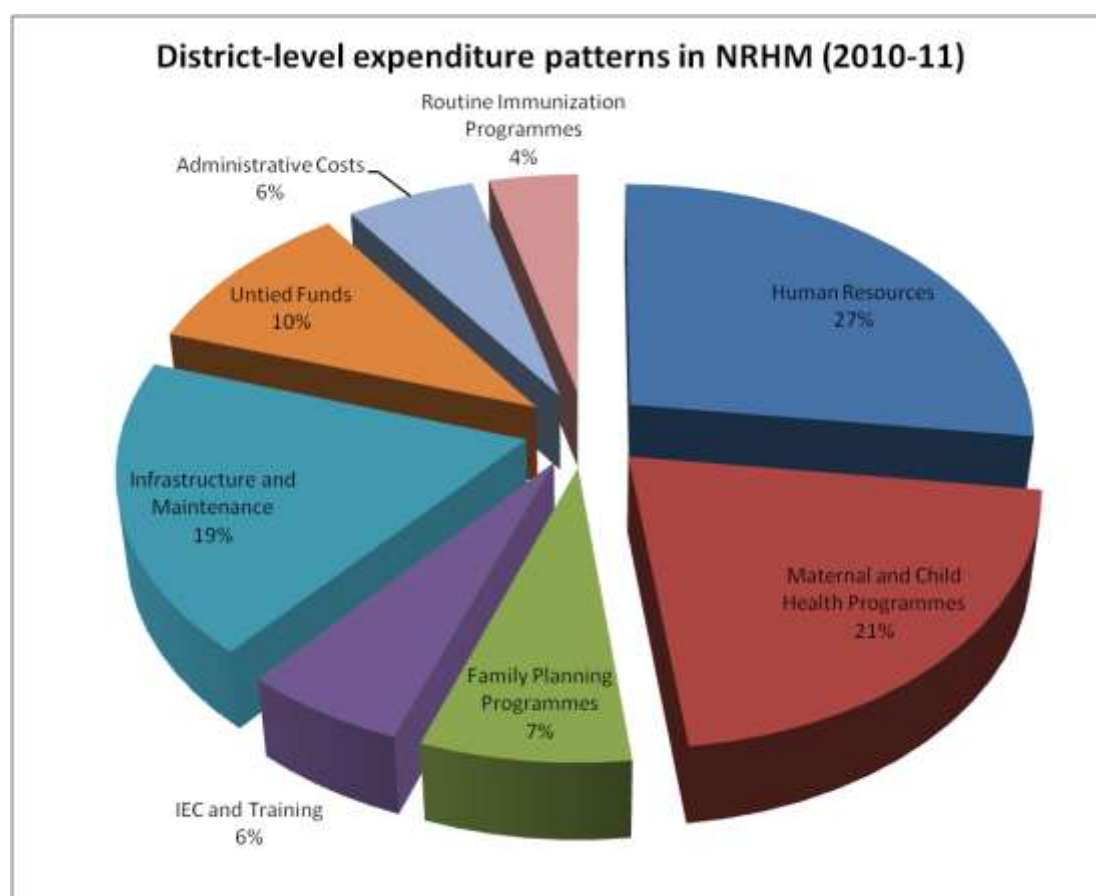


Figure 27. District level expenditure patterns in NRHM

The figure shows that human resources, followed by maternal and child health programmes, infrastructure and maintenance expenditures and untied funds are the major sources of expenditures under NRHM, aggregated at the district level. These expenditures make up for more than 75% of the total expenditures under NRHM at the district level. Figure 28 represents district-wise patterns in expenditure for human resources under NRHM. It shows that the expenditure on medical staff (including incentives) was the major component within the HR expenditures under NRHM (79% of the total HR expenditures). This was followed by expenditure on incentives for ASHAs (16%) and administration related HR expenditures (5%). The disaggregated state level expenditure on medical staff is presented in Figure 29. The labels denote the expenditure head, the amount in rupees (Crores) and the share in overall HR expenditures on medical staff. The graph shows that the remuneration for contractual staff nurses is the largest of the HR expenditures for medical staff, followed by remunerations for contractual ANMs.

¹⁷ The analysis that follows in this section focuses on trends and comparisons in expenditures on different types of activities and resources under NRHM at the district level, and hence does not use a per-capita basis for comparison.

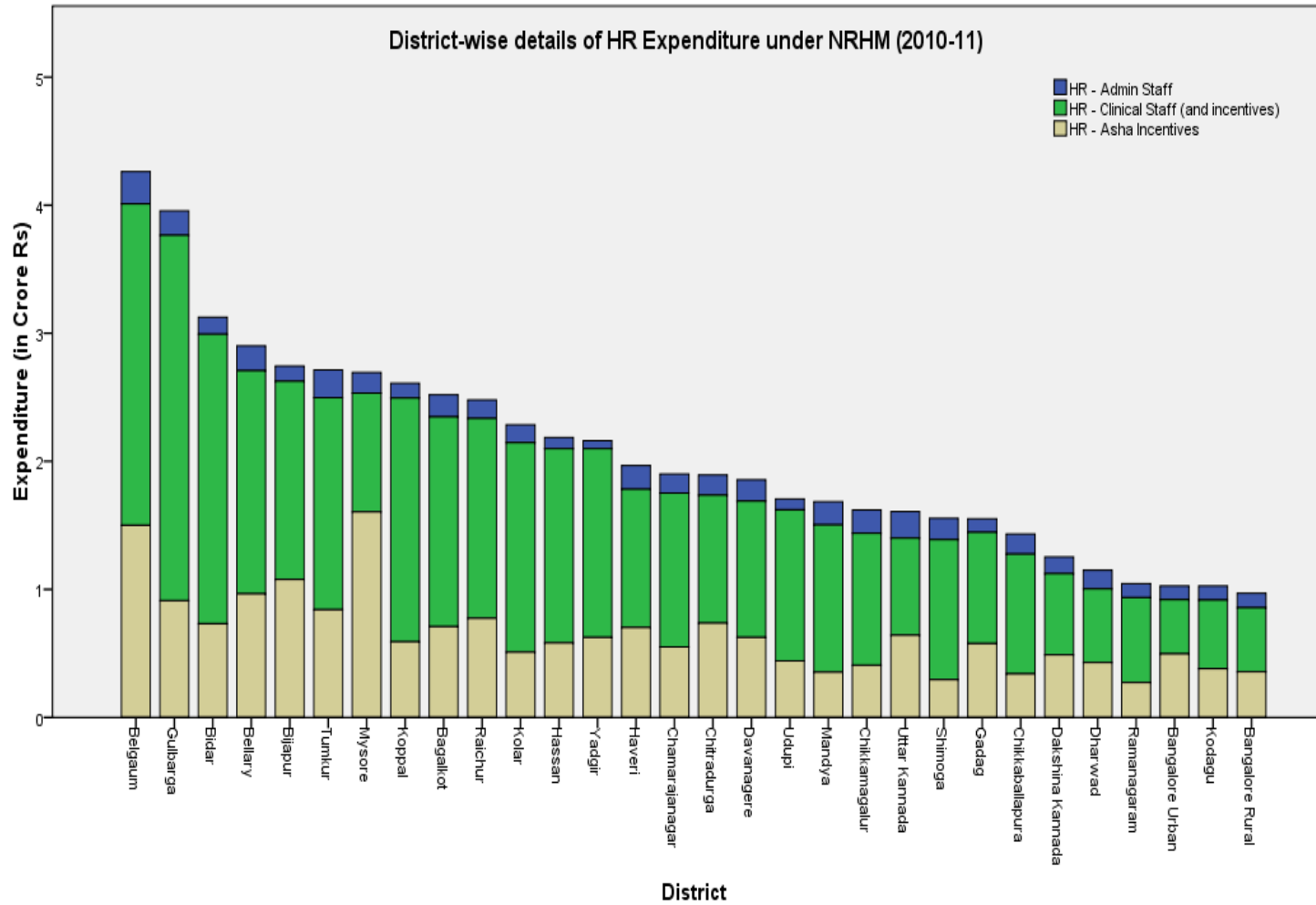


Figure 28. Trends in HR Expenditure under NRHM

This analysis shows that the *focus of HR expenditures under NRHM in the state has been towards providing extra staff nurses to PHCs and CHCs and providing additional ANMs to Sub-Centres.*

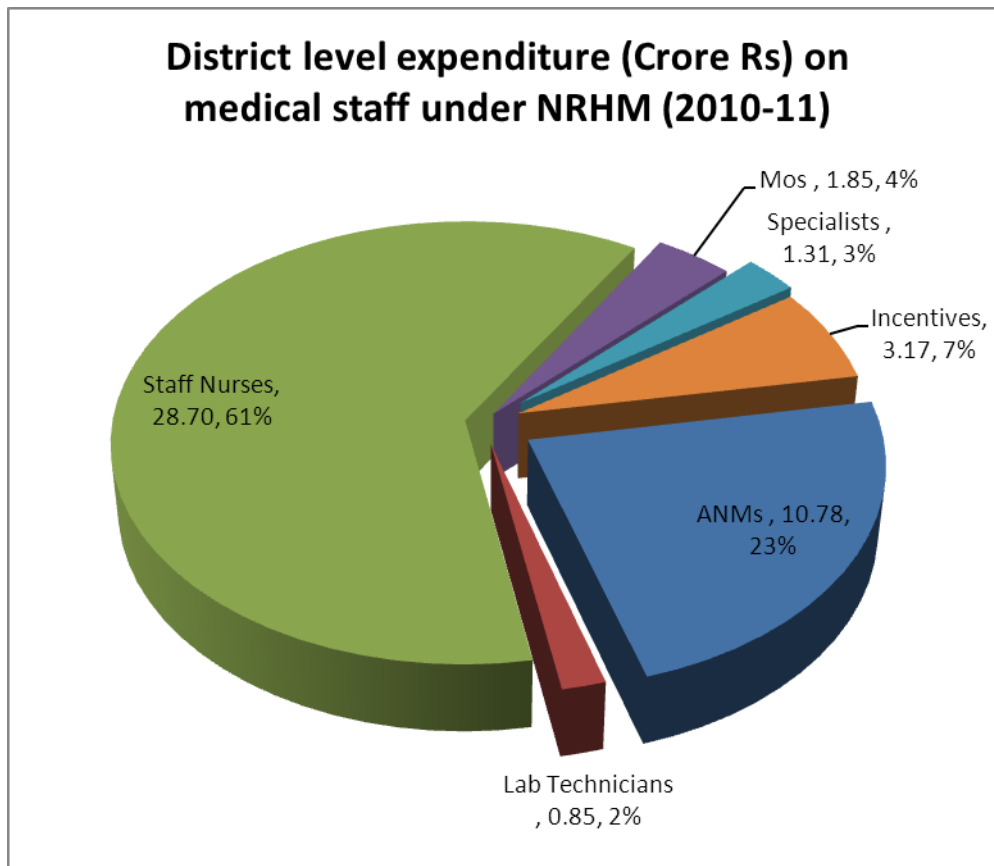


Figure 29. District level expenditure patterns on medical staff under NRHM (2010-11)

Figure 30 shows the trends in major components of RCH programmatic activities. It is evident that Maternal RCH programs (JSY, PA etc) form the bulk of programmatic expenditure under RCH. However, in comparison with the expenditure on maternal care, expenditure on specialized child health programmes is minimal. Further, districts like Chamarajanagar where special tribal RCH programmes are operational may have not reported expenditure on the same activities under the tribal RCH activities FMR heads.

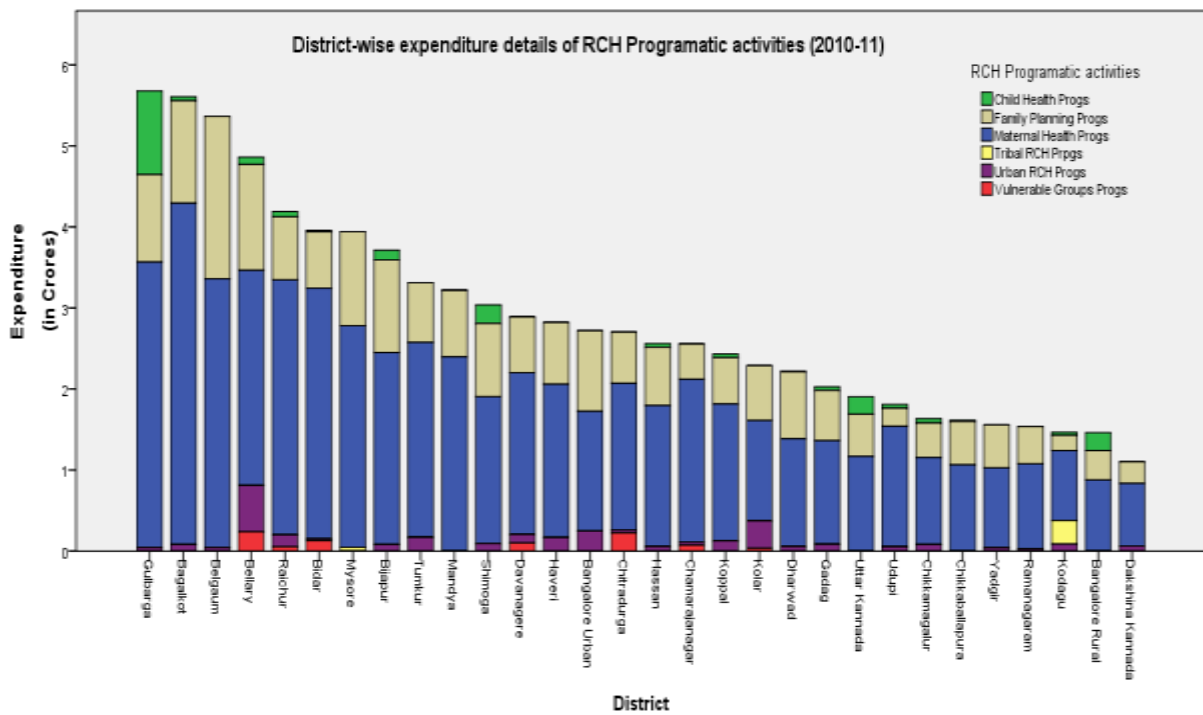


Figure 30. Trends in funds utilized for RCH programmatic activities

Figure 31 shows trends in fund utilization under programmatic activities of NRHM flexipool (excluding HR and other non-programmatic expenditures). As expected, most of the district level spending in NRHM flexipool is directed towards infrastructure and maintenance. However, *since infrastructure and maintenance grants are based on existing number of health facilities rather than need, districts with higher number of health facilities (number of SCs, PHCs, CHCs) tend to get more funds through these allotments.* The issue of regional disparities in infrastructure will be discussed in greater detail in the following sections.

Figure 32 shows trends in the share of important expenditure components of NRHM within districts. The graph is sorted based on descending order of share of infrastructure and maintenance grants in the total NRHM expenditure by the district. The graph shows interesting trends in that, districts with better health indicators (and better health infrastructure) have spent more of their available NRHM funds on infrastructure and maintenance. However, districts which lag behind in health indicators including many vulnerable districts spend more of their share of NRHM funds on programmatic activities.

