PAHELI REPORT

2012

PEOPLES' ASSESSMENT OF HEALTH EDUCATION AND LIVELIHOODS

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Contents

Section-III: Maternal and Child Health .... 87 to 109

Section-IV: Education and Literacy .... 110 to 132

Acknowledgements

Foreword

The Government of India, supported by the United Nations Joint Programme on Convergence, has developed the *Peoples' Assessment for Health, Education and Livelihood (PAHELI)* to help communities directly assess the impact of health, education, livelihoods, water and sanitation services on their daily lives. Used effectively, *PAHELI* is a powerful, replicable and flexible tool for incorporating the views of excluded and marginalized communities, especially women, into the district planning process.

Aim of this publication is to inform policy makers and planners about the gaps in service delivery in key national programmes. Based on *PAHELI* assessments, the document summarizes the perceptions of people about service delivery in eight districts across seven states. The document points to a number of problems including quality of services and lack of information about entitlements.

Together with the *PAHELI tool-kit* and *District Report Card*, this publication is intended as a tool for training institutions and partners working to strengthen inclusive bottom-up planning. We would like to thank PRATHAM and their local partners for developing, testing, disseminating and finalising the tool kit and report cards.

The hope is that the *PAHELI* approach will be used across sectors at all levels to promote participatory decision-making and accountability at the grassroots level where service providers meet beneficiaries.

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List of abbreviations

- **AWW:** Anganwadi worker
- **ANM:** Auxiliary Nurse Midwife
- **ANC:** Antenatal care
- **ASHA:** Accredited Social Health Activist
- **BIS:** Bureau of Indian Standards
- **CGWB:** Central Ground Water Board
- **CDPO:** Child Development Project Officer
- **GOI :** Government of India
- **ICDS:** Integrated Child Development Services
- **IEC:** Information, Education and Communication
- **IMIS:** Integrated Management Information System
- **JMP:** Joint Monitoring Program
- **LPCD:** Litres Per Capita Per Day
- **MDM:** Mid-Day Meal Scheme
- **MGNREGS:** Mahatma Gandhi National Rural Employment Guarantee Scheme
- **MoWR:** Ministry of Water Resources
- **NRHM:** National Rural Health Mission
- **NLM:** National Literacy Mission
- **NRDWP:** National Rural Drinking Water Programme
- **PTR:** Pupil to Teacher Ratio
- **RGNDWM:** Rajiv Gandhi National Rural Drinking Water Mission
- **RTE:** Right of Children to Free and Compulsory Education Act
- **SSA :** Sarva Shiksha Abhiyan
- **TSC:** Total Sanitation Campaign
- **TT:** Tetanus Toxoid
- **TLM:** Total Literacy Campaigns

EXECUTIVE SUMMARY

PAHELI 2011 was a rapid assessment of the prevailing status of human development in a district and covers four major sectors: Life and Livelihood (correlates of poverty); Water and Sanitation; Maternal and Child Health; and Education and Literacy.

The broad objective of PAHELI 2011 was to create a set of simple to use tools that can be implemented by ordinary people to understand different dimensions of human development and track progress of social sector programmes initiated by the government in relation to its commitment towards international MDGs.

Life and Livelihood

Poverty is widely seen as inability to ensure basic needs. PAHELI 2011 used correlates of poverty based on observable characteristics of people's lives to measure levels of poverty.

Most surveyed households across all castes owned some land. Households with no land were very likely to have no livestock as well.

Observable characteristics of household such as household possessions reflect a family's economic standing. Cots, clocks/watches, cell phones, table/chairs, electric fans, televisions were the items that PAHELI enumerated.

Employment or work is critical for poverty reduction. It is empowering and liberating only when it provides people opportunities to improve their well-being. . Cultivating their own land is the major work activity for men, for women it is household work.

Internal migration is an important factor in influencing social and economic development. In the surveyed districts, compared to women, more men migrated for more number of days. The landless were less likely to migrate.

About 38% of the surveyed women had an active account in a bank, post office or SHG, in that order.

67% of the surveyed households had ration cards and more than 85% had received the quantities they were entitled to. However there are variations across districts in terms of entitlements of food grain and other items that were received.

MAHATMA GANDHI NATIONAL RURAL EMPLOYMENT GUARANTEE SCHEME(MGNREGS)

MGNREGS, considered one of the largest safety net programmes in the world, has two main objectives: to provide wage work to unskilled members of rural households and to create durable assets in the process.

PAHELI 2011 was undertaken during the monsoon which is slack time for construction related activities. The data in this section, are based on interviews of and discussions with adult women of surveyed households (men were asked questions only when the woman was unable to answer queries).

A little more than 28% of the respondents were aware of MGNREGS and even fewer of its provisions in the PAHELI 2011 districts.

On an average, 86% of those who applied received job cards and most received them within 15 days; 72.7% applicants got work; 55% applicants found work for 0-15 days and 21.2% between 15-30 days.

Except for Sundargarh, all districts met with the stipulation that work-site be within 5 K.M. from the workers village. Minimum wages were paid in Gumla, Hardoi, Nalanda and Korba.

On an average, 75.8% beneficiaries had their job cards with them; 79.7% had passbooks and of them 88.1% had physical possession of them.

Water and Sanitation

Clean drinking water is a fundamental and essential element of life. The United Nations, in 2010, recognised universal access to clean water as a basic human right as well as a vital step towards improving living standards.

The lack of sanitation is a major cause of disease around the world. Improving sanitation is known to have a considerable positive impact on health in households and across communities.

In India, both water and sanitation continue to be inadequate, despite longstanding efforts by various levels of government and communities. PAHELI 2011 attempted to capture the source, availability, quality, as well as satisfaction level of drinking water at household level. Sanitation practices of households were also noted.

Hand-pumps (56.7%) are the primary source of water followed by wells (22.8%). Only 14.5% households reported having a tap in or around their house.

81.7% respondents had their water source within 250 meters, 61% spent < 15 minutes to collect water. 87.3% of the surveyed households had access to water all the time.

Close to 80% of all schools visited had drinking water available.

Almost 72% of household drinking water samples were found to be contaminated with bacteria (faecal coliform test) yet 72% respondents expressed satisfaction with water quality. Water samples from anganwadis (67%) and schools (72%) were contaminated as well.

Fluoride contamination above permissible limits was found in 7.5% water samples across the seven districts.

Only in 27.8% cases was waste water disposed through drainage.

Despite a decade of the Total Sanitation Campaign almost 80% of the surveyed households have no latrines and almost 88% persons said they defecate in the open. Of the households that have toilets, only 49% were using them. 85.3% of the toilets had been constructed under the TLC or other government schemes.

Only 38.8% of the surveyed schools had usable toilet facilities, only 30.4% had usable girls' toilets, only 14.4% anganwadi centres had usable toilets.

Maternal and Child Health

In the last six decades India has made considerable progress in improving health indicators such as life expectancy, infant mortality and maternal mortality. Nevertheless, a lot remains to be done. Food and nutrition security issues are a grave concern, given insufficient diets and poor household nutrition security. A large proportion of children and women are malnourished. Complications related to pregnancy and childbirth pose a significant threat to the health of women.

Given the wide range of indicators that could be included, PAHELI 2011's attempt was only to track indicators that can easily be captured by ordinary citizens.

About 80% of the surveyed women received ante-natal care at a government facility. 70% of them had at least one ante-natal check-up, 87.4% had at least one TT injection and 65.3% took IFA tablets.

Almost 58% deliveries took place in an institution. Of them 82.8% were at a government facility and 65.9% were attended by a health worker, 64.1% had an ASHA staying with them in the hospital. Of the women who delivered at home 61.8% were attended by a skilled person.

64% women reached the health facility in a car or taxi which in 80.5% cases was arranged by the households.

82.4% of the respondents received money (average Rs. 1437) under the JSY and 82.8% of them did not have to pay a fee to receive their dues.

Nearly 50% children received a full course of immunization but the sample size was really small.

98% women breastfed their infants, 60% did so within half an hour of delivery, 75% started complementary feeding at six months.

47% of the surveyed children < 72 months in age were underweight with 32% severely underweight. 53% children between 36-72 months were undernourished, of them 33% were severely undernourished.

67.6% of the surveyed households were using optimally iodised salt.

96% women were aware of the existence of the anganwadi and 60.5% knew it provides food to children. Less than 40% were aware of other facilities like food for pregnant and lactating mothers and ANC.

Education and Literacy

The Government of India in the last 2 decades has initiated many programmes to improve upon the primary school system as well as adult literacy. While there has been a marked improvement in bringing children within the education network, with primary school enrollment being almost universal, but the

learning levels of these children continue to be a cause of worry. Similarly, though, adult literacy has improved rapidly since independence, still much needs to be done.

PAHELI 2011 tried to assess the learning level of both the mother and child. The rationale of including the mothers was because of their direct influence upon the children during their formative years. Information on enrollment of children in primary school was also undertaken, together with schools they went to.

Of all enrolled children, 69% are enrolled in government schools. Boys are more likely to be sent to private schools. Girls are more likely than boys to be enrolled in government schools. They are also more likely to not be in school. , The percentage of out-of-school children (6.8%) in the surveyed districts is higher than the national average.

About 32% of Std. III children and a little more than 50% of Std. V children could read a Std. I level paragraph. A little under 19% of Std. III children and about 37% of Std. V children could do two digit subtractions. In general, individual districts showed lower levels of achievement than their respective states.

37.3% of the women had attended school; only 26.2% could read a Std. I level paragraph.

53.7% children in the age group 3-4 are enrolled in some kind of pre-school facility, 47.1 % of them in anganwadis / balwadis. 29.9 % children are not enrolled anywhere. At this level there is no disparity between the genders.

In age group 5-6, 14% children are not enrolled anywhere. Surprisingly, boys outnumber girls here.

Of the schools that were surveyed, more than 70% of schools surveyed had an office/store room/ office-cum-store; almost 55% had a boundary wall; almost 40% had a playground; almost 74% had a kitchen for cooking mid-day meals and 64% had a library.

90% classrooms had a blackboard. Only 28% schools met the PTR norms of RTE.

The student attendance rate is 61% while teacher attendance rate is 81%. Both are lower than the average for rural India.

INTRODUCTION

Introduction

In the past decade, 21 Indian states have prepared human development reports (HDRs)[1], moving the HDR process from the national to the state level. The aim of these HDRs has been to highlight the status of human development across and within states, and ensure adequate planning and resources for basic sectors such as adult literacy, children's education, health, livelihoods and poverty reduction. The broad objective underlying these efforts has been to track the internationally accepted Millennium Development Goals (MDGs) as well as assess progress towards the national objectives of social protection and building of human capabilities.

The preparation of HDRs has moved further to the district level since 2004. The district is increasingly becoming an important unit in development for planning, budgeting, decision-making and implementation purpose. Several states are preparing district level HDRs, which by and large depend on secondary data from different government departments and other sources.

In addition, for seven states across India and 35 districts, there is a programme called the Government of India – UN Joint Programme on Convergence (GoI-UNJPC). This programme is implemented by the Planning Commission (PC) in partnership with state governments and national-level resource institutions. One of the key focal areas of the programme is supporting the Government of India's objective (emphasised in the Eleventh Five-Year Plan) of ensuring outcome-based, inclusive and decentralised district planning.

For decentralised planning to be effective, it is important that people have a strong capacity for assessing the status of key indicators on human development in their locality. The generation of a status report requires a set of indicators and processes (or a tool kit) that are simple enough to enable participation and decision-making by all sections of the community, including women and the marginalised. The process should be easy to conduct, to analyse and to understand. Such tools and processes help citizens to understand and address human development. Indicators need to be conducive to simple measurement and linked to observable and measureable MDGs at the local and district level. These status reports can help stakeholders and service providers identify gaps in service delivery and prioritise needs. The availability of a tool kit (which includes indicators and processes) for assessing the status of key indicators can be a very useful input for strengthening the bottom-up process of planning by demonstrating inclusive and participatory methods.

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[1]"Human Development is about people, about expanding their choices to live full, creative lives with freedom and dignity. Fundamental to expanding human choices is building human capabilities: the range of things that people can be. The most basic capabilities for human development are living a long and healthy life, being educated, having a decent standard of living and enjoying political and civil freedoms to participate in the life of one's community" (UNDP 2003. Human Development 2003 – Millennium Development Goals: A Compact among Nations to End Human Poverty, OUP, New York).

About PAHELI 2006

PAHELI—People's Assessment of Health, Education and Livelihoods—was first conducted by Pratham and district partners in 11 districts across the country in 2006. That effort was an attempt to see if the rapid assessment and participatory approach of ASER (Annual Status of Education Report) in education could be applied to other social sectors[2]. UNDP supported this effort and Pratham received further support from UNICEF. For PAHELI 2011, four broad domains were identified and a set of simple indicators were developed into a "tool kit[3]." The sectors were:

- Life and Livelihoods
- Water and Sanitation
- Mother and Child Health
- Education and Literacy

The PAHELI 2006 exercise was based on experiences and learning from ASER, which has been facilitated by Pratham in more than 570 rural districts since 2005[4]. ASER's participatory approach and use of simple tools led to widespread engagement in issues of elementary education during data collection and to a variety of actions by government and non-government organization using the data and information collected[5].

The ASER initiative and the previous PAHELI effort are said to have influenced several other efforts in different social sectors using a similar "people's participation" approach. The current PAHELI 2011 was based on the past track record of such efforts and includes additional components described below[6].

[2]ASER (Annual Status of Education Report) is the largest household survey done of children every year. Facilitated by Pratham, ASER reaches a representative sample of children in each rural district in the country. The focus of the survey is to assess the status of schooling and basic learning (reading and arithmetic) for children in the age group 5 to 16. 2011 is the seventh year of this initiative.

[3]The PAHELI indicators were developed after consultations with sector experts and representatives of different organisations. From the design stage onwards, key staff of UNDP was also part of the exercise. The design aimed for simplicity so that ordinary citizens with a reasonable amount of training, could carry out the assessment exercise, understand the results and be able to disseminate the findings.

[4]The 2006 version of PAHELI was carried out in 11 selected districts. These districts were among the poorest in their state and were listed in various "backward" district lists. The designing of tools and sampling, training and monitoring was conducted by Pratham but the actual survey was carried out by a local citizen's group, non-government institution or college in each district. In each district, 30 randomly sampled villages were selected using the 2001 Census village lists. In each selected village, 20 randomly sampled households were surveyed. In each household, information was collected on a set of specified indicators. The aim was to generate basic information based on a representative sample of households for the district.

[5]See www.asercentre.org for details of all ASER reports from 2005 to 2010, tools and processes.

[6]See ASHWAS, a water and sanitation survey done in Karnataka in 2008 by Arghyam (www.arghyam.org), and HUNGAMA, a survey of 100 districts for assessing child malnutrition. This survey was conducted by Naandi Foundation (see www.naandi.org).

Adapting the PAHELI 2011 framework

Background

During 2010-11, Pratham/ASER Centre and various UN agencies reviewed the previous PAHELI experience and learnings[7] and there was broad consensus that PAHELI should be repeated in 2011. While based on the previous effort, PAHELI 2011 was also shaped by new inputs and perspectives emerging over the past two years in interactions between the Pratham/ASER Centre team and the Government of India-UN Joint Programme on Convergence group that included UNICEF, UNDP and UNFPA. These discussions have been very useful in developing the proposed framework for PAHELI. Chart 1 outlines some of the elements that serve as important guiding principles.

Broad questions guiding PAHELI 2011

Through the PAHELI effort, we attempted to explore the following questions[8]:

- Can a simple tool kit (set of indicators) be developed that ordinary people can use to understand the status of basic human development in their local area? This could be a village, a panchayat, a block or a district.

- Can a simple set of processes be developed that can be used by citizens and local groups to generate their own information on the prevailing state of human development in their area?

In taking the PAHELI experience forward and thinking beyond the immediate exercise, it would also be useful to explore the following questions:

- Can a set of local-level institutions and individuals be equipped to independently carry out such exercise independently in the future?

- Can effective mechanisms be set up in a way that the information generated from the use of the tool kit and processes is translated into appropriate action regarding allocations, expenditures and outcomes in service delivery?

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[7] Established in 2008, ASER Centre (www.asercentre.org) is an autonomous unit of Pratham (www.pratham.org). It carries out a variety of assessment, survey, evaluation, research and communication activities in education and other sectors. ASER Centre also leads the annual ASER survey each year.

[8] These issues can be applied to any geographical area. Here, the focus is on the district but the same could apply to a block, to a set of villages or even to a single village.

Chart 1: Framework for PAHELI 2011

DEVELOPING A FRAMEWORK FOR PAHELI				
	INDICATORS / MEASURES	METHODS	DISSEMINATION / COMMUNICATION	RELATED GOVERNMENT SCHEMES AND NORMS
BASIC APPROACH	Start with MDGs. Identify no more than 10 indicators in a sector. Simple, easy to understand by ordinary people.	Data collection methods that are easy to use and replicable at district, block or village level.	Simple analysis that is easy to do, understand and explain.	Key norms of government schemes to be kept in mind when designing tools and also in dissemination.
EXPLORE WITH HOUSEHOLDS	In household: current status, access to provision, "quality".	Methods include a combination of survey, activities and observations. Data collection activity should be such that in the process of collecting data people become engaged and aware about the sector/issue. Data collection is also a communication activity.	Design and layout of documents, whether tools, methods or findings, should be simple and easy to understand so that communication at different levels is easy.	Understanding the process of fund flows, decision-making and implementation of the scheme to be linked to the tool kit.
ASSESS VILLAGE LEVEL FACILITIES	In facility: current functioning, participation, fund flow, expenditures.			The process by which assessment can lead to action to be outlined in advance. Think through what households can do and what the government can do.
TOOL KIT: KEY MEASURES/ OUTCOMES INDICATORS / TOOLS	TOOL KIT: KEY MEASURES/ OUTCOMES INDICATORS/ TOOLS	TOOL KIT: SIMPLE METHODS FOR DATA COLLECTION AND ENGAGEMENT	REPORT CARDS THAT ARE EASY TO GENERATE, COMMUNICATE AND UNDERSTAND	ASSESSMENT TO ACTION TO BE PLANNED BOTH BY THE PEOPLE AND BY THE GOVT.

Millennium Development Goals

The Millennium Development Goals (MDGs) are eight goals to be achieved by 2015 that respond to the world's main development challenges. The MDGs are based on the **Millennium Declaration** that was adopted by 189 nations and signed by 147 heads of state and governments during the UN **Millennium Summit** in September 2000.

The internationally agreed upon framework of eight goals and 21 targets was complemented by 60 technical indicators to measure progress towards the MDGs. These indicators have been adopted by a consensus of experts from the United Nations, the International Monetary Fund (IMF), the Organisation for Economic Co-operation and Development (OECD) and the World Bank.

The Millennium Development Goals and targets come from the Millennium Declaration, signed by 189 countries, including 147 heads of State and Government, in September 2000 and from further agreement by member states at the 2005 World Summit. The goals and targets are interrelated and should be seen as a whole. They represent a partnership between the developed countries and the developing countries *"to create an environment – at the national and global levels alike – which is conducive to development and the elimination of poverty"* as stated in the Millennium Declaration .

[Detailed table of MDG given in annexure -(ii)]

Key Elements of PAHELI 2011

This and subsequent sections outline some of the key elements that were central to designing the framework for PAHELI 2011 and to the project in a general manner.

Design of key simple indicators/measures and methods

PAHELI 2011 aimed to design indicators that both directly affect the day-to-day lives of people, and are linked to national goals and MDGs. Wherever possible, PAHELI 2011 explored issues of service delivery, financial norms (what money is supposed to reach where and when) and fund flows.

The balance between simplicity and rigour is often hard to achieve. In a traditional research study, data collection is often extensive, comprehensive, costly and time consuming with a long lag between data collection and public dissemination. But for PAHELI 2011 to meet its objectives, it was critical to define a limited number of key measures for each sector. PAHELI 2011 employed the following features to help determine which indicators should be included in the tool kit:

- Focus on characteristics of households or facilities that can be observed or measured easily and used by common people at the village, block or district level;

- Collect data on a particular key indicator, either because it is not usually collected or because it is not usually collected at the household or village level.

The biggest challenge was to keep indicators aligned with measurable MDGs on the one hand and linked to key social sector programs on the other. Simultaneously, we had to ensure that ordinary people could undertake the actual measurement and analysis . Maintaining the delicate balance between rigor and simplicity is essential for PAHELI 2011 to be successful[9].

Creation of tools

Given the nature and objectives of PAHELI 2011, developing a set of tools that were easy to understand, administer and analyse was the most important part of the exercise. Two major strategies guided the development of the tools. *First,* the indicators had to be easily observable and measurable. *Second,* our past experiences with ASER and other participatory assessment work taught us that such efforts are not only about data collection—it is also important to engender community engagement and participation so that during and after the assessment activity they continue to discuss important issues, search for solutions and demand better services. Tools need to engage people in the community and appropriate methods should be employed to increase people's involvement during the data collection effort.

Our experience suggests that activity-based assessment is a useful mechanism for engaging

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[9] For example, given time and budget constraints, the entire data collection at the village level could not take more than three days. Therefore the tool kit was designed with these constraints in mind.

people. For example, the act of asking children to read or to do arithmetic is a much more engaging device than simply asking parents to evaluate the quality of education. Three things happen during such activity-based assessments. *First,* this approach generates information that the respondent himself or herself may not have known (for example, can my child read, is my water clean), *second,* it leads to a concrete understanding of specific elements or outcomes (for example, by Std 2 a child should be able to read a paragraph like this, or if water quality is good and water is clean, it should look like this at the end of the test; and *third ,* community members continue discussing these issues well after the data collection is completed.

PAHELI 2011 uses a number of different methods for increasing people's engagement. These are :
- *'activities'* like asking children or adults to read or do arithmetic.
- *'tests'* and 'experiments' like water quality testing and salt testing for iodisation.
- use of *pictorial survey instruments* wherever possible[10].

The tools for the current version of PAHELI 2011 benefited greatly from detailed feedback and discussions over several months from core members of the UN agencies that were supporting the project both in Delhi and in the states. Comments received from experts individually and consultations with the UN group and the Planning Commission also informed the process. With inputs from all sectors, PAHELI 2011 team members and representatives from the GOI-UN Joint Programme on Convergence field tested the tools extensively before finalisation for use. Within the PAHELI 2011 exercise, we attempted to develop tools for tracking fund flows and decision-making, in order to understand better how to strengthen accountability frameworks through participatory tracking of fund flows and expenditures.