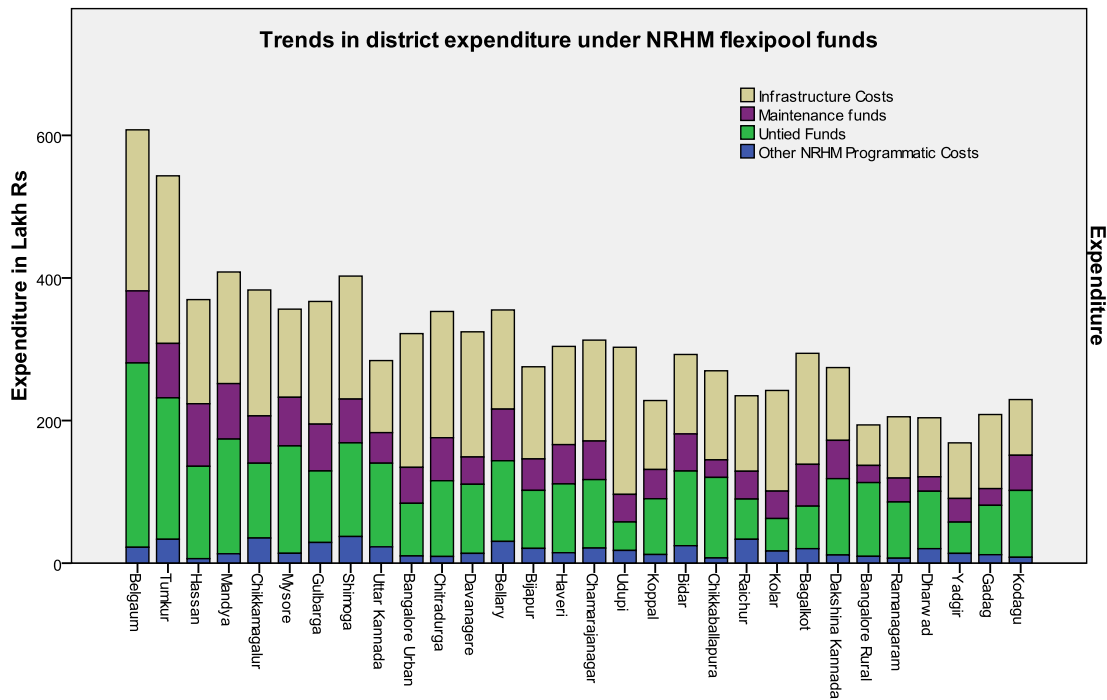


Figure 31. Trends in funds utilized in NRHM flexi-pool programmatic activities

Districts that have higher number of health institutions (like PHCs and CHCs) like Mysore, Mandya and Bangalore Rural, although tend to get higher allotment for maintenance and untied grants, still get considerable share of allotment in other programmatic activities as well.

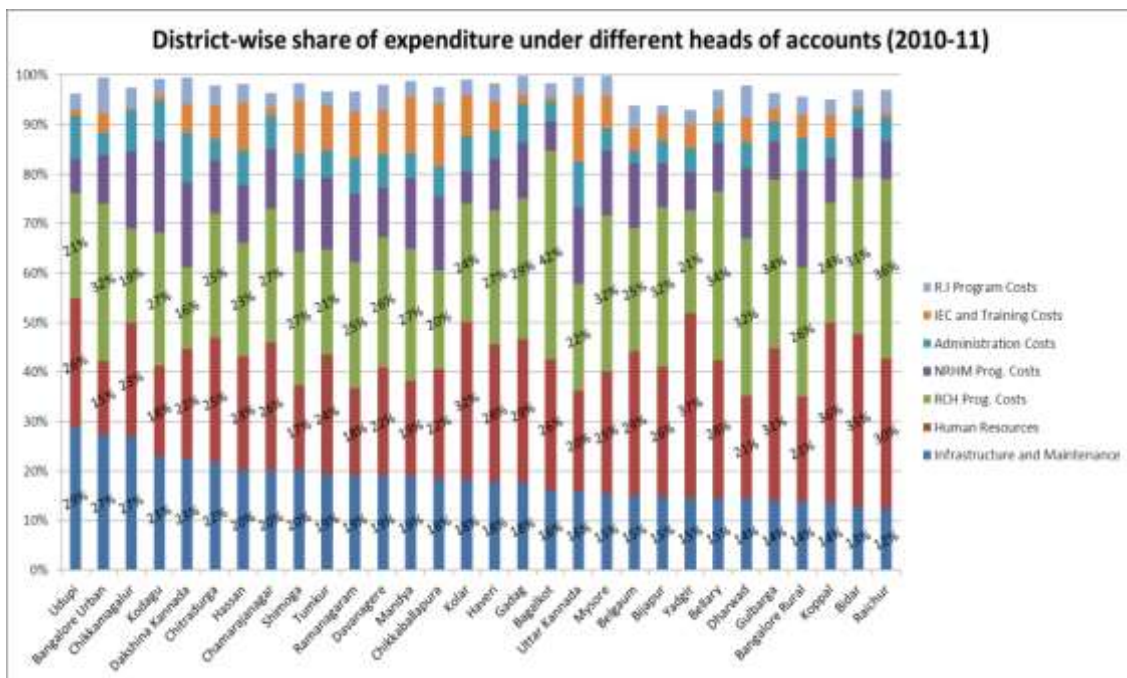


Figure 32. Trends in district share of expenditures

3.4 Analysis of existing regional Disparities in Karnataka

Regional disparities in Karnataka have been very well documented in many studies. The GoK itself has recognized this and the Karnataka State Integrated Health Policy, 2004 itself devoted

considerable effort in explaining the status and extent of regional disparities in health infrastructure and health indicators in the state. Further, one of the primary goals of NRHM was to mitigate these disparities at the national level itself. Hence, prioritized focus on improvement of health infrastructure and facilities in selected states (High Focus North East states, High Focus, Non-NE states for example) has been the most visible strategy of NRHM.

While regional disparities are recognized as major issues within the health sector, unfortunately, the planning processes of NRHM in Karnataka do not show a long term practical strategy and commitment to reduce regional disparities. In the NRHM related planning documents of the state (the PIPs, DHAPs etc), although regional disparities are recognized, other than the action of converting PHCs in selected north Karnataka districts to 24 X 7 PHCs, no other clear strategy is operationalized. Further, the analysis from previous sections show that *other than expenditures under RCH flexipool funds, clear prioritization of vulnerable districts in fund allocation is not visible*. In this section, we analyse how the state has progressed during the period of NRHM's implementation.

3.4.1 Quantitative description of regional disparities in Karnataka

Quantitative analysis of regional disparities in Karnataka was conducted using information available from successive Rural Health Statistics Reports¹⁸, district populations from Census of India documents (available online from GoI's Ministry of Home Affairs' census website <http://censusindia.gov.in/>). Based on analysis already presented in this report, it is evident that

- Planning documents do not operationalize ways to address regional disparities sufficiently.
- Cumulative fund flow of NRHM has not been able to effectively target regional disparities (Figure 22 & Table 6). Further, per capita expenditure patterns under NRHM (except RCH flexipool) do not show prioritization of vulnerable districts (Figures 19 – 22)
- Further, as shown in Figure 33, in districts that are better off, in terms of health indicators (like Chikmagalur, Hassan, Dakshina Kannada, Mandya, Mysore Shimoga etc), the coverage of rural population by PHCs have improved more than vulnerable districts like Bagalkote, Gulbarga and Raichur. Further, Figure 34 surprisingly shows that in North Karnataka districts like Bagalkote, Bellary and Bijapur, the coverage of rural population by Sub Centres has actually deteriorated.
- Finally, as shown in Table 7, Figure 36 and Figure 35, regional disparities continue to persist, with large number of surplus PHCs in some districts, shortage in others.

¹⁸ Rural Health Statistics is an annual bulletin brought out by the Ministry of Health and Family Welfare, GoI. The publication is based on the data received from the State governments in the form of Quarterly Progress Report on Rural Health Services. The bulletin serves as a compendium of state/district level statistics related to health infrastructure and human resources. The bulletins for various years are available online from GoI's Ministry of Health's website: <http://nrhm-mis.nic.in/publications.aspx>

Table 7. Districts with surplus PHCs (based on IPHS standards)

District	Surplus PHCs
Mysore	81
Hassan	81
Tumkur	74
Davanagere	64
Mandya	64
Chikmagalur	47
Bangalore Urban	46
Udupi	45
Chitradurga	45

Based on the above analysis, it can be concluded that even with the implementation of NRHM in Karnataka, regional disparities have persisted, and in many cases, the disparities have enlarged. The lack of prioritization of regional disparities in planning and the lack of checks and balances to curb down infrastructure growth in low priority districts are the major reasons for this unfortunate situation.

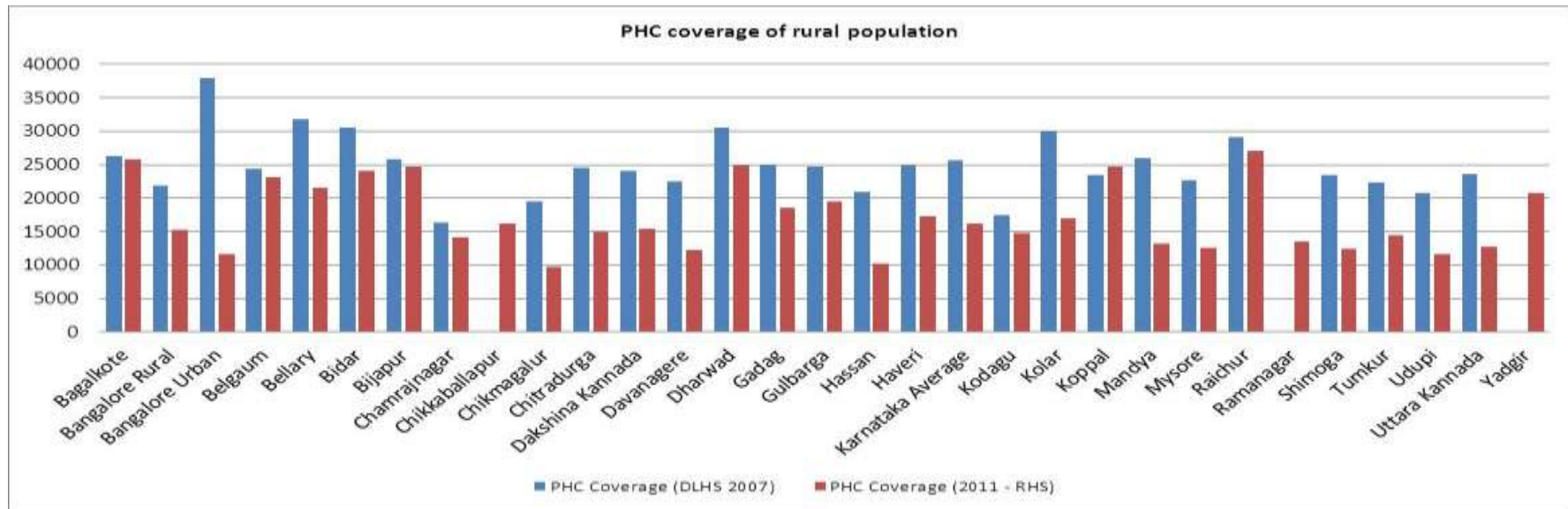


Figure 33. PHC Coverage of rural population (2007, 2011)

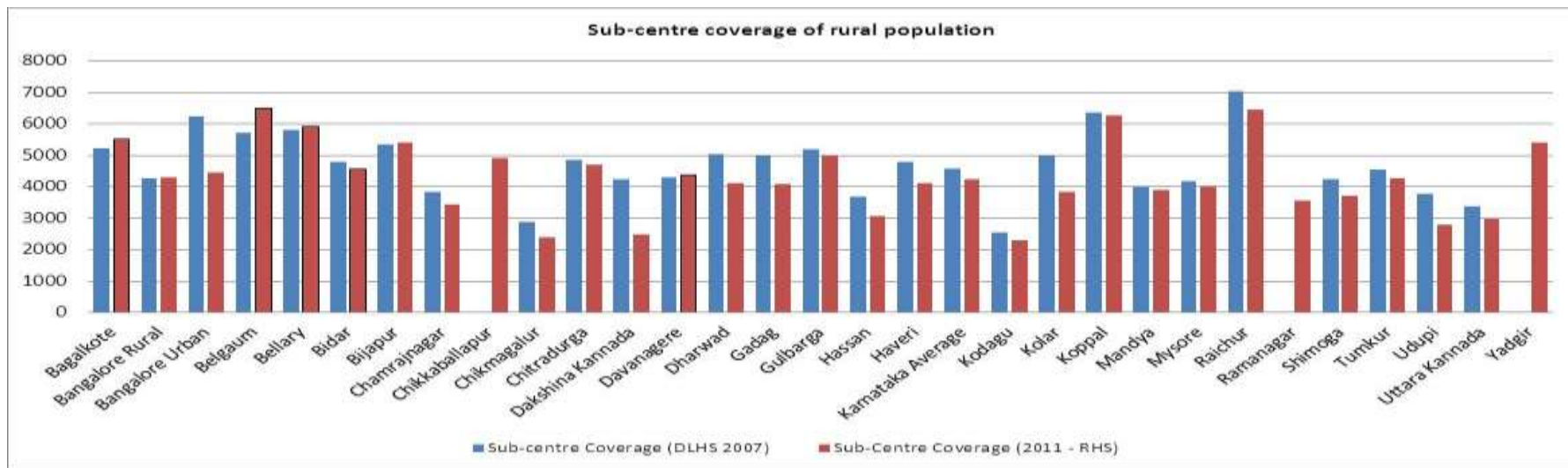


Figure 34. Sub Centre Coverage of rural population (2007, 2011)

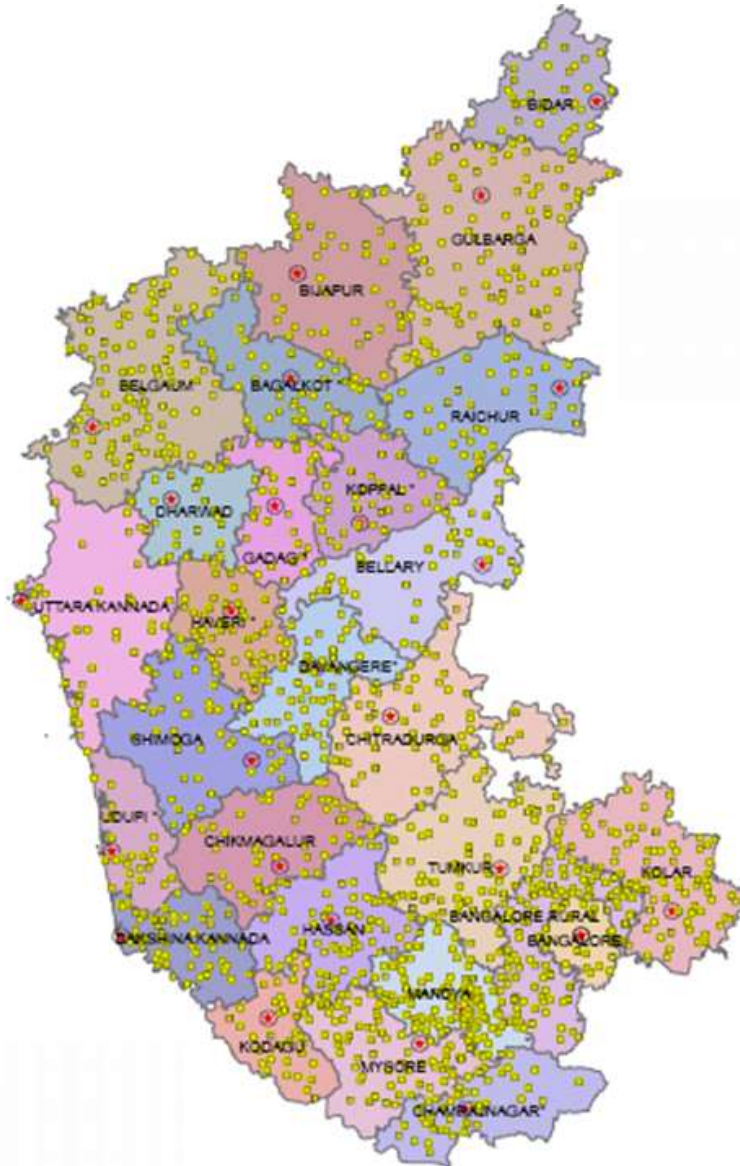


Figure 35. Mapping of PHCs in Karnataka (Source: Janasankhya Sthiratha Kosh)