Common design across all the districts

Our idea was to adopt a simple design that would enable comparisons of key indicators across districts. At a later stage, if other stakeholders use the PAHELI 2011 tool kit additional state or district-specific indicators can be added, keeping in mind however, that the entire tool kit cannot become too heavy or time consuming.

Sampling decisions common across the project

One district from each of the selected states was identified for piloting this version of PAHELI 2011. *These districts were purposively selected because they were focus districts of the GOI-UN Joint Programme on Convergence.* In each district, 60 villages were selected using 'probability proportional to size' (PPS) sampling techniques. Within each selected village, 20 households were chosen randomly using the same sampling technique. According to this process approximately 1,175 households were surveyed per district; these households and villages form the basis of the "district report cards". Thus, a total of 9,405 households in 471 villages in eight districts were surveyed in this exercise.

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[10]Credit for the pictorial tool goes to a pictorial BPL survey format that was designed almost 10 years ago for Karnataka BPL surveys but perhaps never actually used in the field. The PAHELI 2011 tools are inspired by that instrument.

Sampling decisions regarding villages were made by an expert group of statisticians from the UN agencies and Pratham/ASER Centre. The only exception was Bhilwara district in Rajasthan. Bhilwara was included as part of this project as there was ongoing work related to MNREGS in the district that was being carried out by Pratham with UNDP support. This work was focused on 50 villages and 20 more villages were to be included at a later stage. The Bhilwara sample is purposive and includes these target villages. In all tables, Bhilwara is reported but not counted in the total.

Local partners and participants

Although facilitated by Pratham/ASER Centre, PAHELI 2011 was carried out by one or more local organisations at the district level. The aim was to build capacity in a local group that would be able to carry out or support such initiatives in their districts in the future. We did so during the training and implementation of the survey.

Various levels of assessment, analysis and action

PAHELI 2011 envisaged assessment and action at several levels. The primary data collection activity was centered on the process of collecting key information about different outcomes and processes at the village level. The different levels of assessment, analysis, awareness and action included. Indicators and measures that focus on:

- Understanding the status at the household level. Analysis of household status can lead to possible suggestions on action that households can undertake by themselves (for example, more effective nutrition for children, methods of keeping water clean, better health practices at home);

- Work that needs to be undertaken by government functionaries and community-level workers to link households to government social sector schemes;

- Actions that households can undertake to demand better services (for example, better learning in schools, better service in health centres, demanding that school grants arrive on time and are spent effectively, etc.) The PAHELI 2011 data is designed to provide district level estimates.

Facility level

PAHELI 2011 assessed the current status of the functioning of various facilities. This information can be sent back to the village community and also to the relevant government departments at different levels. These include schools, anganwadis, health centres, PDS centers, MGNREGS work-sites, and so on.

Fund flows

The primary focus of PAHELI 2011 has been to understand how fund flows work at the ground level and how decisions are made and services are delivered. Funds are critical to the functioning of any service delivery mechanism. Do the funds reach the village-level facility? If funds reach beneficiaries, do they reach on time? Are people aware of the different provisions of schemes? In PAHELI 2011, we attempted to explore household level outcomes, views and perceptions for different domains as well as to investigate different dimensions of the facilities and services related to that sector at the village level. This part of the PAHELI 2011 work was called PAISA. *Planning, Allocations and Expenditures, Institutions: Studies in Accountability.* (The overall partner for this part of the survey was Accountability Initiative which has done similar tracking of fund flows in schools in collaboration with ASER as well as independently).

The fund tracking exercise was quite effective in health in the case of Janani Suraksha Yojana but not as productive in the case of PDS or health centres or MGNREGS work-sites. The sample of health centres covered was small and due to PAHELI 2011 being in the field during the monsoon season, the survey teams did not find too many active MGNREGS work-sites. This is the first time in PAHELI 2011 that such key questions are being explored and this pilot will indicate to what extent such efforts can yield results given the basic approach adopted in PAHELI 2011.

Communication and dissemination

A major objective of the current PAHELI 2011 effort is to create presentations/materials of the major findings in formats that are simple to understand, disseminate and can lead to informed action by people at the local or state level. Once the overall report was discussed and finalised by the UN agencies and the Pratham / ASER teams, two products were created for dissemination:

> • A final set of tools that can be used by other institutions, agencies or individuals in these and other districts.

> • Sample report cards that share the findings and information collected in PAHELI 2011 in a simple, straightforward way to facilitate further discussions at the ground level.

Use of secondary data and data analysis

The objective of this PAHELI 2011 exercise is primarily to design, pilot and use a tool kit that can enable ordinary citizens to be engaged in the process of tracking human development indicators at the community level. The tool kit comprises indicators or measures and methods for carrying out the data collection. Based on the data collection exercise in the sampled districts, a set of simple to understand and to explain report cards will also be produced. The overall aim of the PAHELI 2011 effort is to develop this approach. In this regard, PAHELI 2011 differs from the usual socio-demographic-economic surveys and research. The analysis of data

is deliberately kept at a basic level. Again, the main reason behind this is to enable widespread engagement in trying to understand the socio-economic-demographic status and to plan forward.

The PAHELI 2011 raw data will be made public such that more detailed and sophisticated analysis can be done subsequently. This data can be then merged with other existing data to carry out more in-depth research.

As background material, the attempt here is also to look at existing district level data from other sources for the sectors covered. However, a few things need to be kept in mind. Often data on key social sector outcomes is not available at the district level. The data that exists may not be current or easily available in the public domain. Finally and most importantly, measures and indicators closely comparable and similar to PAHELI 2011 may not be available.

Beyond the tool kit and report cards

The advantage of carrying out PAHELI 2011 under the umbrella of the Planning Commission-UN Joint Programme on Convergence is that it goes beyond the ambit of the current project and yet may be facilitated by it.

Linking of indicators to schemes and norms

In each sector, there has been an attempt to link PAHELI 2011 indicators to the objectives of important national development schemes. It is hoped that the assessment process and the findings at the district level can serve as inputs for improving the uptake of national programmes at the local level.

Linking to planning in government departments

The PAHELI 2011 tool kit and findings can be actively shared with relevant government departments and associated district and block level officials. Such dissemination may lead to the possibility of carrying out this set of activities periodically both in these and other districts. Involving government departments will facilitate integration of the evidence emerging from participatory assessment into their normal functioning. The tool will play an important role in empowering members of the local communities, especially women, by assessing the implementation of district plans. It will help communities not just in making informed district plans, but also in systematically and periodically re- adjusting or revisiting their village/ block and district plans.

Integrating with existing information and processes:

District situation analyses and visioning are important steps for the development of integrated district plans. The PAHELI 2011 process is an innovative community monitoring tool that helps the communities voice their perceptions for inclusion in planning, thereby strengthening the

process through the reflection of local needs in the plans. The significance of this activity is the correlation between planning objectives and community needs, especially in terms of meeting the MDGs at the local level for the benefit of the poorest.

PAHELI 2011 tool kits and findings can be important inputs (along with indicators from other national/scheme monitoring systems) for these processes. For village planning as well, a situation analysis with problem identification is a key activity. If used widely, PAHELI 2011 can help do this (substituting for or in addition to other participatory rural appraisal exercises) better, informing the planning and prioritising process. PAHELI 2011 can inform state and district governments about corrective measures in policy and implementation. This process can be iterated and later inform the block/district level visioning process. It can also become a way of mobilising communities; measuring change over time on key indicators; and helping create a performance management system for service providers and office holders.

Capacity-building possibilities

These can be explored at different levels around an awareness and understanding of MDGs, the core elements of human development and the functioning of important social protection schemes. The experience of PAHELI 2011 suggests that a wide variety of capacity-building exercises can be built from this effort. However, indicators and questions need to be further sharpened and field tested before upscaling the process.

The current PAHELI 2011 effort aims to scale up a process that *"puts people at the centre of development, by emphasising that development is of the people and for the people"*. In this context, the linkages between ongoing capacity building and an actual set of activities is of key importance. While the immediate outcome of this initiative is a tool kit and a process, as well as a set of report cards, the long-term aim is to mainstream PAHELI 2011 as a regular tool for community monitoring.

The PAHELI 2011 tool kit can help communities not only by providing informed inputs into local plans, but also by systematically and periodically revisiting the status of human development at village/ block level and demanding readjustments or additions at the district level.

Sample design of PAHELI 2011

PAHELI 2011 employs the two-stage sample design, which is also used by ASER and other nationally representative surveys like NSS and NFHS. In the first stage, 60 villages were selected randomly using the village directory of the 2001 census as the sample frame. In the second stage twenty households were randomly selected in each of the 60 selected villages in the first stage. This yields a sample size of 1200 households and 60 villages per district[12].

Villages are sampled using the probability proportional to size (PPS) sampling method[13]. This method allows villages with larger populations to have a higher chance of being selected in the sample. It is most useful when the sampling units vary considerably in size because it assures that those in larger sites have the same probability of being a part of the sample as those in smaller sites, and vice versa. In the selected villages, 20 households are surveyed. Ideally, a complete house-list of the selected village should have been made and 20 households selected randomly from it. However, given the time and resource constraints we adopted a procedure for selecting households that preserved randomness as much as possible. The field investigators were asked to divide the village into four parts. This was done because villages often consist of hamlets and a procedure that randomly selects households from some central location may miss out households on the periphery of the village. In each of the four parts, investigators were asked to start at a central location and pick every fifth household in a circular fashion till 5 households were selected.

The survey provides estimates at the district level. In order to aggregate estimates up from the district level households have to be assigned weights - also called inflation factors. The inflation factor corresponding to a particular household denotes the number of households that the sampled household represents in the population. Given that 1200 households are sampled in each district regardless of the size of the district, a household in a larger district will represent many more households and, therefore, have a larger weight associated with it than one in a sparsely populated district.

The advantage of using PPS sampling[14] is that the sample is self-weighting at the district level. In other words, in each district the weight assigned to each of the sampled household turns out to be the same.

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[12]The sample size was decided in consultation with a research committee comprising of members from UNICEF, UNDP and Indian Statistical Institute, Delhi.

[13]Probability proportional to size (PPS) is a sampling technique in which the probability of selecting a sampling unit (village, in our case) is proportional to the size of its population. The method works as follows: First, the cumulative population by village calculated. Second, the total household population of the district is divided by the number of sampling units (villages) to get the sampling interval (SI). Third, a random number between 1 and the SI is chosen. This is referred to as the random start (RS). The RS denotes the site of the first village to be selected from the cumulated population. Fourth, the following series of numbers is formed: RS; RS+SI; RS+2SI; RS+3SI; …. The villages selected are those for which the cumulative population contains the numbers in the series.

[14]Most large household surveys in India, like the National Sample Survey and the National Family Health Survey also use this two stage design and use PPS to select villages in the first stage.

This is because the inflation factor associated with a household is simply the inverse of the probability of it being selected into the sample times the number of households in the sample. Since PPS sampling ensures that all households have an equal chance of being selected at the district level, the weights associated with households in the same district are the same. Therefore, weighted estimates are exactly the same as the un-weighted estimates at the district level. Where district estimates had to be aggregated, we decided not to use weights. *This was because the districts are not representative of the state and it is not clear what a weighted estimate would represent.*

Often household surveys are stratified on various parameters of interest in order to obtain enough observations on entities that have the characteristic that is being studied. The PAHELI 2011 survey stratifies the sample by population in the first stage. No stratification was done at the second stage. This was mainly due to budgetary and time constraints, since stratification in the second stage requires house-listing in the village which is extremely costly in terms of time, human resources and money.

Despite the fact that according to the plan, in each district 60 randomly selected villages were to be visited, there were delays and difficulties in some cases. Shortage of time, other difficulties and unforeseen delays meant that the actual villages and househdolds that were surveyed are less than what was planned.

SECTION-I
LIFE
AND
LIVELIHOOD
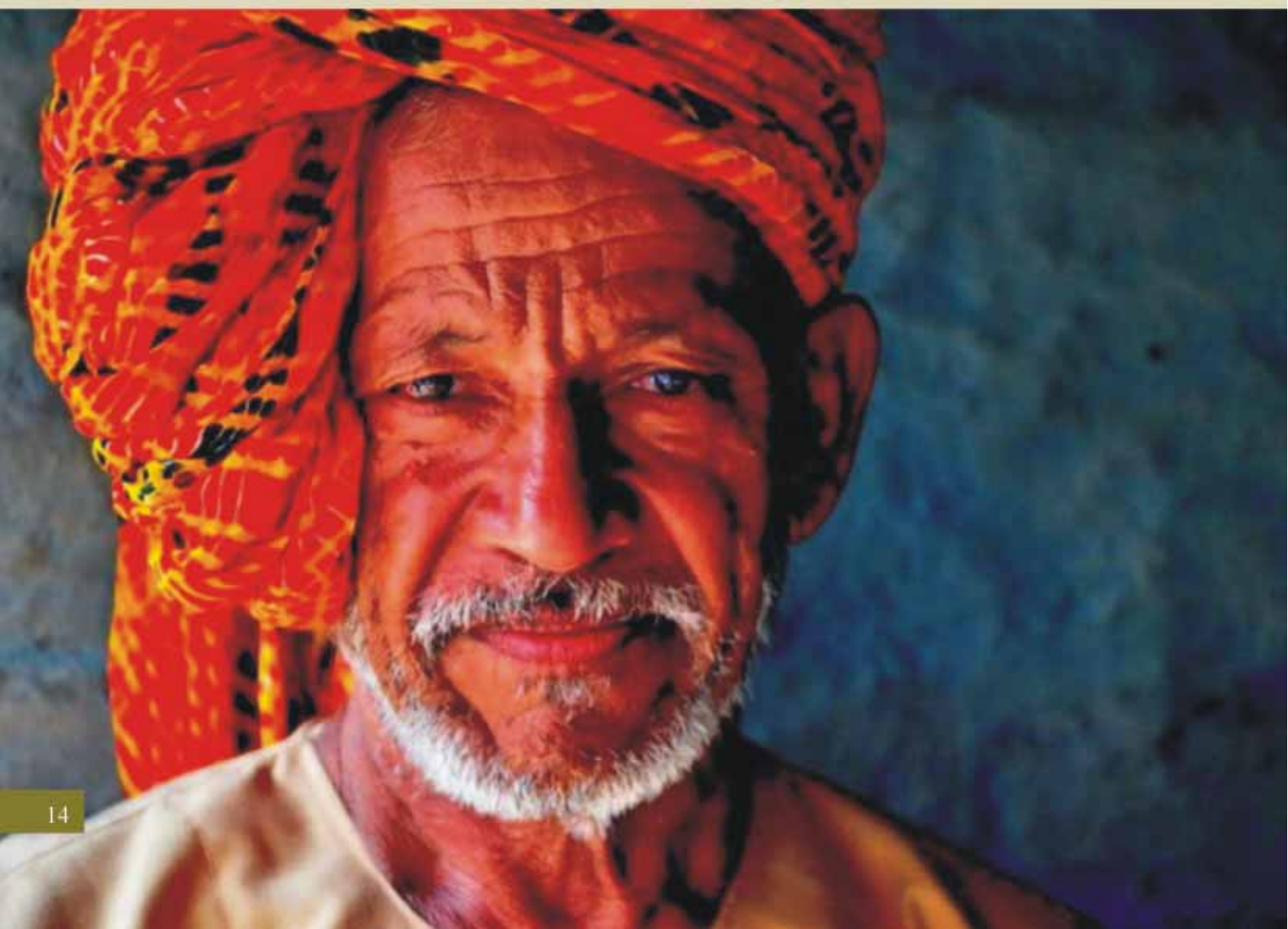
① Life And Livelihood

The first MDG directly addresses poverty and hunger. As Deaton (2006) points out, "There is a long tradition of setting 'scientific' poverty lines for calculating the cost of a minimal standard of living, with a particular focus on having enough to eat. The poorest people in poor countries spend most of their money-in some places as much as three quarters-on food. For them, not having enough money is the same thing as not having enough food[15]."

In the usual formulation of "poverty", as well as in the articulation of MDG1, poverty is seen as a lack of income or inadequacy of consumption. However, there is wide agreement on the difficulty of collecting accurate household income data. Instead, calculations of consumption expenditure are often used to figure out the economic status of households. Even that requires more time and probing than is possible given the objectives of PAHELI 2011. Given that PAHELI 2011 is designed to be easy to use and easy to understand by ordinary citizens, we employ an approach that has been used in research and in

[15]Deaton, A. (2006): "Measuring Poverty", in Banerjee, Benabou and Mookherjee, Understanding Poverty, Oxford University Press.

poverty-reduction programmes for understanding living standards in India, namely correlates of poverty based on the observable characteristics of people's lives.

What are the key elements of life and livelihoods that determine the quality of people's actual life experience and the basic quality or standard of their lives? Some examples are available in India. For instance, the measurement of the number of people in "poverty" or identification of the people under the poverty line, based on categorising households according to their observable characteristics[16]. The definition of Poverty adopted by the Indian Planning Commission in 2009 based on the Tendulkar Committee report, is a multidimensional one and tries to overcome some of the criticism that had been advanced so far. Specifically, to assess the nutritional status of people, instead of looking at the calories intake, it focuses on the adequacy of actual food expenditure of people close to the poverty line. Further, they suggest a price adjustment procedure and they incorporate a provision in price indices for private expenditure in health and education. Finally, they make no distinction between rural and urban poverty. These and other socio-economic surveys have commonly used measurable features or correlates of different aspects of people's lives-such as housing, clothes, food, work, ownership of land, access to water, education, and so forth.

Millennium Development Goals

Goal 1: Eradicate extreme poverty and hunger	
Target 1a: Reduce by half the proportion of people living on less than a dollar a day	1.1 Proportion of population below $1 (PPP) per day 1.2 Poverty gap ratio 1.3 Share of poorest quintile in national consumption
Target 1b: Achieve full and productive employment and decent work for all, including women and young people	1.4 Growth rate of GDP per person employed 1.5 Employment-to-population ratio 1.6 Proportion of employed people living below $1 (PPP) per day 1.7 Proportion of own-account and contributing family workers in total employment
Target 1c: Reduce by half the proportion of people who suffer from hunger	1.8 Prevalence of underweight children under five years of age 1.9 Proportion of population below minimum level of dietary energy consumption

[16]See documents related to BPL available on the website of the Ministry of Rural Development such as the schedule for BPL census 2002 and the methodology of the socio-economic census in rural areas 2011.

Life and livelihood in PAHELI 2011 survey: The approach

The main questions being addressed in the PAHELI 2011-Life and Livelihood section are

What are the basic elements of people's lives correlated with extreme poverty?

How can these be observed and measured?

What patterns do we find across districts, within districts and across villages and within villages across households?

PAHELI 2011 Tools: For PAHELI 2011, it was important to be able to create measurable indicators that could be used by ordinary people. We held discussions with experts to identify these critical but easily measurable indicators. In a series of pilots in the field, our core team tested how easily each of the central indicators could be measured. Based on experts' comments and field pilot experience, the domains that were chosen to be the focus of this section were as follows.

Methods and tools:

Household-level indicators: A set of indicators was developed for the broad domain called "life". These included the type of house people live in, the cooking fuel used, the food intake of women, the ownership of common consumer goods items, land ownership, ownership of vehicles, the primary occupation or work and the indicators of proportion of population using an improved drinking water source along with the proportion of population using an improved sanitation facility[17].

Links of households to the major flagship programmes: The public distribution system (PDS) and the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) are two major flagship programmes of the Government of India, which address various components of the indicators included in MDG1. To understand the link between people and these schemes, the sampled households in PAHELI 2011 were also asked a series of questions related to their awareness of and access to basic government services related to food and employment.

Facilities: Observation of facilities and questions related to them were included as a part of PAHELI 2011. The PAHELI 2011 survey team had two people who spent three consecutive days in a village. The design of PAHELI 2011 included a visit to at least one PDS shop and at least one working MGNREGS work-site (if available) in each sampled village[18]. If surveyors found a working MGNREGS work-site, they held a focus group discussion with labourers there.

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[17]Target 1.8: Prevalence of underweight children under five years of age. The attempt to measure children's malnutrition in PAHELI 2011 is documented in the section on mother and child health and nutrition and not included in this section.

[18]PAHELI 2011 was in the field in July 2011. During the monsoon months, active MGNREGS work-sites are difficult to find.

To make the tool more interactive and easy to use, the survey instrument employed pictures and visual images wherever possible. The main respondent for the PAHELI 2011 survey at the household level was an adult woman in the household. In addition, the questions about the PDS and the MGNREGS were posed to members of the household who were ration card-holders or labourers who had worked under the MGNREGS.

The diagram below summarises how PAHELI 2011 addresses the question of life and livelihood among households, individuals and at the community level.

HOUSEHOLDS	INDIVIDUALS	LINKS TO MAJOR GOVERNMENT SCHEMES
To have at least a minimum standard of living, a household must have access to some of the following • House, fuel, food; • Household possessions. For understanding the status of assets, the household's access to land (in terms of ownership) and livestock is assessed.	Apart from productive assets, livelihoods also depend on work/employment that individuals are engaged in. At the individual level, the indicators for work that have been included are • Primary type of work; • Estimated number of days of work in primary activity; • Migration outside the village for work.	Major programmes of the central government related to food security and employment guarantee are tracked here. The link of households to the two major social protection mechanisms is assessed. • PDS/Ration shop • MGNREGS

House	Type
1.1- Type of house ? *(Please observe and code)*	1= Kutcha
	2= Semi pucca
	3=Pucca
1.2- Electricity connection in the HH? (Code: 1-Yes; 2-No)	

1-House

Write only one code

Write only one code

Note: *The pictures were shown to members of households. An adult woman in each household was the main respondent. In the case of food, the woman answered about herself. The pictures in the survey were discussed. The respondent or surveyor could tick on the right picture. Almost all the indicators here could be observed and thus verified.*

Findings

This section describes the main findings of the domain called life and livelihoods based on the core indicators that had been selected.