3.5 Correlation between expenditure, infrastructure, development status and health

Correlation analysis was conducted between important expenditure variables, infrastructure and health related indicators to understand whether the fund flow and infrastructure are targeted in the right direction. This analysis gives an understanding of the relationship between district development status, expenditures, existing infrastructure and Health Indicators, disaggregated at the district level. Data used for the correlation analysis are

1. District-wise expenditure under major heads: RCH NRHM and RI, for all years between 2005 – 2011, from audited financial reports of District Health Societies,

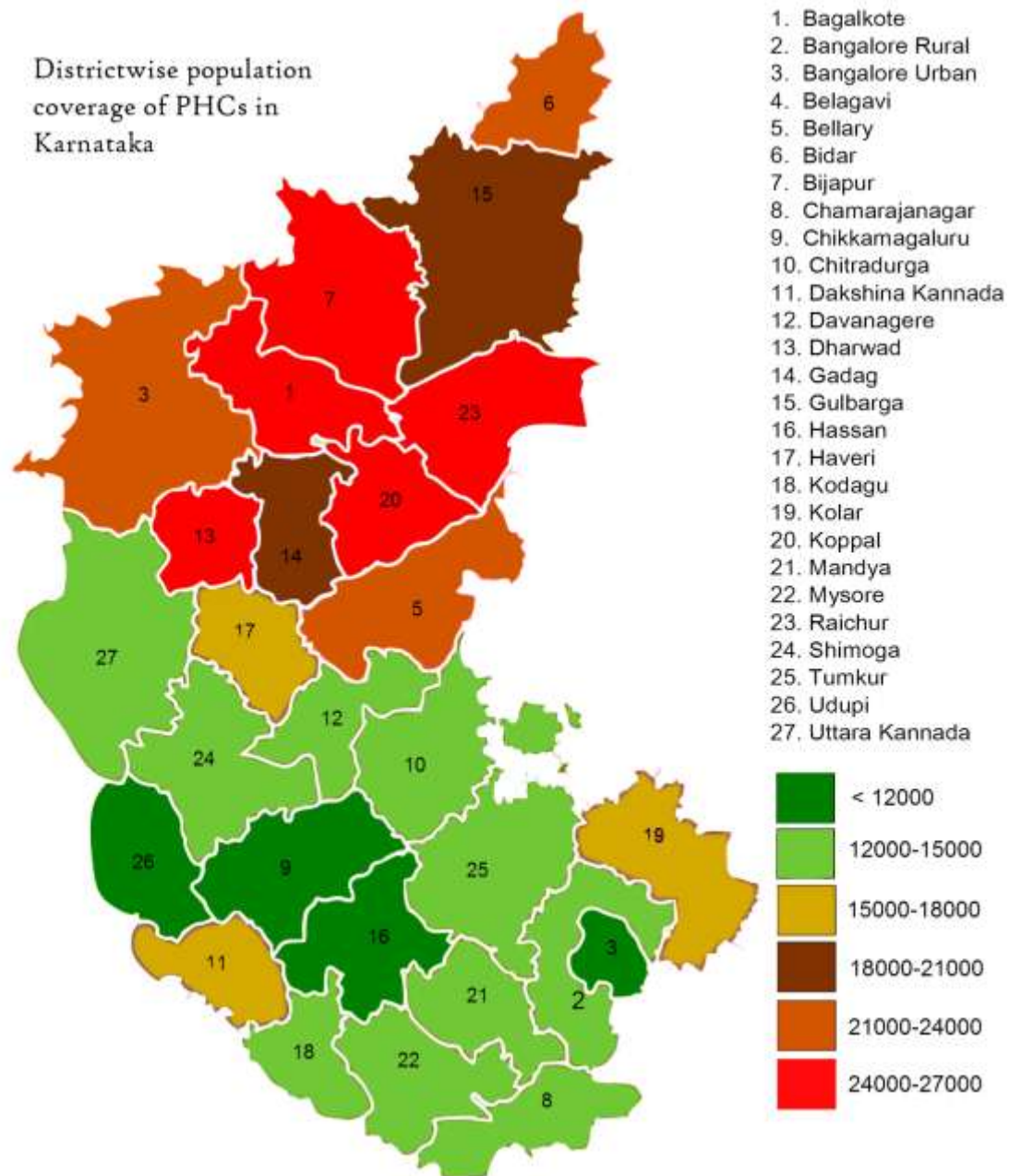


Figure 36. District-wise population coverage of PHCs in Karnataka (Source: RHS 2011)

2. Existing health infrastructure in 2011, using Rural Health Statistics (2011)
3. District populations in 2011 (and population growth rates) using Census documents
4. Composite health indicator (devised by National Commission on Population, GoI, 2001, used in 2008-09 state PIP to demonstrate regional imbalances) – serves as a guideline for regional prioritization
5. District health indicators, using District Level Household Survey (DLHS), 2007.
6. District Human Development Index, based on Karnataka Human Development Report, 2005.
7. Per capita Incomes from the Economic Survey of Karnataka, 2011-12.

Three types of correlation analysis were conducted to understand the patterns of health indicators and trends in expenditure of NRHM funds for the following issues

1. To choose one representative health indicator (for different health indicators, presented in DLHS, 2007).
2. To understand trends in expenditure under NRHM, health status and development status of districts
3. To understand trends in health infrastructure, expenditure under different NRHM heads of accounts and specific process and outcome indicators of health.

In the first correlation analysis, the composite health indicator devised by the National Commission on Population, GoI, 2001, was correlated with health indicators reported by the DLHS, 2007 to make sure that the correlation shows the expected signs¹⁹. The results of this correlation are presented in Table 17 in Appendix A. It shows strong correlations with the expected signs on all related health indicators. Hence, this composite health indicator is used as a representative health variable for all districts, in carrying out further correlations.

To understand whether the trends in the above discussed composite health indicator relates to the expenditure under NRHM and the district development status (measured through HDI and per-capita incomes), another correlation matrix was prepared and is reported in Table 18 in Appendix A. The results of this correlation are summarized below.

1. The composite health indicator is positively correlated with HDI and per capita Income, indicating that districts with better health status also are districts with higher development status (both in HDI and per capita income).
2. RCH expenditures are negatively correlated with the composite health indicator, indicating that overall RCH expenditures have been higher in places with lower health status.
3. Population covered by PHCs is negatively correlated with the composite health indicator, indicating that districts where PHCs cover larger populations correspond to districts with lower health status (for example, Raichur)
4. Overall NRHM expenditures are positively correlated with rural population indicating that NRHM expenditures are higher in places with higher rural populations. However, *NRHM expenditures are not significantly correlated to the composite health indicator (ideally, significant negative correlation is expected).*
5. Further, NRHM expenditures are not correlated with HDI and per capita income, indicating that there is no significant trend of NRHM expenditures targeted towards districts with low per capita income or districts with lower HDIs.

¹⁹ The Composite health indicator devised in 2001 is dated. However, an updated holistic indicator of health could not be framed for this study due to the lack of data. This correlation test was done to know whether the holistic health indicator devised in 2001 is still valid. The strong correlation with expected signs (with various variables of DLHS 2007), shows that this indicator is still a valid representation of the overall health status of the districts in the state.

Based on these results, it can be concluded that RCH flexipool expenditures are generally better aligned towards districts with lower health status whereas NRHM flexipool expenditures in general do not show such trends. Overall NRHM expenditures are not correlated to either the health status or the development status of districts.

To understand the comparative trends of expenditure under NRHM with health infrastructure and specific health related process indicators (villages with ASHAs, Institutional deliveries etc.) and outcome indicators (% of live births, still births), correlation analysis was carried out with relevant variables. The correlation matrix is presented in Table 19 in Appendix A. This section presents the summary of the results.

- RCH expenditure is higher in regions with where health related indicators are poor. Based on this evidence and other analysis in previous sections, it may be concluded that RCH expenditure (because most of it is oriented towards maternal health through JSY and PA) is better targeted and need based.
- NRHM flexipool, Routine immunization and total funds in NRHM have not targeted the imbalance in health indicators.
- *Over-all expenditure under NRHM is strongly and positively correlated with existing infrastructure (and not health indicators).* This also indicates that facility based fund allocation does not necessarily target overall health indicators.
- Expenditure is positively correlated with district populations. However, as shown in other analysis in previous sections, there may be vulnerable districts that may be left out.
- Existing infrastructure does not have significant correlation with population (and is validated by the analysis of regional disparities)
- Infrastructure does not have significant correlation with health indicators (however, there is a general –ve relationship)

Based on these analysis, it can be concluded that other than RCH expenditures (all of which are essentially demand based, and are principally dependent on the work of ASHA and ANMs), *no clear trend emerges that can link expenditures under NRHM in total with existing health and development status of districts.* Thus the analysis presented here does not provide any evidence to support the fact that funding health institutions based on the principal of facility based funding yields better overall health results.

4. Field validation (Phase 2)

4.1 Objectives of phase 2 of the study

In the context of the findings of phase one, the objectives of the second phase of the study are stated below

1. Corroborate the findings of the first phase through field validation, mainly
 - there are critical loopholes in planning processes
 - fund allocation is facility based rather than need based
 - there are no clear trends of prioritized planning and fund flows
2. Understand local processes and issues related to planning, fund allocation, implementation and expenditure of NRHM funds
3. Understand the local perspectives (of community representatives²⁰ and local public health officials) on critical issues like
 - the extent of internalization of objectives of NRHM
 - the processes and status of bottom up planning
 - the current status of community participation in the monitoring and governance of local health institutions
 - current status and changes brought in through NRHM (from the perspective of the service provider as well as community)
4. Identify possible gaps between existing planning processes, expenditure patterns and local health issues
5. Elicit viable policy advocacy options to address such gaps.

4.2 Methodology

To accomplish the objectives stated above, two important aspects of field level information were identified. First, to understand the current status of health infrastructure, human resources and utilization of services available in health institutions up to the taluk level, collection of *quantitative information* about individual health institutions was necessary. Secondly, to understand current status and perspectives of various stakeholders on issues related to planning, implementation, expenditure, and community involvement, exploratory studies had to be carried out. Hence, the collection of *qualitative information* was also necessary. Hence, in the second phase of the study, both quantitative and qualitative data were collected by visiting individual health institutions.

Quantitative information was collected in all institutions visited. Within each selected taluk, PHCs/CHCs were randomly selected. These health institutions were visited and statistics like HR position in the institution, outpatient, in-patient registrations, fund positions etc.

²⁰ In the context of this study, Community representatives refer specifically and only to members of P&MC, ARS and VHSCs.

were collected based on official records. Details of health institutions from which quantitative data was collected during the second phase are given in Table 8.

Table 8. Health institutions visited

Type of institution	Data points
Taluk Hospitals/CHCs	28
PHCs	150
SCs	237
ASHA	206
VHSC	102

Qualitative information was collected in a subset of such institutions, using open ended semi-structured questionnaires. These questionnaires were devised to capture qualitative information regarding planning, implementation and expenditure processes and community involvement related issues. For this purpose, individual personnel within the health department were interviewed. The participants of these interviews were: District Health Officers (DHOs)/District Programme Management Officers (DPMOs), Taluk Health Officers (THOs), Medical Officers (MOs), ARS representatives, Auxiliary Nurse Midwives (ANMs), Accredited Social Health Activists (ASHAs) and VHSC representatives.

Table 9 gives the details of the participants interviewed. The DHOs and THOs of representative subset of districts and taluks were selected for this qualitative interview. Within the taluks selected, 2 PHCs were selected randomly for qualitative data collection. Within each such PHC, the data collection was planned for one MO, one ANM, one ARS representative, one ASHA and one VHSC representative. However, due to issues like credibility of data collected, completeness in answers and non-availability of respondents²¹, valid responses could not be gathered in the case of 2 ARS representatives, 13 ASHAs and 15 VHSC representatives.

The information and viewpoints gathered (and hence the results of the analysis) using this method of qualitative data collection are *not statistically generalizable* (due to the nature of data collection and the sample size of data points). However, based on the requirements of this phase of the study (wherein the results of the quantitative data analysis have to be validated and the possible reasons for the status quo have to be understood), this data collection method captures the major *explanatory theories* because of which the status quo exists and further, what can be done to address them. The plausibility and importance of each such explanatory theory has to be decided based on extensive field knowledge and understanding of local contexts. Additionally, the recurrence of themes of explanations arriving out of qualitative analysis itself serves as indications of generalizability of these explanations.

²¹ In some cases, the respondents were not physically available (the teams made a maximum of 2 physical attempts to meet the respondents), a few respondents left in the middle of the interview due to other engagements and in some cases, the MO/PHC personnel would repeatedly prompt the answers (even after several reminders by our field staff).

Table 9. Interview details

Category of personnel	Number of personnel interviewed
DHO/DPMO	12
THO	30
MO	60
ARS Representative	58
ANM	60
VHSC Representative	45
ASHA	47

For each of category of participants, separate semi-structured questionnaires were prepared.

The questionnaire covered the following aspects:

- *Understanding of NRHM, perspectives of different personnel and officers on changes brought by NRHM, including health indicators (like IMR, MMR) and process related indicators (like ANC coverage, full immunization),*
- *Planning related processes being followed,*
- *Issues relating to clarity in implementation, training requirements,*
- *HR issues, reporting activities,*
- *Community participation and involvement,*
- *Fund and expenditure related aspects,*
- *Implementation patterns and issues in NRHM activities,*
- *Supply of drugs.*

The survey schedules are attached in Volume 2 of the report.

4.2.1 Selection of field sites

The districts and taluks chosen for the field survey were selected so as to have a representative sample of the state. The field sites were selected so that both regional representation local variations could be identified. Figure 37 shows the districts chosen for field validation. Further, priority was given to districts that provided the team with secondary data about existing health institutions within their districts. Table 10 gives the districts and taluks covered in the study.

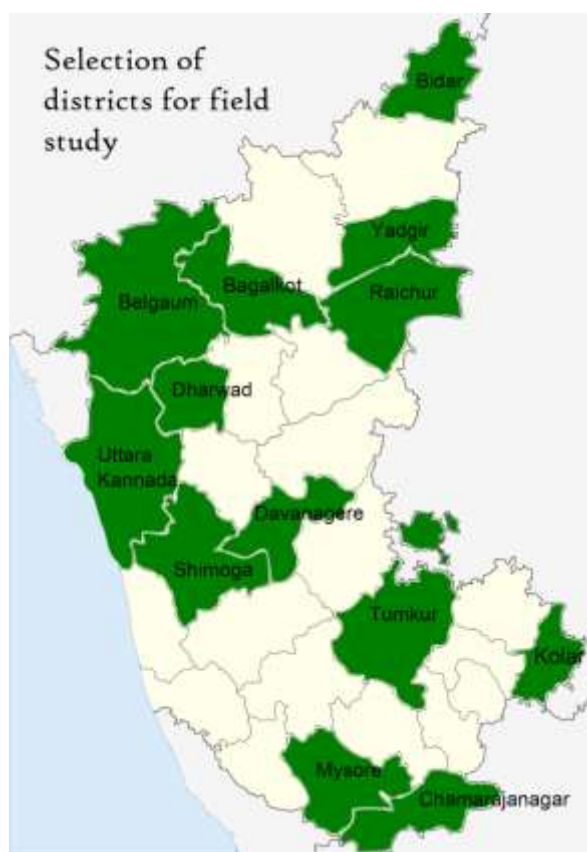


Figure 37. Districts chosen for the study

Table 10. Districts and taluks visited

Selected districts	Taluks
Bidar	Aurad, Basavakalyan, Bidar
Yadgir	Shahapur, Yadgir
Raichur	Devadurga, Lingsagar, Manvi, Sindhnoor
Bagalkote	Badami, Bilgi, Jamakhandi
Belgaum	Bailhongal, Khanapur,
Dharwad	Dharwad, Kundagola
Davanagere	Channagiri, Davanagere, Harapanahalli, Harihara, Honnali, Jagalur
Shimoga	Hosanagar, Soraba, Thirthahalli
Tumkur	Kunigal, Madhugiri, Tiptur
Kolar	Malur, Mulbagal, Srinivasapura
Mysore	H D Kote, Hunsur, K R Nagar, Mysore, Nanjangud, Periyapatna, T N Pura
Chamarajanagar	Chamarajanagar, Gundlupete, Kollegal
Uttara Kannada	Ankola, Bhatkal, Honnavar, Karwara, Kumta, Sirsi, Siddapur
13 Districts	48 Taluks

4.2.2 Data collection

Orientation and pilot interviews

The field team was oriented extensively on the questionnaire for 1 week. The orientation focused on the following issues:

1. Understanding the rationale of the evaluation and the findings of the first phase of the study,
2. Information collection techniques for capturing quantitative data,
3. Administering semi-structured surveys and collection of qualitative data,
4. Documentation techniques,
5. Issues to be probed and issues to be documented in detail.