A. LIFE	B. LIVELIHOOD	C. LINKS TO SCHEME
At household level	**At household level**	**At facility level**
• Type of house	• Type of house	• PDS/ration shop
• Cooking fuel	• Primary work activity	• MGNREGS work-site
• Land ownership	• Financial inclusion of women	
• Livestock	• PDS	
• Household possessions	• MGNREGS	

A. Life

Type of house

The type of house that people live in is one of the easiest things to observe. This is the reason that it is often used in surveys as a correlate of poverty. While housing may depend on the availability of local materials, cultural influences and agro-climatic factors, it is one of the basic requirements for human survival. Table 1 shows the types of houses among the households surveyed.

TABLE 1: TYPE OF HOUSES PEOPLE LIVE IN (%)						
District	Sample size	Kutcha	Semi pucca	Pucca	No response	Total
Gumla	1,190	91.2	7.5	1.3	0.1	100
Hardoi	1,180	36.4	33.7	29.7	0.2	100
Korba	1,175	58.6	34.4	6.9	0.1	100
Nalanda	1,061	23.1	31.3	45.4	0.2	100
Rajgarh	1,178	53.6	32.7	13.5	0.3	100
Sundargarh	1,160	75	20.3	4.4	0.3	100
Udaipur	1,120	50.1	20.2	29.6	0.1	100
Total **	**8,064**	**55.9**	**25.7**	**18.2**	**0.2**	**100**
Bhilwara	1,332	34	15.7	50.2	0.1	100

**Does not include Bhilwara.

The findings reveal that a majority of the people (55.9%) in the seven districts lived in kutcha houses. The people living in semi pucca and pucca houses were 25.7% and 18.2% respectively.

There were huge variations among the districts. In Gumla (Jharkhand) 91.2% of people living in kutcha homes, while the figure for Nalanda (Bihar) was 23.1%. The number of people living in pucca houses was highest in Nalanda at 45.4%, with Hardoi (Uttar Pradesh) next at 29.7%. Bihar was among the top five states to build houses under the targeted rural housing programme, the Indira Awas Yojana (IAY)[19].

Primary cooking fuel

Cooking fuel is another easy to observe item in households. This indicator is also a good correlate of poverty. Better-off people tend to use fuels that do not need time to collect or burn. A large proportion of time of rural household members, especially women and girls, is spent in gathering firewood. This prevents them for using their time for employment, income generation or education. Further, the indoor air pollution caused by smoke from the fuels used by households is considered a serious health risk factor. Half a million premature deaths and nearly 500 million cases of illness are estimated to occur

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[19] Ajwad (2006), based on the 2005 IHDS data.

because of this, children below five years and women appear to be particularly affected. Besides health risks, the use of traditional biomass has other negative social effects—the main being the time spent in collecting biomass fuel[20]. Table 2 summarises the key PAHELI 2011 findings on the main types of fuels used.

TABLE 2: MAIN TYPES OF PRIMARY COOKING FUEL (%)				
District	Sample size	Sticks and firewood	Coal	Kerosene
Gumla	1,190	99.4	0.1	0.8
Hardoi	1,180	98.2	0.9	0.1
Korba	1,175	96.4	6.7	1.9
Nalanda	1,061	93.5	6	2.2
Rajgarh	1,178	97.1	0.3	0.7
Sundargarh	1,160	96.7	4	1.2
Udaipur	1,120	97.4	2.5	6.9
Total **	**8,064**	**97**	**2.9**	**1.9**
Bhilwara	1,332	99.5	2.5	3.2

**Does not include Bhilwara.

The findings reveal that 97% of the rural households surveyed used sticks (including dried twigs and grasses) and firewood as the main household fuel. There was not much variation across the seven districts. Only 1.9% of the households reported using kerosene as a cooking fuel, with the highest usage in Udaipur at 6.9%.

In Bhilwara, as in the other districts, sticks and firewood were the most prominent cooking fuel used by 99.5% of the households .

TABLE 3: MULTIPLE COOKING FUELS Percentage of households using multiple cooking fuels							
District	Sample size	%					
		Only one	Two	Three	Four	No response	Total
Gumla	1,190	96.7	2.9	0	0	0.4	100
Hardoi	1,180	94.2	5.7	0	0	0.1	100
Korba	1,175	89.9	9	0.8	0	0.3	100
Nalanda	1,061	90.3	8.2	0.7	0.4	0.4	100
Rajgarh	1,178	93.7	5.9	0.2	0	0.2	100
Sundargarh	1,160	94.6	4	0.5	0.1	0.8	100
Udaipur	1,120	83.4	14	1.8	0.8	0	100
Total **	**8,064**	**91.9**	**7**	**0.6**	**0.2**	**0.3**	**100**
Bhilwara	1,332	87.6	10.6	1.1	0.7	100	100

**Does not include Bhilwara.

[20]UNDP/World Bank (2001): "India: Access of the Poor to Clean Household Fuel". http://siteresources.worldbank.org/INDIAEXTN/Resources/Reports-Publications/Access-Of-Poor/FullReport.pdf

Most rural households use multiple energy sources for cooking. According to 1993-94 and 1999-2000 National Sample Survey (NSS) data, many households use modest quantities of kerosene for cooking, augmenting this with some biomass fuel or fuels[21]. What we found in the PAHELI 2011 survey was that only 14% of the households among the 7% that used two types of fuel, used kerosene alongside sticks and firewood. There were variations among districts for multiple cooking fuels, that is, the use of a combination of firewood, biomass fuels or other fuels or a gas stove. In Udaipur, 14% of the households used two types of cooking fuel, while the figures for Korba and Nalanda were 9% and 8.2% respectively.

Other studies, in India and elsewhere, support the observation that traditional and modern fuels increasingly coexist in the household energy mix. The social advantages of partial fuel switching-where wood continues to be used but is partially substituted by cleaner fuels-such as health benefits and time savings for women and children need to be better understood. The health benefits of a smoke-free indoor environment achieved by full fuel conversion are likely to be compromised by partial fuel switching, but the exact effects of different combinations of fuels and stove technologies are not known.

The benefit in terms of time savings, however, is broadly consistent with the amount of biomass used and accrues to women even with partial fuel switching. To the extent that partial fuel switching is the first step towards full fuel switching and may accelerate the process, efforts to promote it may be justifiable even if its immediate social benefits are limited.

Food

Dietary inadequacy and a high level of adult malnutrition (around 30%) are among the nutrition challenges acknowledged in India's 11th Five-Year Plan. Clearly, women are one of the most vulnerable groups in this context[22].

PAHELI 2011 took a close look at the food consumption of rural adult women in the districts that were surveyed. In usual studies of nutrition, the 24-hour diet recall or food frequency approaches are used to survey diets. In the former, the respondent is asked to recall everything that was consumed in the last 24 hours. Standardisation is carried out to estimate the exact food and nutrient intake. The food frequency method, as the name suggests, focuses on assessing the frequency of consumption.

In view of the fact that PAHELI 2011 was intended to be a people's

S.No.	Food product (Ingredient)	Write code (1=Yes; 2=No; ot eat;)
1-	Rice, Roti made of Atta/bajra/ makki/maida, Bread/pav	
2-	Curd, Paneer, Butter milk, Khoa	
3-	Milk (alone)	
4-	Milk in tea	
5-	Green leafy vegetables: Methi, Palak, Saag etc	
6-	Any other vegetable (other than potato, tomato and onion)	

[21]UNDP/World Bank (2001): "India: Access of the Poor to Clean Household Fuel". http://siteresources.worldbank.org/INDIAEXTN/Resources/Reports-Publications/Access-Of-Poor/FullReport.pdf
[22]Planning Commission (2007): "Nutrition and Social Safety Net", Eleventh Five Year Plan (2007-12), Vol. II. http://planningcommission.nic.in/plans/planrel/fiveyr

assessment, the challenge was to capture information about diets (food intake) and keep the tool simple and easily useable.

In the PAHELI 2011 survey, respondents (adult women) were asked to recall their food intake in the last 24 hours. Based on this, we recorded which foods (pertaining to nutritional food groups) were consumed at least once during the day. Ideally, 24-hour recall is conducted for at least two days, one of which is a weekend day. Unless there was an exception like a feast or fast in the family, the PAHELI 2011 food intake tool could give information on whether a food item was consumed by adult women in the past 24 hours.

Table 4 presents the findings on food intake by adult women in the PAHELI 2011 districts. Besides this, it also provides information on the recommended daily food intake as per the National Institute of Nutrition (NIN)[23]. This specifies the number of portions of each food group that should be consumed daily along with the amount that constitutes one portion. *While the NIN norms cannot be directly applied to or compared with the PAHELI 2011 data, it is useful to know the desired food intake the experts prescribe.*

Broadly speaking, in a nutritional sense, cereals and millets are energy-giving foods; milk and milk products and pulses are body-building foods; and vegetables and fruits are protective foods that provide micronutrients, which are required in relatively small quantities but are essential for protection against diseases.

From Table 4, it can be seen that almost all surveyed women consumed cereals at least once during the day. Across the seven districts, more than 70% of the women also consumed pulses (dal) and vegetables (non-green leafy vegetables) at least once a day.

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[23] National Institute of Nutrition (2011): "Dietary Guidelines for Indians".

| | | What women (%) consumed at least once a day | |
| District | Sample size | Cereals and millets | Milk and milk products | Pulses/ dal | Green leafy vegetables | Other vegetables | Fruits | Green vegetables, other vegetables and fruits (protective foods) |
		Energy-giving foods	Body-building foods		Protective foods			
Gumla	1,182	99.5	0.6	77.3	63.7	85.1	3.1	1.1
Hardoi	1,175	97.6	14.3	65.5	14.7	78.6	8.2	0.9
Korba	1,168	99.7	3.4	76.5	71.1	78.3	2.9	1.8
Nalanda	1,056	99.6	18.5	73.5	48.2	73.9	3.6	2.4
Rajgarh	1,169	92.2	13.7	90.8	35.9	41.7	8.0	1
Sundargarh	1,144	98.2	3.1	63.3	61.2	74.9	3.1	0.8
Udaipur	1,117	99.4	30.8	63.2	60.6	64.7	1.4	0.7
Total **	8,011	98.0	11.9	73.9	50.7	71.0	4.4	1.1
Bhilwara	1,331	98.7	60.2	65.4	14.7	61.3	4.6	0.9

The table gives the proportion of women who consumed a particular food group at least once a day. For example, in Gumla, 99.5% of the women consumed cereals at least once a day and 0.6% consumed milk and milk products at least once a day. The last column gives the percentage of women who consumed all the protective foods providing micronutrients at least once in the last 24 hours. For example, in Gumla, such women were only 1.1%. **Total does not include Bhilwara.

| As per National Institute of Nutrition recommendations, an adult woman should consume the following number of portions of food every day* |
	Cereals and millets	Milk and milk products	Pulses/ dal	Green leafy vegetables	Other vegetables	Fruits
Recommended daily intake of portions*	9 to 17	3 to 5	1 to 5	1 to 1.5	2	1 to 2
Portion size (g/ml)	30	100	30	100	100	100

*"Dietary Guidelines for Indians", 2011. The NIN, which comes under the Indian Council of Medical Research, recommends portions of food groups to be consumed by adult Indian women. The range represents values for adult women doing various physical activities and in different physiological states such as pregnancy and breast feeding.