This was followed by pilot interview sessions in PHCs in Mysore district. The final questionnaire was prepared based on the experience and feedback from the pilot interviews. Five field teams were deployed for data collection and field visits were conducted between September 2012 and November 2012. Interview feedback was randomly obtained from 30% of the respondents.

4.3 Quantitative Analysis

The following section provides the analysis of quantitative information collected during the field visits. The quantitative analysis provides a broad representative picture of the general utilization levels of PHCs (using the monthly OPD, In-patient registrations and monthly deliveries), comparative analysis of current status of infrastructure and its utilization and validation of important results from phase 1 of the study. Table 11 presents important features of the visited PHCs²², averaged over the districts and administrative divisions of the state. The table provides evidence of the disparity in the distribution of PHCs between south Karnataka (Mysore and Bangalore divisions) and North Karnataka (Belgaum and Gulbarga divisions). Further, it can be seen that within divisions, there is considerable variation between districts.

4.3.1 PHC and Sub-Centre distributions

As seen from Table 11, the districts from Mysore division and Bangalore division had the highest density of PHCs in the state²³. Further, intra-region variation is also visible in the Gulbarga and Belgaum divisions. For example, within the Gulbarga division, among the three districts visited, there are considerable disparities in populations covered by PHCs, with Yadgir having the highest density of PHCs and Raichur having the lowest density of PHCs. Similarly, the distribution of PHCs in the Belgaum division is much dense (relative to

²²The averages listed in this table are computed for the PHCs which were visited as part of the field study and do not correspond to the averages of the overall PHCs in the district. However, in most cases, this sample average is comparable to the overall district averages.

²³ Column 3 of Table 11 represents average population covered by PHC. Lower this population coverage, higher the density of PHCs in the district/region.

the population) in Uttara Kannada and Belgaum, in comparison to Bagalkot and Dharwad districts. Further, disparities exist in the number of sub-centres per PHC²⁴ (both intra and inter division disparities). In areas like Davanagere and Yadgir, while the density of PHCs is high, the coverage of populations by SCs within these PHCs is comparatively high, whereas in the Mysore division, the average population coverage of SCs is very low.

Table 11. Important features of PHCs visited during field visits

Region	District	Average population covered	Average monthly OPD	Average monthly In-patients	Average monthly deliveries	Average sub-centres per PHC
1	2	3	4	5	6	7
Bangalore Division	Davanagere	15470	895	40	5.4	2.0
	Kolar	16391	1223	3	21.3	3.8
	Shimoga	11704	568	3	1.7	3.2
	Tumkur	17839	693	9	4.3	4.0
	Average	15348	868	25	6.9	3.4
Gulbarga Division	Bidar	31781	853	23	20.5	6.3
	Raichur	36510	808	39	19.6	5.8
	Yadgir	22905	542	35	27.8	2.8
	Average	32747	772	34	21.3	5.1
Belgaum Division	Bagalkot	37710	951	92	26.7	6.0
	Belgaum	24295	543	30	9.3	5.5
	Dharwad	38434	1031	28	21.0	7.8
	Uttara Kannada	22282	651	4	9.0	
	Average	28183	754	30	14.54	6.36
Mysore Division	Chamarajanagar	11814	676	18	3.2	3.0
	Mysore	14586	549	7	4.5	3.5
	Average	13662	591	11	4.1	3.2
Total		19904	734	22	13.1	4.5

These disparities were also felt in the responses given by the different personnel of the health department in the discussions over the local implementation issues. Together with higher population coverage, lack of second ANMs in such districts increased the burden of ANMs specifically. For example, ANMs interviewed in the districts like Davanagere, Yadgir, Bagalkot and Raichur said that the major challenge for them was travel and coverage of all field areas within their jurisdiction. These issues will be described further in the qualitative analysis section.

²⁴ Average number of Sub-Centres per PHC is calculated based on the number of Sub-Centres existing in the PHCs visited

4.3.2 OPD, In-patient rates and deliveries

Based on the data in column 4 of Table 11, it can be seen that the OPD registrations are highest in the Bangalore division (Kolar and Davanagere districts), Dharwad district in Belgaum division and the least in the Mysore division. Population covered by the PHCs and their OPDs did not have a significant correlation²⁵. This means that there is no evidence of positive/negative relationship between population covered by a PHC and its OPD registrations.

Table 12. PHCs with no inpatient registrations and deliveries

Region	No In-patients	No deliveries
Bangalore Division	34%	25%
Belgaum Division	50%	39%
Gulbarga Division	5%	0%
Mysore Division	53%	53%
Total	39%	34%

Inpatient registrations were comparatively higher in North Karnataka divisions than in South Karnataka. Further, in-patient registrations had a significant positive correlation (0.31) with population covered by the PHC. The districts of Kolar, Shimoga, Tumkur, Uttara Kannada and Mysore had single digit in-patient registrations. Further, as shown in Table 12, the number of PHCs which did not have any in-patient registrations is considerably higher in Belgaum and Mysore divisions. Mysore, Tumkur, Shimoga, Kolar and Uttara Kannada were the districts where in-patient registrations were the lowest. Gulbarga division had the highest number of PHCs that had in-patient registrations (only 5% of the visited PHCs in the region did not have in-patient registrations).

The analysis of average monthly deliveries also shows similar trends. Average monthly deliveries had a significant positive correlation with population covered by the PHC (0.47). North Karnataka PHCs had on an average higher number of monthly deliveries than those in South Karnataka. Impressively, in all PHCs the team visited in the Gulbarga division, deliveries were happening²⁶. However, in more than half the PHCs visited in Mysore division and close to 40% of the PHCs visited in Belgaum division, delivery services were not available.

The most common answers found for the low in-patient registrations and deliveries were: availability of TLHs/CHCs nearby, lack of staff nurses and support staff and low population coverage. Population coverage of the PHC and in-patient registration had statistically

²⁵Measured through Pearson Correlation Coefficient, statistically significant at 0.01 level.

²⁶This can be related to the fact that PHCs in Gulbarga and Belgaum division have been converted into 24x7 PHCs.

significant positive correlation of 0.31²⁷. Similarly, population coverage and monthly deliveries also had statistically significant positive correlation of 0.47²⁶.

Table 13. PHC building status in different regions in Karnataka

Region	Well maintained	Needs repair	Average
Bangalore Division	50%	32%	18%
Gulbarga Division	69%	15%	15%
Belgaum Division	31%	38%	31%
Mysore Division	50%	0%	50%
Total	50%	24%	26%

Table 13 and Table 14 show the status of the building and cleanliness of the premises, averaged over the different regions, in the visited PHCs respectively. From these tables, it is noticeable that more than 75% of the visited PHCs were in satisfactory condition and only few PHCs had unclean premises.

Table 14. Status of cleanliness in PHC premises

Region	Clean	Average	Unclean
Bangalore Division	59%	36%	5%
Gulbarga Division	50%	50%	0%
Belgaum Division	23%	62%	15%
Mysore Division	40%	60%	0%
Total	46%	49%	5%

4.3.3 Quantitative Analysis of Taluk Level Hospitals

Table 15 presents the important features of taluk hospitals visited during the study²⁸. It shows that the OPD and in-patient registration rates in Mysore and Raichur districts are comparatively higher than other districts. The average monthly deliveries in Mysore are also high, followed by Chamarajanagar.

When the information is normalized with the population covered by the hospitals, we see that taluk hospitals in Mysore, Raichur and Chamarajanagar have the highest overall utilization. While this is understandable in the case of Raichur (since it has the highest

²⁷ The magnitude of the correlations is not high. However they bear the expected signs and are statistically significant.

²⁸ The analysis cannot be carried out at the division level since number of Taluk level hospitals visited (20) is too few to be averaged.

average population covered by PHCs in the entire state, as shown in Section 3.4, pp. 57), evidence from the previous analysis suggests that the higher utilization rates of taluk hospitals (high OPD, in-patient registrations and deliveries) in Mysore and Chamarajanagar districts could be due to lack of services being provided at PHCs and CHCs in the districts as indicated in Table 12.

Table 15. Important features of Taluk Hospitals visited during field visits

	Average population covered by Taluk Hospitals	Average monthly OPD	Average monthly in-patients	Average monthly deliveries	OPD per 1000 population	Inpatients per 1000 population	Average monthly deliveries per 1000 population
Chamarajanagar	58261	5100	700	152	88	12	2.61
Davanagere	119474	6133	492	111	51	4	0.93
Mysore	45203	12850	928	203	284	21	4.50
Raichur	42812	10250	1026	103	239	24	2.41
Uttara Kannada	114803	5038	428	115	44	4	1.00

The summary of these findings are presented in Section 5.2.1 (page 90).

4.4 Qualitative Analysis of responses

As indicated in the methodology section of this chapter, qualitative information on the perspectives of different officers and personnel was collected concerning important issues connected to the implementation of NRHM. Specifically, DHOs and DPMOs²⁹, THOs, MOs ANMs, ASHAs, ARS and VHSC representatives were interviewed for this purpose.

Table 9 gives the number of personnel interviewed for collection of qualitative information through semi-structured questionnaires.

In this section, the analysis of this qualitative information is provided under the following sub-sections.

1. Perceptions about NRHM and changes noticed
2. Planning processes under NRHM
3. Issues in implementation of NRHM

The full analysis of these interviews from each category of respondents is included in Volume 2 of the report.

²⁹DPMOs were interviewed wherever DHOs were not available.

4.4.1 Perceptions about NRHM and changes noticed

The majority of the interviewed officers (76/102) from the health department had a good understanding about NRHM; its objectives, salient features, core strategies and implementation approaches. They stated that reduction of IMR and MMR, increasing institutional deliveries, implementation of national health programmes, drive towards full immunization importance of Community health and related activities, control and rapid response to epidemics, improvement of infrastructure, providing emergency services (mainly through 108 ambulance service) as important features of NRHM.

Further, *all the officers identified the ASHA and ANM as the key roles in raising community's awareness levels on health related issues.* At the grassroots level, while the ANMs and ASHAs had limitations in articulating NRHM's salient features, they had very good operational knowledge about NRHM and its objectives. Further, both the ANMs and ASHAs recognized the importance of their role in community health. The community representatives (ARS and VHSC representatives) most commonly recognized the impetus on infrastructure improvement and ASHAs. *Community representatives felt that due to the presence of three field level workers (ANM, ASHA and Anganwadi Worker), there is considerable awareness building among women and children about maternal and child health in their villages.* An interesting observation in this analysis is that there are not many variations across geographical areas in the perceptions about NRHM; although differences exist between the levels in the organizational hierarchy.

Figure 38 displays the commonalities and differences in perceptions among the different groups of stakeholders responsible for the implementation of NRHM.

The majority of service providers (75% of MOs and 60% of ANMs) felt that the work load at their levels has increased and the current patterns of involvement of community representatives is not conducive towards fulfilling their expected responsibilities.

When asked about the changes seen in the field due to NRHM, all the people interviewed perceived that

1. There is a significant reduction in IMR and MMR, increased percentages of ANC, institutional deliveries and PNC.
2. Awareness about immunization among communities, levels of full immunization, has increased.
3. Quality of health infrastructure, provision of emergency services (mainly through 108 service and 24X7 PHCs) has improved.
4. Due to the presence of field level health workers (ASHA and ANMs) the awareness levels among communities about health related facilities offered by the government had increased.

5. The utility of Sub-Centres for curative purposes has decreased (55% of the officers interviewed). This is attributed to increased field activities of ANMs, shortage of ANMs (and second ANMs), shortage in provision of drugs at sub-centres and referrals to PHCs. Sub-Centres are mostly being used as a place of IEC activities related to RCH and office space for ANMs and ASHAs.

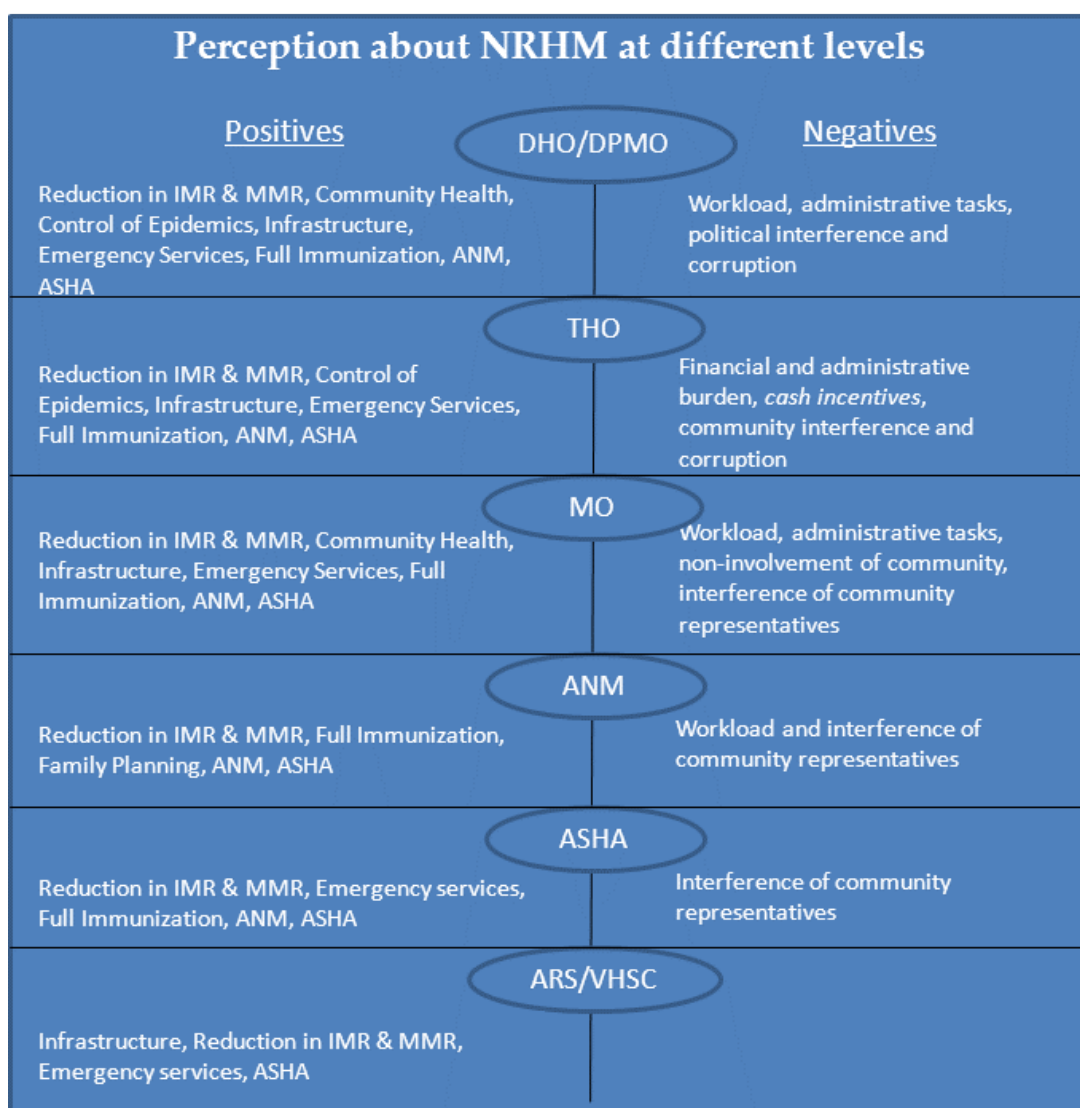


Figure 38. Perceptions about NRHM at different levels

6. Utility levels of PHCs have generally increased. However, in PHCs where there was a severe shortage of staff (close to 10%), and in one PHC which was downgraded (from 24X7 to a normal PHC) utilization level of the PHCs (measured through changes in OPD registration) had decreased. Most THOs (21/30) and MOs (62%) agreed that in-patient services can be increased in PHCs if technical staff and support staff position improves.
7. Most DHOs (8/12) and THOs (20/30) felt that utilization levels of CHCs and TLHs have increased substantially. However, 5 THOs felt that CHCs and TLHs under their jurisdiction are underutilized due to shortage of specialists and increase in

neighbouring 24X7 PHCs. 4 THOs also felt that FRUs within their jurisdiction are over-crowded, mainly due to increased number of deliveries and in-patients.

8. *Most officers interviewed (68%) linked regional imbalances in health to lack of awareness, poor development status of districts and lack of infrastructure.* Lack of infrastructure was linked to lack of political ambition in northern districts. In southern districts, poor health was linked to numerous but, ill-equipped health institutions.

4.4.2 Planning processes under NRHM

The analysis of perspectives on planning processes at each level of the hierarchy reveals interesting observations. Figure 39 describes the differences in perception about planning processes under NRHM. *At the DHO and THO level, the majority of officers (9/12 DHOs and 28/30 THOs) felt that their responsibility in planning under NRHM is mostly limited to compilation and supervision.* They felt that the data gathering process is intensive and keeps changing, thus creating confusion at the district and lower levels. Additionally, it does not allow the personnel to understand the importance of these planning activities.

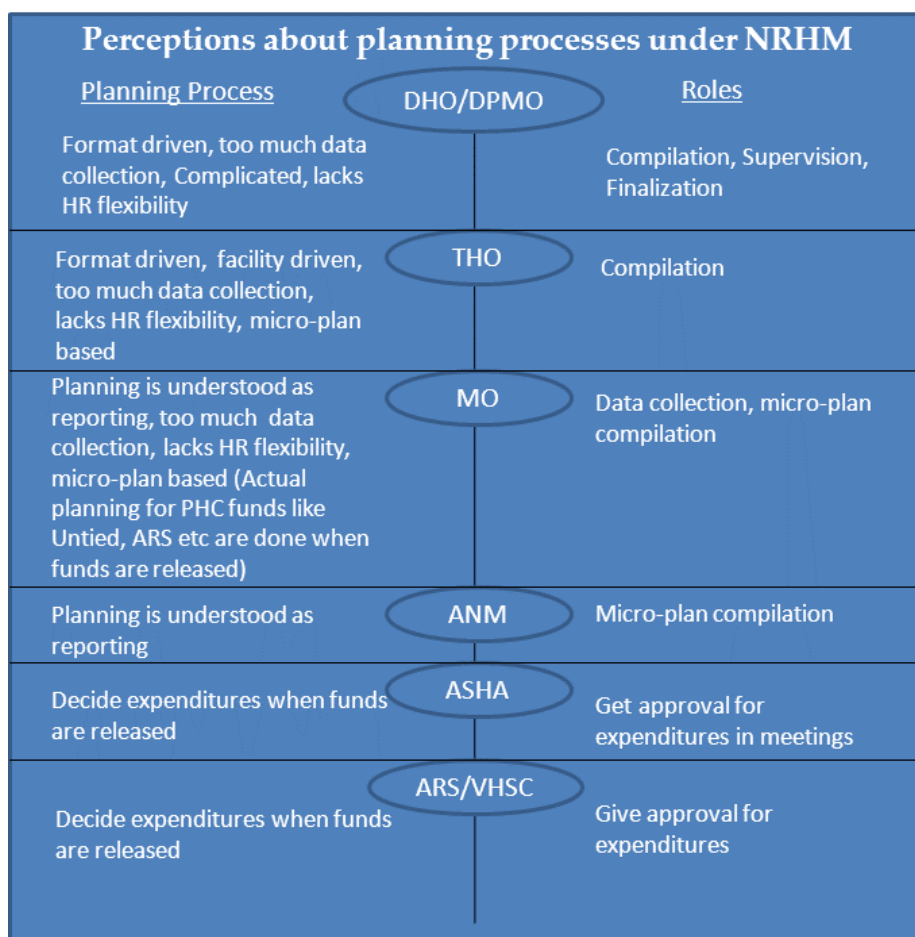


Figure 39. Perception about planning processes under NRHM

Other than allowing for HR flexibility (hiring support staff), all DHOs and THOs felt that planning formats were sufficient to present their plans. Some doctors stated that issues not covered in the pre-designed planning templates can be added (for example, migrant

population related issues) depending on the location. However, in the discussion on implementation of NRHM, most respondents (73% of the officials, 55% of ASHAs) felt that that planning should allow flexibility in funds and activities based on *population and local contexts* rather than the existing *facility based* templates. Nevertheless, other than contextual planning for the quantity of drugs to be supplied to PHCs, they could not articulate specifically how population/location dependent plans could be incorporated within planning templates.

While all DHOs opined that planning helps them review progress and monitor the implementation of activities, they could not articulate how local context specific health priorities can be included in existing planning processes. They felt that the main objectives and goals set by NRHM (reduction of IMR, MMR, institutional deliveries, full immunization, and implementation of national disease control programmes) were universally adoptable in planning and review processes of their district's health related activities.

Other than state-wide programmes and activities (including special funds for vulnerable areas, tribal areas and naxal affected areas), *DHOs could not indicate any specific locally planned activity being implemented as part of NRHM in their districts.* However, as the interviews progressed, while DHOs and THOs did respond to local health needs, such activities are not envisioned to be included in the planning and review processes of NRHM. Only one THO (with a Masters in Public Health qualification) articulated about how planning at the taluk and district levels should be based on local epidemiological issues. He also articulated the need for local flexibility in deciding the number of appointments and incentive packages provided to ASHAs and ANMS, based on local geographical issues and health needs.

While most DHOs (10/12) and THOs (23/30) expressed that they meet and work together with personnel of the Department of Women and Family Welfare, Education and PRIs, these activities were limited to pre-defined micro activities like Suvarna Arogya Chaitanya and Anganwadi visits and related IEC activities.

Further, interviews with DHOs, THOs and MOs revealed that planning (and hence implementation and review of progress) happens with maximum regularity on activities which are essentially micro-plan based (for example, weekly ANC/immunization days, monthly meetings to be conducted). These micro-plans are mostly related to RCH, immunization and NDCP activities.

Planning of activities at the PHC and Taluk level with setting up of medium term/long term goals, specific to the local context, integrating VHSC activities and working with other grassroots government institutions, which are essential components of decentralised planning were not found in any visited PHC or taluk. However, 7 MOs and one THO mentioned that ideally, their health plans should involve these components. They stated however, that due to the day-today work pressures, limited understanding and interest about health in other departments and issues in inter-departmental coordination their health plans ignore these critical issues.

None of the interviewed officers talked about analysis of the vast amount of data collected as part of the various planning and reporting activities. However, when asked about the utility of such data collection, they said that such data would help in understanding the progress of implementation of various health schemes.

Further, at the PHC level and below, *planning was understood as another form of reporting activity since most of the planning related activities were based on pre-defined templates, sent from the state office.* Further, since the formats for submitting the plans change every year, it was difficult for MOs to use the planning documents for reviewing and monitoring implementation of activities at their level on a regular continuous basis. Hence, as described earlier, planning, reviewing and monitoring activities were restricted to micro-plans. The majority of MOs (34/60) (and few ARS representatives) said that *the actual plans for Untied Funds, Corpus Funds and Maintenance Grants and the approvals for expenditures of these funds (from the community bodies) are obtained when the funds are actually released to their respective PHCs.*

At the community level, there was practically no incidence of community representatives being involved in planning of PHC activities voluntarily. The specific planning body at the PHC level; the Planning and Monitoring Committee (P&MC) was known to be formed in only 24% of the visited PHCs. In most these PHCs (87%), the doctors did not suitably know the actual roles and responsibilities of this committee.

Only about 30% of the ARS representatives interviewed knew about the regular ARS meetings and that the ARS meets to approve the expenditures proposed by the MO for the funds received by the PHC. However, close to 2/3rd of the ARS representatives knew about the actual expenditures incurred by the PHC.

While most VHSC representatives (39/45) knew about their committee and had met recently for their meetings, about 50% of them did not know about VHSC action plans. All VHSC representatives said that their activities were limited to the spending of the VHSC funds alone. Further, no VHSC representatives recognized innovative or location specific ideas of utilizing VHSC funds.

4.4.3 Issues in the implementation of NRHM

An important aspect in the semi-structured interviews was the discussion on issues and bottlenecks perceived in the efficient implementation of NRHM. In this section, the important bottlenecks are discussed under the following sub-sections:

1. Summary of issues expressed by the majority of respondents
2. Competence and training related issues
3. Reporting issues
4. Community participation in planning and governance under NRHM

Summary of issues expressed by the majority of respondents

Figure 40 describes the summary of issues expressed by different personnel in the implementation of NRHM activities.

Below is the summary of the issues expressed by the majority of the health department officers and grassroots personnel.

1. Shortage of staff at the service delivery level (ASHA, LHVs, MHWs etc)
2. Shortage of clerical and support staff (Data entry operators, Clerks etc) and D group workers, leading to increased administrative load on doctors and reduced field time for personnel like ANMs, JHAs, MHWs, and Health Inspectors.
3. Shortage of technical staff (Specialists, MOs, Staff Nurses, ANMs), leading to reduced time for OPDs, reduced availability of services like 24x7 care, in-patient and delivery services and community health activities etc.
4. The appointment of specialists on contractual basis although feasible, has issues with availability of services during emergencies, accountability of treatment and financial feasibility.
5. Increased work load (technical and administrative) due to new programmatic activities (like inter-departmental meetings, community related meetings and functions, IEC activities, community health activities etc) hinders quality of care and availability of services. However, 5 (out of 12) DHOs feel that if MOs manage their time properly, they can provide sufficient time for patients and community activities.
6. Officers perceive that some activities and processes (for example eligible beneficiary selection for schemes like JSY, PA) are unrealistic in the local contexts. MOs and ANMs in 10% of the PHCs visited felt that the targets to be reached in specific activities (like family planning) are set based on the targets fixed at the district level and may not be feasible to achieve at the local levels.
7. At least 25% of the officers interviewed felt that the current mechanisms for beneficiary selection (that ignores migrant labourers and eligible women without proper documentation) and providing multiple cash incentives like JSY and PA, will not help mothers in actuality. Some of them preferred a one integrated lump-sum payment to all mothers while some preferred the supply of medicine and nutrition kits similar to the Madilu Kit rather than cash incentives.

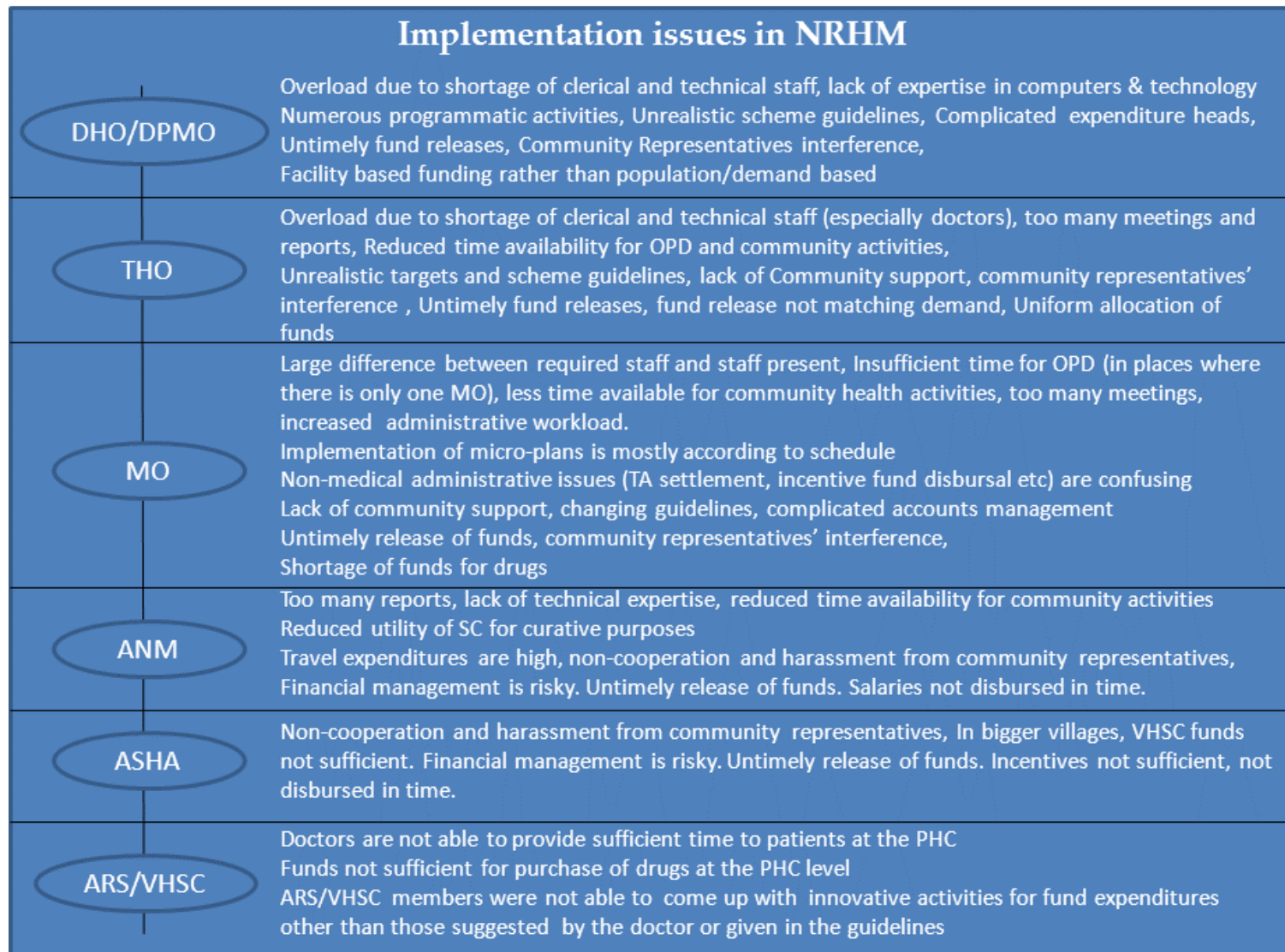


Figure 40. Important implementation issues in NRHM

8. *Too many reports, often asked repetitively, changing frequently and at different levels of aggregation, leading to duplication of efforts and erroneous reports.*
9. Most officers (57%) felt that although the timing of fund releases is improving in comparison to previous years, there was delay in release of funds, majorly in the release of PA funds (in 80% of the visited PHCs) followed by Untied Grants, Maintenance Funds and ARS funds. 50% of the THOs interviewed also expressed that there was delay of release in funds, but the situation is improving³⁰. *Further, funds allotted per PHC under different heads have been the same since 2007³¹.*
10. Most THOs (17/30) also expressed that funds are released based on plans, and if there are shortage of funds, they shall indent for more funds and implement the activities if funds are received (without actually referring to the action plan already submitted by them).
11. *MOs and THOs stated that the reason for shortage of funds in many PHCs is due to fixed, uniform allotment of funds (facility based rather than demand based).*
12. The pattern of fund utilization of Maintenance Grants, Untied Funds and Corpus Funds indicate that PHCs have spent these funds on expenditures without distinguishing whether such expenditures are allowed in the guidelines under each of these funds (although clear guidelines exist for expenditure under these different fund sources). In most cases (93%), PHCs have spent the collective funds (of Rs 1.75 Lakhs) available (rather than plan and segregate expenditures under different heads) for repairs and up-gradation of the PHCs, Instruments and Equipment, Drugs, Syringes, Furniture, PHC sanitation and salary for helpers and cleaners.³²
13. About 40% of the ANMS reported that SC funds do not arrive in time. About 30% of the ANMS did not know whether funds were released to their Sub-Centres.
14. *More than 60% of the ANMs and ASHAs interviewed said that they do not get their monthly salary/remuneration on time. In a few cases, even MOs did not get their salary on time.*
15. About 60% of the ANMs said that reporting has become overly time consuming, reducing the amount of time they are able to spend in the field and reducing their work to clerical activities. At the PHC level, most of the personnel, other than the MO and staff nurse, are involved fully in the day-to-day administrative and clerical duties of the PHC. Their activities in the field are limited to specific activities like Larvae Survey in epidemic prone regions and water sample collections.
16. A majority of ASHAs (34/47) said the expenditures in the VHSC were for the cleaning of drainages, followed by cleaning of water tanks and wells. However, in some cases, the

³⁰ The statements provided by the state office of NRHM (for the year 2010-11, other than PA) shows that funds have been transferred to the districts within the prescribed period within each quarter. However, at the PHC level, 3 MOs showed the bank passbooks which showed that funds had arrived in the second week of March for the last quarter. The officials cite several bottlenecks: lack of guidelines, shortage of released funds (at the district level), lack of bank account information, non-submission of reports and accounts information, utilization certificates etc

³¹ The quantum of Untied Funds (Rs 25,000), Corpus Funds (Rs 1,00,000) and Maintenance Grants (Rs 50,000) per PHC have remained the same.