Among vegetables, green leafy vegetables (GLVs) are a rich source of antioxidants, fibre and carotenoids, precursors to vitamin A. Vitamin A is an essential micronutrient that is instrumental in various physiological functions. Vitamin A deficiency can cause the body to malfunctions. One such fallout is night blindness and eventually complete blindness. A national programme to address vitamin A deficiency and nutritional blindness has been in operation since 1970[24].

[24] To combat and prevent vitamin A deficiency, the Government of India in 1970 initiated the National Prophylaxis Programme against Nutritional Blindness in seven states. Under it, a massive dose of vitamin A solution (200,000 IU) was given every six months to children one to five years of age. The programme was extended to other states in 1975. In 1992, it was confined to children between nine months and three years (first dose of 100,000 IU at nine months, along with measles vaccine; a second dose of 200,000 IU at 18 months of age, along with a booster dose of DPT and OPV; and three doses of 200,000 IU every six months until 36 months of age). In 2007, the age group

Consumption of green leafy vegetables was relatively poor across the seven survey districts. Almost half the women (50.7%) did not consume them even once against the recommendation that at least 100 grams be consumed every day. The proportion of women consuming green leafy vegetables once during the day ranged from 14% (Hardoi) to 71% (Korba).

Consumption of fruits, milk and milk products was very poor among women across the seven districts. Almost 95% of the women did not consume any fruit and almost 80% did not consume any milk or milk products even once a day.

Overall, half the women across the seven districts did not consume foods from three of the nutritional food groups—milk and milk products, green leafy vegetables and fruits—even once a day. Consumption of fruits was especially poor, with around 95% of the women not consuming any against a recommendation of one to two portions (100 g to 200 g) every day. In Rajgarh, half the women did not consume foods from four of the six nutritional food groups asked about, even once. In Nalanda and Hardoi such insufficience was found in three food groups and in Udaipur, Sundargarh, Korba and Gumla inadequacy was detected in two food groups.

Bhilwara presented a relatively better picture. Cereal consumption, as in all other districts, was almost universal. Almost 60% of the women consumed milk and milk products, pulses and non-green leafy vegetables at least once a day. Consumption of green leafy vegetables, however, was only 14.7% and that of fruits only 4.6%.

As per recommendations, an adult Indian woman, irrespective of the nature of physical activity she is involved in or the physiological state she is in, should consume at least 300 ml of milk and milk products and 100 grams each of green leafy vegetables, other vegetables and fruits daily.

Vegetables and fruits are categorised as protective foods. They do not contribute to the bulk of energy requirements but are a source of the essential vitamins and minerals (micronutrients) that are required in minute amounts and play a critical role in maintaining body functions. There have been national programmes in the country to combat and prevent micronutrient deficiencies such as vitamin A deficiency, anaemia and iodine deficiency disorders. Inadequacies in diets have been acknowledged as a challenge in national planning and policy documents. The overall consumption of protective foods was very poor. *Women who consumed fruits and vegetables once a day were only 1.1% across the seven districts.* The situation was no different in Bhilwara.

In summary, the diets of a majority of rural women were dominated by cereals and pulses. The consumption of milk and milk products was low. Diets were also lacking in protective foods such as green leafy vegetables and fruits.

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was broadened to include children up to five years of age. In 1993, the National Nutrition Policy proposed supplementation as a direct intervention to combat vitamin A deficiency. In addition to supplementation, nutrition education and dietary diversification were proposed as long-term indirect strategies to prevent and control vitamin A deficiency disorders.

The PAHELI 2011 survey attempted to look at the nutritional status of women and children. According to the process followed, the equipment for measuring height and weight had to be procured at the village level. This had to be arranged from village anganwadis and/or health centres (wherever available or where functionaries cooperated). Every village is supposed to have an anganwadi. Data on height and weight could be obtained only for 1,318 women though almost 8,000 of them were respondents across all the districts. This was mainly due to difficulties in finding the required equipment in the villages. Therefore, district-level analyses were not feasible. Based on the data that was collected, we find that chronic energy deficiency across the districts was 65.9% (BMI <18.5)[25]. The nutritional status of children will be discussed in the maternal and child health section.

Land ownership, livestock and household possessions

In an attempt to assess the economic status of rural households, PAHELI 2011 asked each sample household about physical assets such as land, household possessions, livestock and means of transport.

The PAHELI 2011 tool kit distinguishes between different categories of household items according to price. There are three tables that summarise the data collected. Table 5 reports the findings on land ownership, Table 6 provides information on livestock possessions and Table 7 on transportation assets. It is important to mention that the data for land, livestock and household possessions is based on a large number of responses, but in the case of transportation, the percentage of missing values is rather high. This should be kept in mind while drawing implications related to transportation assets.

TABLE 5: LAND OWNERSHIP						
		Percentage of households				
District	Sample size	No land at all	Some land	Do not know	No response	Total
Gumla	1,190	7.4	89.1	1.3	2.3	100
Hardoi	1,180	13	86.1	0.6	0.3	100
Korba	1,175	18.7	78.9	2	0.4	100
Nalanda	1,061	41.4	55.1	1.4	2.1	100
Rajgarh	1,178	14.9	81.4	0.8	2.9	100
Sundargarh	1,160	13.4	84.2	0.8	1.6	100
Udaipur	1,120	10	88.8	0.6	0.5	100
Total **	**8,064**	**16.7**	**80.8**	**1.1**	**1.5**	**100**
Bhilwara	1,332	5.5	92.5	0.5	1.5	100

**Does not include Bhilwara.*

Land is the fundamental means of production in an agrarian society. An understanding of the pattern of ownership of land and operational holdings is, therefore, of central importance to understanding productive employment opportunities and income-generating possibilities in agriculture.

[25]The BMI is a simple index that is calculated by weight (kg) divided by height (in metres) squared. Individuals with BMI less than 18.5 are considered to be chronic energy deficient.

Obtaining accurate data on landholdings in India, in particular, on ownership, is a challenge. Surveys conducted decennially by the National Sample Survey Office (NSSO) are the most important source of information on distribution of landholdings in India. To collect information on land, many questions need to be asked and verified. For the purposes of PAHELI 2011, this was kept very simple. The only question about land that was asked was whether the household owned any or not.

The findings (Table 5) reveal that most of the households surveyed owned some land. The figure for all the districts as a whole was 80.8%. The overall figure for households owning no land was 16.7%, but there were variations across districts. In Nalanda, 41.4% of the households surveyed reported owning no land, while the figure for Gumla was 7.4%.

The information on livestock owned by the respondents is provided in Table 6.

District	Sample size	Percentage of households				
		No animals	Goats and lambs	Cows/buffaloes/ oxen	Poultry	No response
Gumla	1,190	3.8	55.5	80.1	55.8	0.7
Hardoi	1,180	17.7	22.8	72.9	1.2	1.4
Korba	1,175	25.3	17.1	62.5	27.9	2.2
Nalanda	1,061	27.4	15.5	53.6	4	8.3
Rajgarh	1,178	13.3	17.1	67.5	0.9	10.2
Sundargarh	1,160	5.2	40.4	67.8	64.2	9.1
Udaipur	1,120	12.3	50.5	72.1	16.2	1.2
Total **	**8,064**	**14.9**	**31.4**	**68.3**	**24.6**	**5.5**
Bhilwara	1,332	7.6	57.8	77	2	3.8

TABLE 6: LIVESTOCK POSSESSIONS

**Does not include Bhilwara.

Livestock is vital to the economies of many developing countries. Animals are a source of food— more specifically, protein in human diets—income and employment. For low-income producers, livestock can be a source of wealth and a means of transport, while providing draught power and organic fertilisers for crop production.

Findings from the survey reveal that cows/buffaloes/oxen were the most common animals owned by households, with 68.3% owning them. The lowest percentage recorded was in Nalanda, Bihar (53.6%).

Goats and lambs were the second most prominent livestock, with an overall average of 31.4% of the households owning them. There were variations among districts in the ownership of goats and lambs. In districts like Udaipur and Gumla, more than 50% of the households reported having goats and lambs.

The third most prominent livestock was poultry, possessed by an overall average of 24.6% of the households having it. But in districts like Gumla and Sundargarh, 55.8% and 64.2% of the households respectively reported having poultry.

TABLE 6.1: MULTIPLE LIVESTOCK POSSESSION								
District	Sample size	Percentage of households						Total
		None	Only one type	Two types	Three types	Four types	No response	
Gumla	1,190	3.8	24.5	29.6	35.9	0.2	6.1	100
Hardoi	1,180	17.3	65.1	15.9	0.3	0	1.4	100
Korba	1,175	25	44.5	21.4	6.8	0	2.3	100
Nalanda	1,061	27.4	55.8	8.2	0.5	0	8.2	100
Rajgarh	1,178	13.3	67.7	8.6	0.3	0	10.2	100
Sundargarh	1,160	5.1	26.5	31.3	27.4	0.5	9.3	100
Udaipur	1,120	12.3	44	32.8	9.7	0	1.2	100
Total **	**8,064**	**14.7**	**46.8**	**21.2**	**11.7**	**0.1**	**5.5**	**100**
Bhilwara	1,332	7.4	42.1	45.2	1.4	0.1	3.8	100

**Does not include Bhilwara.

The findings of table 6.1 reveal that most of the households surveyed or an overall average of 46.8% had at least one type of livestock. Again, there were district-level variations. In districts such as Rajgarh and Hardoi, 67.7% and 65.1% of the households respectively reported having one type of livestock. But 35.9% of the households in Gumla and 27.4% in Sundargarh reported having three types of livestock.

TABLE 6.2: MULTIPLE LIVESTOCK POSSESION BY LAND POSSESSION					
District	Sample size	Ownership of livestock by households with no land		Ownership of livestock by households with land	
		None	Only one type	None	Only one type
Gumla	1,190	21.6	35.2	2.3	23.9
Hardoi	1,180	29.4	54.9	15.4	67
Korba	1,175	57.7	32.7	17	47.6
Nalanda	1,061	37.3	42.5	20.1	67.3
Rajgarh	1,178	44.3	44.9	7.6	73.5
Sundargarh	1,160	16.6	35.7	3.4	24.6
Udaipur	1,120	48.2	33.9	8.1	45.3
Total **	**8,064**	**38.1**	**40.7**	**9.9**	**48.6**
Bhilwara	1,332	34.2	42.5	5.7	42.2

**Does not include Bhilwara.

Table 6.2 reveals that chance of not having any livestock was quite high among households who owned no land with the figure at 38.1%. Among households with land, the figure was less than 10%. In districts like Udaipur, Rajgarh and Korba, the data indicated landless households were very likely to have no livestock as well.

Assets and physical possessions cost money, so their acquisition is determined primarily by household income. Household possessions reflect accumulation over many years and they may be a better indicator of the long-term economic standing of a household than annual measures such as income. Many surveys on non-economic issues rely on household possessions as their primary economic indicator.

Household assets and amenities reflect a household's quality of life. For example, motor vehicles and mass media strengthen a household's connection to the country as a whole. While these amenities improve quality of life, they also demonstrate to family and neighbours that a household has succeeded financially. In modern life, household possessions are both signs of social status and instruments for a better life.

The image below is an extract from the questionnaire; it shows the kind of household items the PAHELI 2011 tool kit collected information on. The following tables provide a quick snapshot of the distribution of physical possessions across households in the survey districts.

3- Household possession

1-Which things does your house hold own?