³² This evidence corroborates the findings of a more focused study on such expenditures: (Jain, Prakhya NS, and Bhavesh Jain 2012), jointly conducted by the Karnataka State Health System Resource Centre and Centre for Budget and Policy Studies, concluded in March 2012.

- VHSCs had spent money for Travel Assistance during delivery (7), information boards (11), HBNC kits(5), medical kits for schools and Anganwadis (12), scanning tests for patients (3), and IEC activities (13).
17. In North Karnataka districts, the population under each VHSC is higher hence the VHSC funds fell short of expectations. Other issues in expenditure of VHSC funds were: delay and shortage of funds, no training on how to maintain accounts/vouchers etc.
 18. About 60% of the VHSC representatives felt that the funds for VHSCs were not sufficient for carrying out their activities in all parts of their area. However, no VHSC representatives described innovative or location specific ideas of utilizing VHSC funds.
 19. *Almost all DHOs, THOs and MOs (87% of the officials interviewed) felt that the drug supply policy to PHCs should be modified, to take into account the demand for drugs from individual PHCs rather than having a uniform distribution of drugs. Very few DHOs and THOs expressed that they tried to redistribute drugs to more needy PHCs from PHCs with lesser demands.*
 20. More than 45% of the officers stated (5/12 DHOs, 11/30 THOs, 31/60 MOs) that there was interference of community representatives in expenditure of funds. At the ANM and ASHA level, this factor was most expressed (50% of ANMs, 73% of ASHAs). *In many such cases, ASHAs and ANMs were uncomfortable in explaining the harassment they have gone through in implementing their day-today activities³³.* Most MOs (23/31) suggested that financial powers for community representatives should be taken away at the Sub-Centre level just like the omission of financial powers to the ARS President.
 21. Lack of Computer and SMS knowledge among the staff (for reading circulars, email based reports, HMIS and MCTS) and field level technical challenges (electricity cuts, mobile network coverage etc.) result in confusion and duplication of efforts and erroneous reporting.

³³ At least 4 ASHAs and 2 ANMs cried during their interviews, when talking about this issue.

Other important observations about issues in implementation of NRHM³⁴

1. One DPMO explained that the accounts and expenditure reporting formats for NRHM are complicated due to numerous heads of accounts under which activities and expenditures have to be reported. Further, funds from line items in FMR that remain un-utilized cannot be utilized for items where shortages exist, thus creating situations of fund shortage although funds exist in other heads of accounts.
2. There were at least 10 cases in our interviews where the MOs/THOs were newly appointed to their roles and did not have much information about the financial, administrative and community aspects of NRHM.
3. In 9 PHCs, the MOs expressed that disbursement of incentives for ASHAs get delayed because funds for disbursement to the ASHAs come under multiple heads and maintaining accounts with limited clerical assistance becomes difficult and even simple disbursement of funds like ASHA incentives gets delayed.
4. While THOs recognized that the needs of different locations in their own taluks are different (for example Tandas and other vulnerable groups), there were not many contextually unique activities (other than pre-defined activities like health camps and IEC activities).
5. 2 THOs said that the Emergency Obstetric Care services including *the 108 service will be meaningful only if the required staffs are present and the required training is provided to them to handle such emergencies*. In their cases, they did not have sufficient trained staff in their Taluk Level Hospitals.
6. In 3 PHCs, routine administrative confusions and the involved bottlenecks (like non-settlement of TA bills, non-settlement of pensions of PHC personnel and salaries and permits for felling of trees in the PHC

Field observations

The field teams observed that HR shortage was more acute in districts of south and mid- Karnataka than in northern districts.

In one instance, the field team stopped at a private clinic at the taluk headquarters to pick up the MO, and then proceeded with him to his PHC for the planned field visit.

A THO commented that **“there are so many reports to be prepared and administrative tasks to be performed by the MO that these doctors have become Clerks”**

The issues of ARSH and Sneha Clinic never appeared in the discussions with DHOs, THOs and MOs about NRHM related activities.

One THO commented that the quality of drugs cannot be discussed since there is a **“drugs mafia”**.

One doctor said that the quality of drugs supplied was so bad that if a tablet strip is opened, instead of the tablet, one would find powder.

³⁴These are relevant issues expressed and observed during the interviews, but not necessarily by the majority of the respondents. Hence, we cannot accurately say how common/frequent/generalizable such observations are. However, they convey critical issues that need to be noted, and the seriousness of the issue has to be decided on a case to case basis, based on reflection and field experience of health department officials.

- premises) affected the overall utility of the PHC itself.
7. In PHCs where the MO was either new, not trained or recently shifted from district/taluk hospitals(8 cases), the MOs were not aware of the salient features of NRHM and its planning and implementation process leading to delay in implementation of community activities and disbursement of funds for individual beneficiaries.
 8. *In one PHC, the MO expressed that deliveries in the PHC has reduced since the ASHAs in the region refer deliveries to private institutions since the incentive provided to them is higher than that provided by the government³⁵. This case opens a totally different set of issues in sustaining the utilization of public institutions for RCH services and has to be probed further in a separate study.*
 9. A few MOs (3/60) and ASHAs (5/47) described how frequently changing guidelines make it difficult for them to adjust local activities and communicate these changes in implementation with all the stakeholders involved.
 10. 2 MOs interviewed suggested that the state government should think of starting government pharmacies that can supply generic drugs at subsidized rates as a possible solution to the shortage of drug supply.

Competence and training related issues

DHOs and THOs recognized that medical training (related to curative aspects) were required for the doctors to be frequently updated and largely found that the current training mechanisms through District Training Centres to be adequate. THOs and MOs (65/90) said that the *urgent need of the hour is administrative training and specifically training about NRHM itself*. They feel that although sufficient information is given to them by their superiors, comprehensive administrative training; including hospital management, training on computer usage, HMIS, finance and accounts, HR management would help doctors increase the efficiency of their activities.

All personnel, including ANMS and ASHAs felt that the technical skills (like computer usage, HMIS reporting, sending SMSs etc.) needs to be built in order to hasten the process of activity reporting through systems like MCTS and HMIS.

Reporting issues

In all the PHCs visited, it was found that staffs like MHW, JHA, and Health Inspectors were primarily involved in preparing documents and reports. The ANMs and ASHAs also spent substantial amount of their time on reporting activities. Since the number of formats to be filled at different intervals is high (weekly, monthly, quarterly etc.), most reports at the PHC level are delayed. Hence, although there are dedicated staffs at the taluk and district levels, for reporting activities, reports are delayed at those levels also.

Most officers interviewed opined that there is no issue in reporting incidents like infant and maternal deaths. However, 2 MOs (out of 60) mentioned that it is difficult to report occurrence of

³⁵ As mentioned in the previous footnote, such observations may not have statistical generalizability for the entire state and hence, the plausibility and seriousness of the issues have to be decided on a case to case basis by the department itself. Exploring the repercussions of this observation are beyond the scope of this evaluation.

diseases like Measles and Brain Fever. One MO specifically mentioned that the death audit mechanisms (Maternal Death Audit and Infant Death Audit) were very hostile towards the doctors, given their working conditions. 3 THOs (out of 30) also mentioned that due to facility based reporting, tracking of infant deaths may not be fully feasible. Further, 2 DHOs (out of 12) expressed that getting up-to-date mortality data from district hospitals and private hospitals is a major bottleneck in projecting realistic figures through HMIS.

With the advent of HMIS, the time and effort spent on reporting activities has increased substantially. HMIS comprehensively covers all the activities implemented by the PHC (like ANC, PNC, deliveries, OPD, mortality etc.) Most hand written/hard copy reports³⁶ are *area based* whereas HMIS reports are *facility based*. This adds to the confusion on what numbers have to be reported in various reports. Together with this, the lack of dependable internet connection and hardware extends the amount of time support staffs spend on reporting.

Since HMIS data cannot be uploaded directly at the PHC level in many cases, separate HMIS formats are given to be filled up by the PHCs. Thus, *there is duplication of reporting* at the PHC and taluk level for reporting the same numbers. THOs opined that since data to be entered to the HMIS is given to data entry operators who may not understand the meaning of such numbers, *errors occur frequently and hence, the dependability on HMIS data has not been achieved*.

THOs and MOs felt that although HMIS reporting may be more useful for planning, analysis, review and monitoring purposes, *the issue that has to be sorted out the earliest is the confusion between facility based and area based reporting*. As of now, with the existing workload, *PHCs are neither using the hand written reports nor the HMIS related data in planning and review processes* at their level.

Community participation in planning and governance under NRHM

As stated in the previous sections, most DHOs, THOs, MOs, ANMs and ASHAs have stated that the participation of community representatives in the governance of health systems has created significant amount of problems in the implementation of NRHM's activities.

Below is the summary of issues raised by officers and health personnel about community representatives' involvement in NRHM.

- a. It is difficult to gather community participation in health related IEC activities.
- b. Community representatives do not show real interests in the activities of the PHC.
- c. Community representatives pressurize personnel to include un-eligible beneficiaries for schemes like JSY and PA.
- d. Community representatives pressurize personnel regarding selection of works and purchases.
- e. It is difficult to convince community representatives that activities and expenditures planned by them may not be implementable due to restrictions on ways the funds can be utilized, shortage of funds and changes in expenditure guidelines.

³⁶ Other than hand written reports that feed the HMIS itself

The above perspectives show that the health department personnel have endured many hardships due to unaccountable and corrupt community representatives.

Field Observations

It almost took a day (from the district headquarters) for the field team to visit a remote PHC. The entire PHC staff resided in the same premises and was available to the villagers at all times.

Few doctors proudly showed photos of community programmes and functions in which they were felicitated for their community work.

An ANM started crying in the middle of the interview, explaining the harassment she had to go through from the President of the Grama Panchayath. She also revealed that she had to give commission to the PHC staff as well when Sub-Centre funds are released.

In at least 2 cases, the survey team found MOs mentoring ARS representatives prior to the interview.

During the randomized feed-back collection from respondents, ANMS and MOs thanked the survey team for taking their inputs. One ANM emotionally said “at least there is someone who wants to know what I go through every day”.

An MO said that he stays at the PHC headquarters, but blatantly came back to the city at 3:30 PM with the field team.

When ARS representatives were interviewed about their perception on community representatives’ involvement in the governance of the PHC, it was found that

a. The majority of the ARS representatives did not know the important features of NRHM, although they knew the benefits being provided because of it³⁷. Less than 40% of the ARS representatives interviewed had undergone training, and they could only recollect that the trainings given to them emphasized the importance of sanitation³⁸.

b. The ARS representatives did not know about their roles and responsibilities, especially with respect to the financial management of the PHCs. They perceived that their role was majorly to monitor personnel and expenditures at the PHC rather than taking pro-active role in improving the effectiveness of their PHCs in improving the health of the community it serves.

c. When asked about their participation in ARS meetings, only 30% of the interviewed ARS representatives knew about ARS meetings and had heard about its action plans. Those who attended these meetings felt that meetings are not held regularly and MOs do not inform them about meetings. Most ARS representatives had not heard about Janasamvadas³⁹.

d. Further they felt that they cannot contribute much to the decisions of such meetings since the issues discussed were mostly related to procurement of instruments and drugs, repair and up-gradation works for specific medical purposes,

³⁷The benefits recognized were: ASHAs, more funds for PHCs, schemes like JSY and PA, 24X7s, 108 etc.

³⁸This could be due to the fact that most of them are also VHSC members and in VHSC trainings, the emphasis is on sanitation.

³⁹Janasamvadas are platforms where issues related to health services offered can be discussed in open public hearings. NRHM expects these to be implemented regularly in all PHCs to strengthen community monitoring of PHCs.

on which the community representatives could not offer any comment or suggestion.

- e. Less than 45% of the ARS representatives had information about how much funds are being received by the PHC. However, a majority of ARS representatives (65%) had information about expenditures made by the PHC (since they were asked for their financial

Field observations

In one PHC, a staff nurse was treating an elderly woman. The patient wasn't happy with the tablet and after much persuasion from the patient, the staff nurse agreed to provide her an injection. The staff nurse later smiled and said that she gave the patient a pain killer. We similarly saw glucose and vitamins injections being administered due to patient insistence.

In one taluk the THO commented that the fertility rates in his taluk were so low that the fixed ASHA incentives provided for registering ANCs wasn't worth the effort for ASHAs. However, in that taluk, early detection of endemic diseases was an important issue, for which ASHAs could be incentivised. However, he said that this flexibility was not available at his level (or at the DHO level)

approval).

f. The community representatives who actually knew about the activities of the PHC feel that the role for community representatives in the governance of the PHC was narrow in scope because of a. the top-down structure of decision making within the health department (referring to circulars and oral instructions restricts how untied funds of the PHC have to be spent) and b. the vast difference between the personnel and the facilities PHCs ought to provide and what is actually feasible under practical conditions (referring to shortage of staff, non-availability of doctors round the clock, even in 24X7PHCs etc.)

Based on these perspectives from ARS representatives, it can be concluded that *it is difficult to expect inadequately trained community representatives to take true interest and participate wisely within the limited scope of decentralised decision making processes of the PHC.* Their decisions were mostly to choose between a

pre-determined set of activities and expenditures that are related to enhancing the curative utilization aspects of the PHC.

During the discussions with THOs and MOs, the following points emerged about their perception about community participation in health management.

- a. Community participation was understood mostly as a necessity to increase community's awareness levels rather than treating them as equal partners in the overall development and planning of the PHC. Most MOs themselves did not find Janasamvadas to be meaningful.
- b. Majority of the MOs felt that community representatives show interest in the PHC if there exists either political opportunity or prospects of illegal financial gain. THOs also admitted that MOs equally misuse such situations for personal financial gains.
- c. When asked about the activities of the ARS, more than 65% of the MOs explained the expenditures made through the ARS funds. Beyond this, MOs were unable to imagine other practical pro-active roles community representatives could take up for the betterment

of PHCs. Community's necessity in planning is mostly for administrative and financial approval.

- d. As noted earlier, due to shortage of doctors, some MOs (8/60) interviewed were recently posted to PHCs from Taluk Hospitals and District Hospitals. Further, many of the MOs were working on additional responsibilities in the visited PHCs. In such cases, the MOs neither knew community involvement mechanisms nor were they aware of issues related to community participation in the governance of PHCs. The relationships built between community representatives and the

MO would suddenly stop in such cases. These issues were not recognized by any of the interviewed DHOs and THOs when talking about issues related to the shortage of MOs.

Thus, the *perspectives of the department personnel reveal that their expectations from community representatives involved in the activities of the PHC are mainly towards creating awareness among communities about health rather than them being pro-actively involved in the planning and monitoring of the PHC.* Their perceptions also reveal a sense of mistrust and underestimation of community representatives' role in the development of PHCs, in the current context. Further, the gaps in information control and power that exists between a doctor in a village and a community representative is huge.

However, the context of the issues is different in the case of Sub-Centres and VHSCs. As mentioned in earlier sections, ANMs and ASHAs frequently complained about the interference from community representatives regarding expenditure at the Sub-Centres and VHSC levels. ANMs and ASHAs do not necessarily understand the need for extensive community involvement at their level. *Their situation of helplessness, caught in the middle of having to follow the guidelines (sometimes impractical, changing frequently, sometimes only oral) suggested by the MO and other superiors and at the same time, negotiate the untenable demands from community representatives is a matter of great concern* since it is also widely acknowledged that the success of NRHM has been largely due to their presence in the villages. Many ANMs suggested that in such dire circumstances, it is better to take away financial powers from ANMs fully. The lack of authority and their perceived powerlessness due to the gender hierarchy are also contributing factors for vulnerability of the ANMs and ASHAs.

Field observations

An ASHA, had been instructed orally by the MO to transfer Rs 650 from VHSC funds for the ASHA Saree to a common account. **The President of the VHSC verbally abused her publicly in front of the bank, for taking the money from VHSC funds to buy her Saree.** The MO wouldn't talk the VHSC to convince them. The ASHA was humiliated and afraid that her family may not allow her to work.

5. Summary of results

This chapter summarizes the results of the evaluation. In the first section, the results of the secondary data analysis from phase 1 are summarized, followed by the summary of results from analysis of data collected during the field validation stage (phase 2). While the results of phase 2 corroborate many of the findings of phase 1 of the study, they also shed new light on the perspectives of different service delivery personnel which provide the reasons for the critical issues raised during phase 1 of the evaluation.

5.1 Summary of results from secondary data analysis (phase 1)

Based on the analysis of secondary data (phase 1) described in chapter 3, pp. 32, the following summary results can be drawn. These results in-turn framed the objectives of the field validation in the second phase of the study

- The funding for health and family welfare has not increased in the way envisioned in the NRHM mission document; however, there has been significant raise in annual allocations both by the Government of Karnataka and the Government of India.
- More than 3/4th of the central government allotment of NRHM funds (Rs 651 Crores) is channelized through the State Health Society in 2011.
- The NRHM flexipool fund is the major component (about 44%) of the funds released through the State Health Society, followed by RCH flexipool (27%) and infrastructure and maintenance grants (channelled through the treasury route (22%), and Immunization funds form only 1%-2% of the total funds. When the expenditures under these funds were explored, at the district level, the largest share of funds were utilized towards human resources (27%) followed by maternal and child health programmes (21%) and infrastructure and maintenance expenditures (19%).
- In the recent years, Karnataka has not only utilized the full release from the Centre, but has also been able to utilize unspent amounts from previous years. However, increased utilization capacities are also a matter of concern, especially because of the critical loopholes in planning and PIP preparation related processes.
- The analysis of planning documents (successive PIPs and DHAPs) shows that **there are serious concerns in the levels of internalization of various planning related processes related to NRHM within the health personnel** and the lack of focus and prioritization of local health issues in the preparation and use of DHAPs and PIPs. Further, **planning processes of NRHM in Karnataka do not show long term practical strategies and commitment to reduce regional disparities** (other than converting PHCs in North Karnataka to 24 X 7 PHCs).
- The analysis of expenditures shows that in general, NRHM funds have been transferred considerably to districts with actual needs (for example, the 6C districts⁴⁰). However other districts have also been benefitted substantially (and in some cases, more than those

⁴⁰6C districts are districts recognized as vulnerable by the Centre: Bagalkot, Bidar, Bijapur, Gulbarga, Koppal, Raichur

districts that are worse off). Further, there are no clear trends of prioritized planning and fund flows to districts identified as vulnerable.

- **The district allotment and expenditures strongly display *facility based* (rather than *need based*) funding patterns.**
- Other than RCH expenditures (which are mainly demand based, and are principally dependent on the work of ASHA and ANMs), **funds under NRHM flexipool and Routine immunization have not targeted the regional imbalance in health indicators.** Further, the over-all expenditure under NRHM is strongly and positively correlated with existing infrastructure (overall expenditure under NRHM does not have significant correlation with health indicators). This also indicates that facility based fund allocation does not necessarily improve overall health indicators.

Thus, the findings of the first phase of the study show that Karnataka has been able to utilize a large amount of funds under NRHM, a majority of which is funnelled through the health societies. The review of planning documents of NRHM reveals a lack of focus and prioritization of local health issues. Further, **the analysis of expenditures show no clear trends of prioritized planning and fund flows to districts identified as vulnerable.** Thus, the NRHM expenditures show *facility based* patterns rather than *need based* fund flows. This, in turn has resulted in the continuation of the regional imbalances in health infrastructure and expenditures, even during the period of the implementation of NRHM in Karnataka.

5.2 Summary of results from field validation (phase 2)

In this section, based on the analysis of quantitative and qualitative information collected during phase 2 of the evaluation, the important findings are summarized. The quantitative data analysis focussed on current status of service availability and status of infrastructure while qualitative data analysis focussed on perspectives of different personnel involved about issues related to planning, implementation and expenditure of funds. While quantitative analysis lead to an understanding of regional disparities with respect to services provided, qualitative analysis provided insights into how different stakeholders perceive specific activities under NRHM.

5.2.1 Summary of Quantitative analysis

- **The analysis provided evidence of the disparity in the distribution of PHC and Sub Centres between South Karnataka and North Karnataka, corroborating results from phase 1.** Further, intra-division variation was also observed in Gulbarga and Belgaum divisions.
- It was observed that the number of PHCs that did not have any in-patient registrations is considerably higher in Belgaum and Mysore divisions.
- In the field visit districts, Mysore, Tumkur, Shimoga, Kolar and Uttara Kannada were the districts where in-patient registrations were the lowest.
- PHCs in the Gulbarga division had the highest average population covered per PHC. Gulbarga division also had the highest number of PHCs that had in-patient registrations.
- In the case of delivery services, in more than half the visited PHCs in Mysore division

and close to 40% of the visited PHCs in Belgaum division, delivery services were not available and all visited PHCs in the Gulbarga division had delivery facilities.

- The most common answers for the low in-patient registrations and deliveries were: availability of TLHs/CHCs nearby, lack of staff nurses, support staff and low population coverage. TLHs and CHCs in Mysore and Chamarajanagar on an average had more in-patient registrations and deliveries than other districts (except Raichur), reinforcing the above statement.
- This finding, together with the discussion on regional disparities (Section 3.4, pp 57), suggest that **utilization of PHCs in South Karnataka, where there are more number of PHCs, is lower in comparison to North Karnataka, where there are fewer PHCs.** Further, since funding patterns are facility based, **regions with larger number of low utilization level PHCs receive higher funding than regions which have more high utilization PHCs.**

5.2.2 Summary of Qualitative analysis

Based on the different issues analysed and presented in sub-section 4.4, the following important observations were made:

- There is acute shortage of clerical and technical staff which affects planning and implementation of NRHM in many ways (more expressed in Bangalore, Mysore divisions).
- The work load on existing staff, specifically **administrative and reporting activities take away substantial time and effort from the service delivery personnel, reducing their field time and the utility of the health institutions.** Further, based on the responses and perspectives of Medical officers about preventive health care and community involvement, the survey teams felt that **doctors were not fully competent to manage and accomplish their preventive and promotive roles** (as prescribed in the IPHS), together with their administrative and curative responsibilities.
- The planning and reporting documents are complex and frequently change. This puts more strain on the system, and at the same time, considerably affects the quality of information documented. Further, **due to the increased workload in data collection and reporting, the questions of quality of the collected data, the analysis of collected data get evaded.**
- Currently, two concurrent forms of reporting exist: hard copy area based reports and HMIS versions that are facility based; that have caused considerable confusion. A standard form of reporting has to be universally adopted.
- Many of the **positive changes seen due to NRHM were universally attributed to ANMs and ASHAs.** It is important to have their continued presence among communities in the long term for sustained improvement of rural health indicators. In this regard, two issues of concern were identified:
 - a. Most of the ASHAs and ANMs interviewed expressed various levels of aggravation from the community representatives specifically regarding SC and VHSC funds. Further, ASHAs and ANMs also complained of their

remunerations not being paid in time (pp 78). The nature of the work involved, the context in which they are appointed (ad-hoc and contractual in many cases), the gender and power relations involved in their day-to-day activities and the helplessness faced by these ladies are issues of great concern. **Measures have to be taken to provide sufficient confidence, physical and emotional security to these field workers.** Further, mechanisms have to be thought out to make sure that future community engagement of these grassroots workers (strained due to the joint financial responsibilities) does not isolate them from the community itself. As stated in the study “Evaluation of ASHA Programme in Karnataka” 2012, conducted jointly by the Karnataka State Health Systems Resource Centre and St John’s Research Institute, Bangalore, **considerable avenues exist where the role of ASHAs can be promoted and further expanded,** to provide reasonable promotional paths for their careers in public health.

- b. Presently, if we take into account the existing numbers of MHWs, JHAs, LHVs etc., there are more field level workers available within the department than just ANMs and ASHAs. However, due to the shortage of clerical and administrative staff, these personnel are mostly involved in administrative and reporting duties. Hence, if such clerical and administrative posts are filled, field health workers can alleviate the community work pressure on MOs and ANMs.
- There are important operational issues with respect to fund release and availability that affects efficient utilization of funds. Timely fund release continues to be an issue at the PHC level. **Shortage of funds exists since funds under many heads are fixed, and are facility based rather than need/population based, and this is aggravated in the case of drug supply.**
 - While there is a broad based understanding about NRHM's objectives and strategies, the majority DHOs and THOs seem not to have fully used the potential of integrated decentralised planning at their respective levels. **Their roles seem to be limited to compilation and aggregation of data.** However, given the current situation of shortage of service delivery staff (specialists, doctors, staff nurses support staff etc.) and the issues related to the availability of funds, **annual planning, keeping medium-term/long term goals in mind does not seem to be a priority issue.** Hence, most of the monitoring and review mechanisms depend on micro-plans prepared at lower levels. This does not allow for long term assessment of the efficiency of implementation and expenditure.
 - Administrative training, HMIS and computer training (together with technical issues like filling HMIS formats, sending SMSs etc.) are necessary at the taluk level and below and are expressed by the majority of MOs and THOs (sub-section 4.4.3, pp 84).
 - **Clarity on the specific role of community representatives within the health system at various levels is an issue that has to be addressed immediately.** While the frame work of community engagement under NRHM expects **community representatives to be involved in the governance and management** of the health institutions (like the PHC and SC), the current status of community competency, the nature of engagement of

community representatives and the health department personnel and the predefined nature of expenditures and activities currently being implemented at the PHC and SC expect community representatives' role to be *merely ritualistic*.

- Within the health department, there seems to be a lack of trust on community representatives (with sufficient reasons) being involved in the management and governance of health institutions.
- MOs are frequently changed and were found to have additional charges in other PHCs. Some of them lacked the basic understanding of community engagement through NRHM. ANMs handle additional charges in Sub-Centres that are not familiar to them. Likewise, Grama Panchayaths also undergo changes prompted by local political equations (for example: change of Grama Panchayath presidents half way during their terms) which triggers changes in the composition and hence the competency and attitudes of the ARSs and VHSCs as well. This also reflects in the way the general community engages with the PHC. In all such cases, community representatives' involvement in public health as a process is made unstable. This type of discontinuous community engagement does not allow this fledgling process to mature and stabilize, in order to be held accountable and responsible for governing public health institutions.
- Looking at a) the levels of acceptance of the shared roles and responsibilities between MOs, ANMs, ASHAs and respective community based groups and b) the preparedness and willingness of communities to take up these roles and responsibilities at the PHC SC and VHSC levels, **the role matrix for community groups' participation⁴¹ within the health system should be defined.**
- Hence, until these issues are resolved, **the role of such community based institutions as effective *monitoring bodies* (as opposed to *governing bodies*) has to be strengthened**, but with suitable checks and balances.

⁴¹ The preparation of this role matrix is beyond the scope of this evaluation.

6. Conclusions and recommendations

As evident from the literature review, many critical policy suggestions have already been made towards addressing the persistent problems of the health sector. These issues also effect the implementation of NRHM considerably. The urgent need to implement these recommendations is further reiterated from the results of this evaluation.

The study restates the main recommendations stated in the Karnataka State Integrated Health Policy, 2004, viz. devising a synergistic approach towards health through inter-sectoral coordination and meaningful involvement of PRIs, the establishment of planning and monitoring unit for organized health planning and tracking of established process and outcome indicators and the creation of two cadres within the department, namely medical care and *public health cadres*. Further, the study provides more evidence to the assertion made in the National Health Policy, 2002, that **strategies suggested through any policy or scheme will invariably be contingent on a) capacity of the service providing agencies to absorb the changes, b) the attitude of the service providers and c) the improved standards of governance.**

Together with these long term suggestions, the study explored numerous inter-connected issues like the lack of internalization of objectives, limited prioritization of planning, issues of HR competency and shortage, optimization issues with respect to reporting and documentation, varied fund utilization patterns and institution utility levels, together with issues relating to perceptions, attitudes and beliefs have been discussed. Many such issues need further studies and deeper analysis. However, given the scope of this evaluation, this chapter restricts to six specific and critical issues on which recommendations based on the findings of the study are suggested.

1. Interactions with field personnel as well as community representatives reveals that most officers interviewed had a broad understanding about the overall goals and strategies of NRHM, although their perceptions about planning and monitoring were limited, as well as their beliefs in community participation. This argument is further strengthened by the critical loopholes in the planning documents reviewed in the first phase of the study (Section 2.3.3, pp. 28, Section 3.1, pp. 32). Further, majority of the personnel expressed the need for capacity building, specifically with respect to the administrative and management aspects of NRHM. In addition, **the job responsibilities of medical officers in PHCs necessitate them to build not just technical skills, but also cultivate hospital management skills, proficiency in community engagement activities and in general, develop medical leadership** in order to translate policy objectives into health outcomes among the rural communities of the state.

Hence, trained public health professionals (public health cadre) are necessary for key posts like DHO, THO and MO. In the absence of such trained professionals, **mandatory comprehensive training for all rural health personnel and community representatives about community health issues, rural governance structures, the various aspects of NRHM, its planning, administrative and financial management guidelines and community involvement** is crucial if a holistic approach towards public health has to be realized.

Further, computer training for PHC staff (specifically w.r.t streamlining reporting activities) can help significantly in reducing duplication of work and dependency on untrained staff.