Do you own a...........Write code (1=Yes; 2=No)					
Categoy A		**Category B**		**Category C**	
		Note: Go to category B, only if the HH has all or most the category A items		Note: Go to category C, only if the HH has all or most the category B items	
Cell phone		Air cooler		Computer	
Pressure cooker		Refrigerator			
Electric fan		Telephone (landline)			
Chair/table		Sewing machine		Washing machine	
Clock/watch		Mixer/grinder			
Cot		T.V.			

TABLE 7: HOUSEHOLDS OWNING CATEGORY A ITEMS								
District	Sample size	Percentage						
		Cell phone	Pressure cooker	Electric fan	Chairs/ table	Clock/ watch	Cot	No response
Gumla	1,190	47.9	12.8	6.7	52.1	77.9	53.2	9.7
Hardoi	1,180	70.4	21.1	16.6	20.8	45.2	99	0.2
Korba	1,175	44.4	22.6	43.7	43.7	81.6	98.8	0.6
Nalanda	1,061	66.8	18.5	31.6	42.9	51.7	91.4	1.2
Rajgarh	1,178	69.1	11.5	62.8	24	68.3	97.6	0.9
Sundargarh	1,160	51	16.2	27.2	48.4	69.1	94.7	2.6
Udaipur	1,120	60	21.5	53.5	22.6	69.8	91.3	4.6
Total **	**8,064**	**58.4**	**17.7**	**34.5**	**36.3**	**66.4**	**89.3**	**2.9**
Bhilwara	1,332	79.7	11.6	62.9	20.1	71.8	99.2	0.2

** Does not include Bhilwara.

The findings of table 7 reveal that the items owned by the households surveyed in order of likelihood were cots (89.3%), clocks/watches (66.4%), cell phones (58.4%), chairs/tables (36.3%) and electric fans (34.5%).

TABLE 7.1: HOUSEHOLDS OWNING CATEGORY B ITEMS							
District	Sample size	Percentage					
		Air cooler	Fridge	Landline	Sewing machine	Mixer/ grinder	TV	No response
Gumla	1,190	0.1	0.2	0.4	1.9	0.4	9	9.7
Hardoi	1,180	1.3	0.8	1.1	8.5	0.3	14.6	0.2
Korba	1,175	12.9	4.3	0.9	5.9	3.4	32.4	0.6
Nalanda	1,061	0.8	0.8	0.4	7.9	1.5	15.9	1.2
Rajgarh	1,178	1.3	1.3	2.5	9.3	1.8	27.2	0.9
Sundargarh	1,160	4.8	2.6	0.7	3.2	4.8	18.7	2.6
Udaipur	1,120	2.5	3.6	1.8	7.1	5.8	19.6	4.6
Total **	**8,064**	**3.7**	**1.9**	**1.1**	**6.2**	**2.0**	**19.7**	**2.9**
Bhilwara	1,332	3.5	2.6	2.9	14	5.6	22.1	0.2

**Does not include Bhilwara.

Other than televisions, the percentage of households that owned category B items was very low as is seen in table 7.1. Overall, 19.7% of the households owned a television. The figures in Korba and Rajgarh for this were 32.4% and 27.2% respectively.

What possessions do landless households have? Table 7.2 provides information on the possessions of households that did not own any land.

TABLE 7.2 : POSSESSIONS OF LANDLESS HOUSEHOLDS				
		Percentage of households with no land		
District	Sample size	Owning at least 5 category A items	Owning at least 5 category A + at least 3 category B items	Missing
Gumla	88	18.2	0	10.2
Hardoi	153	5.9	0	0.7
Korba	220	24.5	17	2.3
Nalanda	442	9.7	0	2.3
Rajgarh	176	21.6	4.9	1.7
Sundargarh	157	16.6	15.2	4.5
Udaipur	112	33	11.1	7.1
Total **	**1,348**	**16.5**	**8.3**	**3.2**
Bhilwara	73	26	21.06	0

**Does not include Bhilwara.

Across all districts, 16.5% of the landless households had at least five category A items. But in districts like Nalanda and Hardoi, the figures were as low as 9.7% and 5.9% respectively. This implied that the landless families in these districts did not have even basic household possessions. The overall percentage for landless households with at least five category A items and at least three category B items was only 8.3%. The district with the highest figure in this group was Sundargarh (15.2%).

Transportation

Transport refers to the activity that facilitates physical movement of goods as well as individuals from one place to another. PAHELI 2011 tried to capture what kinds of transportation assets or vehicles were owned by people in the sample districts.

TABLE 8: PERCENTAGE OF HOUSEHOLDS OWNING VEHICLES					
District	Sample size	Bicycle	Motorcycle	Other*	No response
Gumla	1,190	84.9	11.2	1.3	12.1
Hardoi	1,180	77.6	13.5	13.1	15.8
Korba	1,175	83.1	18.6	3.8	12.8
Nalanda	1,061	41.2	8.9	1.2	54.1
Rajgarh	1,178	40.1	22.9	18.2	38.2
Sundargarh	1,160	85.4	13.6	3.9	11.8
Udaipur	1,120	32.3	24.8	2.9	50.5
Total **	**8,064**	**64**	**16.3**	**7.9**	**27.4**
Bhilwara	1,332	83.1	37.5	11.9	24.4

*Other includes cars, trucks, carts, autorickshaws and others. **Does not include Bhilwara.

The findings of table 8 reveal that bicycles were the most prominent mode of transportation, with 64%. of households owning them on an average The districts with the highest percentage of bicycles were Sundargarh (85.4%), Gumla (84.9%) and Korba (83.1%).

The second most prominent mode of transportation was motorcycles, with the overall average at 16.3%. The districts where a relatively high percentage of households had motorcycles were Udaipur (24.8%), Rajgarh (22.9%) and Korba (18.6%)

B. Livelihoods

India's Eleventh Five-Year Plan (2007-2012) aimed to achieve inclusive growth in all sectors and to double agricultural growth from 2% to 4% per year. It sought to do this by expanding irrigation, improving water management, bridging the knowledge gap, fostering diversification, increasing food production to ensure food security, facilitating access to credit and increasing access to markets.

The mid-term assessment of the plan, released in July 2010, underscores the urgency of increasing investments in agriculture, as well as of improving access to water and good quality seeds, replenishing soil nutrients, expanding agricultural research and extension, reforming land tenancy systems and facilitating agricultural marketing.

There are several important policies, strategies and acts that provide the framework for agriculture, forestry, rural development and tribal development. For example, the MGNREGS is considered the largest employment programme in the world. Its objective is to provide wage labour and to generate productive assets in the process, which could lead to sustainable livelihood opportunities and gradually reduce dependence on public works programmes.

The National Rural Livelihoods Mission (NRLM), under the Ministry of Rural Development, provides livelihood development opportunities to poor rural families. The NRLM emphasises formation, training and capacity-building of self-help groups and their federations, along with financial services and training.

Finally, the Panchayat (Extension to Scheduled Areas) Act of 1996[26] and the Forest Rights Act of 2006[27] provide a legal framework for transferring rights to tribal communities for natural resource management, while protecting their heritage, rights, indigenous knowledge and cultures.

Understanding the livelihood systems of the poor is crucial to effective poverty reduction. The livelihoods of the poor can never be understood by one-track logic—be it economic, social, technical, cultural or political. Livelihood systems are made up of very diverse elements, which, taken together, constitute the physical, economic, social and cultural universe wherein families live[28].

[26] Provisions of the Act, http://www.indg.in/social-sector/nird/the_provisions_of_the_panchayats_act_1996.pdf_
[27] http://moef.nic.in/modules/rules-and-regulations/forest-conservation/#
[28] Hiremath, B. N. (2007): "The Changing Faces of Rural Livelihoods in India", Paper presented at the National Civil Society Conference on "What it takes to Eradicate Poverty" held during December 4-6, Institute of Rural Management, Anand.

The livelihood section of PAHELI 2011 has made an attempt to understand the livelihood patterns of households in the districts visited. The findings concern the main work activities people are engaged in, migration patterns, bank accounts and links to the national flagship programmes such as the public distribution system (PDS) and the MGNREGS.

Findings

Work patterns

Employment is critical for poverty reduction and for enhancing the social status of people. However, it is potentially empowering and liberating only if it provides opportunities for people to improve their well-being and enhance their capabilities.

In this section, we have made an effort to understand the pattern of rural employment, disaggregated by gender. Table 9 presents a comparative account of employment trends in eight major categories.

TABLE 9: TYPE OF WORK HOUSEHOLD MEMBERS ARE ENGAGED IN (%)											
District	Gender	Sample	Cultivation on own land	Daily wages on other's land	Self-employed artisan	Salaried worker	Daily-wage non-agriculture	Household work	Studying	Others*	No response	Total
Gumla	M	2,210	53.8	6.9	5.5	4.3	7.7	2.3	11	4.4	4.4	100
	F	2,129	27.3	3.3	1.2	1.6	3.7	48	8.5	1.7	5	100
Hardoi	M	2,416	45.3	11.5	10	4.6	8.9	1.8	8.7	7.6	1.5	100
	F	2,041	1.5	0.6	0.8	1.4	0.2	86.6	6.7	1.1	1	100
Korba	M	2,139	37.8	8	4.3	5.3	20	3.4	9.3	10.3	1.6	100
	F	2,045	12.8	6.3	0.6	2.3	6.3	57.7	8.3	4.2	1.5	100
Nalanda	M	2,235	20.2	17.7	10.4	10.9	8.4	3.6	14.5	11.6	2.8	100
	F	1,962	2.8	9.5	1.5	2.5	1.2	66.6	9.3	3.7	3	100
Rajgarh	M	2,110	43.5	15.8	4.4	3.1	10.7	2.5	8.6	8.5	2.9	100
	F	1,979	13.3	9.2	0.4	1.7	2.1	60.9	3.7	4.6	4.1	100
Sundargarh	M	1,977	35.2	6.6	7.3	5.5	12.5	6.1	5.9	12.3	8.8	100
	F	1,973	11.3	5.5	1.8	2.2	4.3	52.9	5.4	4.2	12.7	100
Udaipur	M	1,929	36.7	7.3	10	7.1	18.6	2.8	7.1	9.6	1	100
	F	1,852	16.9	1.9	0.5	1.5	6.3	57.7	8.3	0.4	1.2	100
Total**	M	15,016	39	10.7	7.4	5.8	12.2	3.2	9.4	9	3.2	100
	F	13,981	12.4	5.2	1	1.9	2.7	63.3	6.7	2.8	4.1	100
Bhilwara	M	2,395	37.8	8	4.3	5.3	20	3.4	9.3	10.3	1.6	100
	F	2,311	36	1.6	0.8	2.1	2.1	48.8	2.7	4.6	1.2	100

*Others include self-employed non-artisans, foragers, those looking for work and those not looking for work. **Does not include Bhilwara.

The survey's findings reveal that cultivation on own land was the most prominent work activity among men across all the districts. There were huge district-level variations for this indicator. In Gumla, Hardoi and Rajgarh, more than 43% of the males surveyed reported working on their own land. The only district where this figure was below the overall average of 39% was Nalanda, where only 20.2% of the men reported working on their own land.