2. There are considerable gaps between the existing planning processes under NRHM in the state vis-à-vis the planning processes envisioned in the NRHM stated in documents like the mission document and NRHM Framework for Implementation. These gaps also prevent the continuous assessment of the efficiency of implementation and expenditure on health related activities, in achieving the long term goals related to health indicators. The main reasons identified for this are:

- **The operational priorities of implementation of NRHM have been selective** and hence, there is a general lack of importance given to overall preventive health care. This can be seen by the relative importance given to RCH, immunization and NDCP related micro-plan based activities over epidemiological and population based health management interventions.
- Hence, at the district level and below, **planning is largely understood as an integration of such micro-plans**. The need for aggregating (to achieve this form of bottom-up planning) such plans, beginning from the level of PHCs up to the state level, overlooks the heterogeneity of local contexts and requirements; evident in the analysis of DHAPs. Thus **planning processes are reduced to filling up of extensive amount of pre-defined templates**. Broad-based integrated planning is further extenuated by linking these activities with the complex costing framework of the FMR.
- Further, as analysed in the previous sections, there are several critical operational bottlenecks like the acute shortage of staff (specialists, doctors, staff nurses support staff etc.), issues related to the availability of funds and lack of detailed analysis of collected data which result in *planning being not seen as a practically useful priority issue*.
- Hence, similar to other departmental activities, the implementation and expenditure patterns of NRHM too is driven by a top-down, stand-alone system with pre-defined priorities which is no doubt, focussed towards achieving some of its primary objectives (like RCH, for which, the system is comparatively better streamlined, both with respect to HR as well as fund flows), but ignores unique aspects of NRHM like its holistic outlook towards improvement of rural health, decentralised planning and true community involvement.
- Thus, **the prevailing system of implementation does not provide a practically efficient way for implementing need based funding mechanisms** for health institutions. Thus, it indirectly affirms the easier but dangerous 'one size fits all' mode of facility based funding which is currently evident. It also leads to decisions that aggravate the existing regional imbalance. The secondary data analysis provides ample signals about the lack of prioritization of issues and regions, even with the specific focus on the 6C districts.

Hence, there is an immediate need to make the planning processes more meaningful for the implementing agencies, and at the same time encouraging them to use these plans at local

levels for periodic self-review and performance analysis. To realize this, **planning procedures should capture local heterogeneity of health issues and thus provide population based health management interventions.** Plans devised based on such strategies would help the realization of true decentralized planning and better targeting of vulnerable districts. To practically achieve this, **a thorough orientation of practically operationalizing the planning activities envisioned by NRHM has to be given to DHOs and THOs, followed by the Medical Officers.** If the health department feels unskilled to initiate this, the process may initially be triggered with the help of a competent external agency that can internalize the practical field challenges faced by these officers.

3. Secondary data analysis confirms the lack of prioritized planning of fund flows as possible reason for regional disparities in health. It is further evident from this study that the utilization levels in Gulbarga division (and in general in North Karnataka) are higher for PHCs, in comparison with other regions. Thus, the study indicates a more complicated problem. In a way this means that regions with proportionately higher 'low utilization level' PHCs get more funding than regions with proportionately higher 'high utilization level' PHCs. Hence, **the bulk of the NRHM flexipool expenditure, due to such facility based funds is less effective in improving health indicators of the state.** However, in the perception of department personnel, regional imbalances are mostly linked to lack of infrastructure, which is attributed to historic advantages of southern districts and political will of their public representatives.

While current planning and reporting mechanisms allow for analysis of regional disparities in outcome and process related health indicators, **there is no easy way out for frequent monitoring of disparities in fund allocation, HR and infrastructure allotment to vulnerable areas.** Thus, **regional disparities are constantly recognized, but not addressed.** The lack of structured participation of the state legislature may have also contributed to this persistent problem⁴². Further, the quantity of funds allotted to each PHC/SC have remained the same since inception. Hence, the study suggests two broad-based strategies⁴³.

- a. For the 6C and other vulnerable districts⁴⁴ (with larger proportion of high utilization level PHCs), focus on the improvement of infrastructure, field presence (specifically ASHAs and ANMs) and *larger facility based funds* (like Untied Funds, Maintenance and Corpus Funds).
- b. For other districts (with larger proportion of low utilization level PHCs), focus on *demand/need based funding mechanisms* and optimization of HR based on rotation and shared responsibilities.

If the changes suggested above are not feasible in the short run (since they require changes

⁴² The analysis of perceptions of public representatives is not presented in the report since it was not in the ToR of the project. However, this analysis is included as an addendum to the report.

⁴³ Although these strategies may require long term policy changes

⁴⁴ 6C Districts: Bagalkot, Bidar, Bijapur, Gulbarga, Koppal, Raichur (districts recognized by the GoI as lagging in health indicators), Other Vulnerable districts: Bellary, Chamarajanagar, Chitradurga, Davanagere and Kolar (districts recognized by the GoK).

at the Centre, in NRHM's planning and expenditure guidelines), alternative financial arrangements at the state level, wherein specific quota of funds is dedicated to public health in the vulnerable districts, to supplement NRHM funds may be explored.

4. The presence of field based personnel; ANMs and ASHAs, has majorly contributed towards increasing awareness levels in the communities and improving RCH related process indicators. Further, of the expenditures under different heads of NRHM, the RCH expenditures are more aligned to address regional disparities in health. Hence, it can be argued that **ANMs and ASHAs should be not only credited for the improvement in RCH related health indicators, but also are critical in continuing the effectiveness of the utilization of RCH funds.**

Field evidence shows that they are also **the most vulnerable groups associated with the service delivery of NRHM.** Hence, immediate measures have to be taken to provide sufficient confidence, physical and emotional security to these field workers who are crucial in guaranteeing delivery of RCH services. Clear job descriptions have to be enforced and periodic increases in financial incentives for these field level workers have to be devised⁴⁵.

There is scope to increase the field presence of several other field based personnel (like MHWs, JHA, LHVs) if the clerical and administrative positions at the grassroots level are filled. This not only relieves some of the work pressure on ANMs and ASHAs but also provides them with a feeling of security due to the simultaneous presence of other experienced field workers in community engagement and related activities. Further, this allows for increasing the utilization of Sub-Centres which are increasingly being under-utilized.

5. While the need for shifting from facility based funding mechanisms to need based funding mechanisms has been stressed before, **there are no concrete measures devised to adopt such a switch since this involves considerable amount of analysis and experimentation. The first step in this process could be to make the drug procurement for PHCs need based,** for which considerable agreement and information is already available at the taluk level and below. However, the shift towards need based funding patterns (together with planned increases in funds allotted to PHCs) in other funds may require systemic changes in NRHM guidelines; and may not be feasible in the short term.
6. Most individuals interviewed (including community representatives) felt that there have been significant improvements in process indicators (like increased rates of ANC, institutional deliveries etc.) as well as outcome indicators like IMR and MMR. However, there is confusion in actually proving this empirically, due to various limitations in the data available through HMIS due to various technical and HR issues discussed in Section 5.2.2, (pp. 91).

⁴⁵ Possibilities of extended responsibilities for ASHAs are explored in studies like "Evaluation of ASHA Programme in Karnataka" 2012.

The reporting and documentation activities of the department take considerable time and effort of the field personnel. While intensive collection of data (related to processes and outcomes) is absolutely necessary, especially for the health department, based on the experience in the field, there seems to be a lot of opportunity to minimize duplication of efforts and streamline data collection and analysis methods, thus reducing the demand for repetitive reporting activities, presentation of same data in different formats and duplication of efforts.

A single, homogenous and well-defined data collection and monitoring system is needed. Such a system would streamline reporting activities and seamlessly merge data requirements for planning, analysis as well as regular monitoring. It would help the department to assign more human resources for field activities and at the same time, give indications for planning future activities. **A first step in this direction could be the assimilation of facility based and area based reporting formats into a single more easily understandable, homogenous reporting method.** The Planning, Monitoring and Evaluation wing of the department can initiate this process.

7. The issue of community representatives' interference has frequently come up during the second phase of the study. This is a complex issue and needs considerable thought before future decisions can be taken. The analysis in sections 4.4.3, pp. 78, and 5.2.2pp. 91, discuss this issue at length. From this study, it is clear that
 - a. **the existing arrangements for community bodies to engage with public health institutions is inadequate to foster a stable relationship between the health personnel and the community representatives.**
 - b. there is no clarity and common understanding of the role of community representatives in the governance of health institutions.
 - c. as much as the trouble endured by ANMs and ASHAs from the community representatives is true, so is the unwillingness of the health department personnel to truly involve community representatives in their activities.

To arrive at the agreed set of roles and responsibilities of community groups towards health institutions, **activities of health institutions that should be primarily driven through community monitoring and those that are not have to be identified.** Monitoring processes devised through this mechanism should be linked to performance assessment of health institutions. Department personnel and community representatives have to be sensitized and trained with these monitoring mechanisms. Thus, looking at a) the levels of acceptance of the shared roles and responsibilities between MOs, ANMs, ASHAs and respective community based groups and b) the preparedness and willingness of communities to take up these roles and responsibilities at the PHC SC and VHSC levels, **the role matrix for community groups' participation within the health system should be developed.**

At the same time, **public health policy has to focus on developing long term strategies that nurture stable relationships between health personnel and the community bodies involved**, in order to create a dependable and accountable community participation mechanism.

Until a clearer picture emerges, both in the form of policy as well as agreed common understanding between department personnel and the community representatives, **the role of community based institutions as *effective monitoring bodies* has to be strengthened**, rather than governing bodies.

The recommendations from the study, together with suggested changes at different levels and possible impacts are summarized in the following table.

Table 16. Summary of recommendations

Key Issues	Recommendations	Levels where changes are required	Possible impacts
Limited perceptions about roles and leadership in planning, monitoring and community participation.	1. Mandatory capacity building of personnel		
	NRHM and its activities, Community engagement, Administrative and financial procedures, computer training and other technical issues	State and District levels, within the health department.	Better understanding of duties, increase in efficiency and output
Lack of administrative and management skills among MOs.	2. Make planning processes more meaningful and useful		
	Prioritize epidemiological and population based health management interventions	Training and sensitization at state, district and taluk levels, strengthening district level planning processes	Realization of true decentralized planning and better targeting of vulnerable districts.
	Capture activities that address the heterogeneity of local health contexts		
Facility based approach, rather than need based approach is adopted for funding health institutions. Hence, larger proportion of funds allotted to districts with more “low utilization PHCs”.	3. Addressing regional disparities through NRHM.		
	For the 6C and other vulnerable districts, focus on the improvement of infrastructure, field presence (specifically ASHAs and ANMs) and <i>larger facility based funds</i> . If not feasible in the short run, supplement NRHM funds for these districts through special quotas at the state level.	Policy change in NRHM (at the centre), Recruitment strategies at the state and district levels, in the health department, Data collection processes w.r.t to comparative needs and demands at the district and taluk levels	Better targeting of expenditure, addressing regional imbalance
	For other districts, focus on <i>demand/need based funding mechanisms</i> and optimization of HR based on rotation and shared responsibilities		

Key Issues	Recommendation	Levels where changes are required	Possible impacts
Grave cases of aggravation of ANMs and ASHAs (by Grama Panchayath Presidents and members) reported ANMs and ASHAs have contributed significantly in the success of NRHM. Other field staff in PHCs restricted to admin work at PHCs due to lack of staff.	4. Providing better work environments for ANMs and ASHAs, increasing field presence of other health workers		
	Instilling confidence and providing security	Sensitization at the district, taluk, PHC and village levels (PRIs and health department)	Increasing the reach and effectiveness of community health initiatives of NRHM
	Periodic increase in salaries and incentives	Policy change in NRHM (Centre, State)	
	Recruitment of clerical staff at PHCs	Health department and state government	
Facility based approach, rather than need based approach is adopted for funding health institutions. Lack of readily useable data to implement need based funding mechanisms immediately	5. Shift from facility based funding to need based funding mechanisms		
	Drug procurement to health institutions based on need/demand (sufficient data and demand from MOs and THOs already exist)	Policy change in NRHM (Centre, State), data collection processes at district and taluk levels	Addressing local needs, increasing effectiveness of expenditures
A lot of resources consumed for collection of data. Confusion exists on reliability and usability of data In many cases, data collected for a particular report is not reused for other reports. Data collected not analysed, used	6. Implement a single, homogenous and well-defined data collection and monitoring system		
	Assimilation of facility based and area based reporting formats	Decision on how collected data can be used/reused at state and district levels, data collection processes at district, taluk & PHC levels	Streamlining data gathering and analysis, reducing time spent on reporting at field level
Key Issues	Recommendation	Levels where changes are required	Possible impacts

Community's role in health not clear.	7. Clarify the role of community based committees like P&MC, ARS and VHSCs (w.r.t governance and monitoring of health institutions)		
Existing structures inadequate for long term empowerment of community members bodies	Strengthen the role of community based institutions as effective monitoring bodies, rather than governing bodies of the health institutions.	Health department, PRIs and community representatives	Meaningful community engagement

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Appendix A

Table 17. Correlation between holistic health indicator and other indicators of health

Correlation variable	Pearson Correlation Coefficient
Female Literacy rate	.749**
Under-age marriage	-.804**
Users of Family Planning	.886**
Birth order 3 and above	-.878**
Safe delivery rates	.783**
Complete Immunization	.879**

Table 18. Correlation between health indicators, NRHM expenditures and development indicators

Correlation Matrix	Holistic Health Index	Total NRHM Expenditure	RCH Expenditure	NRHM Flexipool Expenditure	Rural Population (2011)	SC Coverage	PHC Coverage	CHC Coverage	HDI (2001)	Per Capita Income (2009)
Holistic Health Index										
Total NRHM Expenditure	-.244									
RCH Expenditure	-.479*	.904**								
NRHM Flexipool Expenditure	-.051	.954**	.738**							
Rural Population (2011)	-.226	.744**	.818**	.609**						
SC Coverage	-.367	.293	.352	.207	.410*					
PHC Coverage	-.449*	.026	.153	-.079	.210	.760**				
CHC Coverage	-.010	-.299	-.351	-.220	-.313	.038	-.084			
HDI (2001)	.708**	-.119	-.465*	.132	-.261	-.235	-.333	.213		
Per Capita Income (2009)	.435*	.100	-.221	.289	-.303	-.111	-.237	.251	.797**	

Table 19. Correlation Matrix of Health Indicators, Infrastructure and Expenditures

Correlation Matrix	SC Coverage	PHC Coverage	CHC Coverage	Total Funds	RCH EXP	NRHM EXP	Rural Population	% of Villages having Asha	Live Birth%	Still Birth%	ANC in First Trimester	Three or more ANC	100+ IFA tablets/syrup1	Institutional Delivery	% of Full Immunization
SC Coverage															
PHC Coverage	.760**														
CHC Coverage	.038	-.085													
Total Funds	.412*	.107	-.067												
Exp%	.412*	.107	-.067	1.000**											
RCH Expen.	.550**	.333	-.136	.904**											
NRHM Flexipool Expn.	.257	-.075	-.020	.954**	.738**										
Rural Population(2011)	.529**	.276	-.119	.745**	.815**	.615**									
% of Villages having Asha	.103	.123	-.245	-.134	-.025	-.198	.033								
Live Birth%	.309	.499**	-.137	-.067	.072	-.136	-.019	.269							
Still Birth%	.294	.257	.081	.116	.109	.077	.186	-.067	-.239						
ANC in First Trimester	-.836**	-.725**	.077	-.252	-.507**	-.034	-.343	-.075	-.370	-.284					
Three or more ANC	-.836**	-.838**	.263	-.292	-.592**	-.038	-.382*	-.143	-.435*	-.107	.894**				
100+ IFA tablets/syrup1	-.636**	-.804**	.214	-.045	-.295	.134	-.214	-.107	-.270	-.307	.706**	.761**			
Institutional Delivery	-.724**	-.722**	.126	-.107	-.387*	.103	-.134	-.131	-.186	-.223	.809**	.841**	.774**		
% of Full Immunization	-.808**	-.779**	.269	-.297	-.550**	-.075	-.366	-.062	-.422*	-.181	.855**	.927**	.697**	.718**	

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Grassroots Research and Advocacy Movement (GRAAM), CA-2, KIAB,
Industrial Housing Area, Ring Road, Hebbal, Mysore - 570 016, Karnataka, India
Phone: +91-821-2410759, Telefax: 0821-2415412 / 2304986, Email: graam@svym.org.in
Visit us at: www.graam.org.in