Other prominent activities were more district and gender specific. Daily wage labour in agriculture and non-agriculture sectors was quite prominent among men, with an overall average of 10.7% and 12.2% respectively. Daily wage activities on other's land were very prominent in Nalanda (17.7%) and Rajgarh (15.8%)

If cultivating their own land was the main work activity for men, household work was the main activity for women. Across all districts, 63.3% of the women reported doing household work. Household work was evidently a gender-specific activity and the percentage of men engaged in it averaged only 3.2%, apart from in Sundargarh, where it was 6.1%.

Migration

Traditionally, people have sought new life chances in other districts/states when opportunities at home are scarce. Today, entrenched poverty, inequality and political strife in many parts of the country have persuaded growing numbers that the only chance of improving their lot is seeking employment outside, either temporarily or on a permanent basis.

A convergence of interests between economically productive and economically backward geographical locations has fuelled this trend: while the poor desperately need jobs, wealthy regions need workers to plug gaps in the labour market that their own populations cannot. Internal migration is now recognised as an important factor in influencing social and economic development. Indian census data records that in 2001, 309 million persons were migrants based on place of last residence, which constituted about 30% of the total population of the country. This was nearly double the number recorded in the 1971 census (159 million)[29].

PAHELI 2011 made an attempt to understand the migration patterns across the seven districts by gender and also tried to understand where people migrate to. Table 10 has information on the percentage of people who migrated by gender and the average days of migration.

[29]Lusome, R. and Bhagat, R. B. (2001): Trends and Patterns of Internal Migration in India, 1971-2001. http://www.scribd.com/doc/56914468/Trends-and-Patterns-of-Internal-Migration-in-India-1971-2001

TABLE 10: MIGRATION BY GENDER AND AVERAGE DAYS					
District	Individuals surveyed	Gender	Percentage migrated	Average days of migration	Missing (average days)
Gumla	2,210	M	14.2	136.6	20.3
	2,129	F	8	118.6	17
Hardoi	2,416	M	17	127.5	9
	2,041	F	7.1	119.9	17.4
Korba	2,139	M	2.5	136	13.2
	2,045	F	1.3	87.9	15.4
Nalanda	2,249	M	9.9	53.1	29.6
	1,970	F	2	27.4	35.9
Rajgarh	2,110	M	6	94.8	7.9
	1,979	F	4.6	93.2	6.7
Sundargarh	1,985	M	2.6	38.1	24
	1,983	F	1.7	19.5	27.3
Udaipur	1,929	M	17.9	93.9	4.3
	1,852	F	1.2	98.6	0
Total**	29,037	M	10	97.1	16
		F	3.7	80.7	15.9
Bhilwara	2,395	M	14	83.9	5.6
	2,311	F	1.95	98	4.4

**Does not include Bhilwara.*

According to the PAHELI 2011 data, which was based on specific questions that may differ from those used for collection of national migration statistics, men migrated much more than women but the gap between the two genders differed across the districts. The overall average for migration was 10% for men and 3.7% for women.

Variations among the districts were prominent, both among men and women. The districts with the highest migration percentages for men were Udaipur and Hardoi (17.9% and 17% respectively). The districts from which the most women migrated were Gumla and Hardoi, where the figures were 8% and 7.1% respectively.

Except for Udaipur, the average number of migration days for men was higher than that for women. The average number of migration days across the districts for men was 97, while it was 80 for women. Districts with numbers above this average for both the genders were Gumla, Hardoi and Korba.

Destination of migration

The vulnerability of people who cross state boundaries is great if they find themselves at the mercy of contractors. Family members or children left behind in villages do not know where their relatives have gone or how to contact them. Dealing with emergencies, particularly back home, is difficult, especially for those who have migrated over long distances.

Table 11 compares the migration destinations of people from households that possess land with those of people from households that did not own any land.

District	Migration destination	% No land	% Land	District	Migration destination	% No land	% Land
Gumla	Out of block	15.4	7.5	Rajgarh	Out of block	0	7.4
	Out of district	0	12.2		Out of district	23.1	23.2
	Out of state	53.9	69.1		Out of state	76.9	61.1
	Missing	30.8	11.2		*Missing*	0	8.3
Hardoi	Out of block	9.6	4.6	Sundargarh	Out of block	0	20.8
	Out of district	21.2	24.5		Out of district	0	17
	Out of state	67.3	66.6		Out of state	0	30.2
	Missing	1.9	4.3		*Missing*	0	32
Korba	Out of block	0	26.7	Udaipur	Out of block	7.1	13.5
	Out of district	71.4	31.1		Out of district		28.1
	Out of state	0	28.9		Out of state	92.9	68.5
	Missing	28.6	13.3		*Missing*	0	3.36
Nalanda	Out of block	0	4.4				
	Out of district	5.15	13.9				
	Out of state	52.56	65.7				
	Missing	42.31	16.1				
Total**	**Out of block**	4.49	9.1	Bhilwara	Out of block	21.1	9
	Out of district	12.92	18		Out of district	21.1	13.6
	Out of state	59.55	64.3		Out of state	47.4	72.1
	Missing	23.03	8.62		*Missing*	10.5	5.32

**Does not include Bhilwara.

The overall average for people migrating outside their state was 59.6% for those without land and 64.3% for those with land. In districts like Udaipur, those without land (92.9%) migrated out of their state far more than those with land (68.5%).

The districts where out of state migration among those without land was above the overall average were Udaipur (92.9%), Rajgarh (76.9%) and Hardoi (67.3%).

Out of district migration was most prominent in Korba, where 71.4% of those without land migrated outside their district, while the figure for those with land stood at 31.1%.

Financial inclusion of rural women

Indian policymakers have had a longstanding concern with enhancing the access of rural people, particularly the poor, to institutional credit. PAHELI 2011 addressed this issue, particularly the access of rural women to financial services.

Table 12 provides information on the percentage of women who had accounts in banks, post-offices, self-help groups (SHGs) or other organisations.

District	Sample size	Percentage who had an account	Where did the women have an account?				Sample size of others asked about having an account*	Percentage of others who had an account	Of those who had an account, where did they have it?			
			In a bank	Post-office	SHGs	Others			In a bank	Post-office	SHGs	Others
Gumla	1,163	40.4	72.1	15.3	13.2	2.6	693	39.3	80.5	14.7	2.9	0.7
Hardoi	778	33	92.2	3.1	1.6	0.4	521	51.8	93.3	4.1	1.1	0.4
Korba	1,107	33.8	48.7	46.5	6.2	0	733	34.9	59.8	43	1.6	0.4
Nalanda	544	30.2	80.5	6.7	9.8	0	379	34.6	92.4	4.6	0	0
Rajgarh	1,125	27.1	43.3	31.5	24.3	0.7	805	37.6	76.6	13.2	6.3	0.7
Sundargarh	494	39.5	52.8	12.3	32.8	0.5	286	47.2	66.7	21.5	6.7	2.2
Udaipur	1,117	52.1	45	50.2	4.3	1	531	43.3	82.2	15.2	2.6	0.9
Total **	**6,328**	**37.1**	**59.1**	**28.9**	**11.4**	**0.9**	**3,867**	**40.1**	**78.7**	**17**	**3.1**	**0.7**
Bhilwara	1,312	67.2	29	70.6	3	0	417	54.7	67.1	32	3.1	0

TABLE 12: PERCENTAGE OF WOMEN WHO HAD ACCOUNTS

*If the woman in the household did not have any account, any other adult household member was asked. **Does not include Bhilwara.

The findings from the survey reveal that 37.1% of the women in the sample had an account. Districts where the proportion of women who had an account was higher than the overall average were Udaipur (52.1%), Sundargarh (39.5%) and Gumla (40.4%).

In terms of the location of the account, banks were the most prominent sites in almost all the districts (overall 59.1%). The second most prominent location was post-offices, with an overall average of 28.9%. Women who had accounts with SHGs were particularly common in Rajgarh (24.3%) and Sundargarh (32.8%).

If a woman respondent did not have an account, the PAHELI 2011 questionnaire was administered to other members in the household. Though 62.9% of the women did not have an account, 40.1% of the others asked had an account. Again, the chief places to have accounts in were banks (78.7%) and post-offices (17%)

Public distribution system

It is now recognised that the availability of food grains alone is not sufficient to ensure food security to the poor. In addition to the availability of food grains, it is necessary that people get the quantity of food grains they are entitled to and also that they have the means to purchase them.

PAHELI 2011 tracked information on the quantity of food grains received by households in an attempt to shed light on how the PDS system works in the eight districts. Information was also specifically collected with the purpose of looking at whether discrepancies occurred between the quantities households

purchased and the amounts recorded in their ration cards. This was done to note whether phenomena such as leakages, which have affected the PDS and been reported by the World Bank[30], occurred in the districts surveyed.

Table 13 shows the percentage of respondents who had ration cards. To provide a better understanding of the actual number of households that had ration cards district-wise, the first column shows the total number of households surveyed and the second column the number of households that had ration cards.

TABLE 13: HOUSEHOLDS WITH RATION CARDS								
District	Sample size	No. of households with ration card	Percentage with ration card	Percentage with no ration card	No response	Total	No. of cards available	Percentage of cards available
Gumla	1,190	862	72.4	26.7	0.8	100	580	67.3
Hardoi	1,180	636	53.9	12	34.1	100	361	56.7
Korba	1,175	850	72.3	22.4	5.3	100	734	86.4
Nalanda	1,061	506	47.7	3.7	48.6	100	474	93.7
Rajgarh	1,178	1,088	92.4	7.5	0.2	100	590	54.2
Sundargarh	1,160	373	32.2	11.6	56.2	100	264	70.8
Udaipur	1,120	1,088	97.1	2.8	0.1	100	818	75.2
Total**	**8,064**	**5,403**	**67**	**12.6**	**20.4**	**100**	**3,821**	**70.7**
Bhilwara	1,332	1,271	95.4	4.1	0.5	100	797	62.7

*Does not include Bhilwara.

Overall, 67% of the households in the seven districts had ration cards. However, there were wide district-level variations. In districts like Sundargarh, Nalanda and Hardoi, only 32.2%, 47.7% and 53.9% of the respondents respectively reported having ration cards. Districts where the percentage of respondents with ration cards was higher than the overall average were Udaipur (97.1%), Rajgarh (92.4%) and Korba (72.3%).

Table 14 provides information on the discrepancy in goods received by the respondents from PDS shops. This table should be interpreted keeping in mind that it is based on the households that had ration cards and where the entries in ration cards were legible. Information on the quantity of goods purchased was sometimes missing. This may have been because entries were not legible, because a household did not procure a specific item or because an item was not available in a PDS shop. The reference period was a month before these questions were posed in the field. In PAHELI 2011, we asked questions about rice, wheat, oil and sugar[31].

[30] World Bank (2011): Social Protection for a Changing India, Vol. II.
[31] The tool also had a generic category called "Others". But since the number of observations was very low, this data has not been reported.

TABLE 14: QUANTITY BY RECALL VERSUS RATION CARD							
	Rice (sample size: 1,771)				Wheat (sample size: 1,296)		
District	Household sample	Quantity mentioned by the respondent SAME as ration card entry	Quantity mentioned by the respondent HIGHER than the ration card entry	Quantity mentioned by the respondent LOWER than the ration card entry	Household sample	Quantity mentioned by the respondent SAME as ration card entry	Quantity mentioned by the respondent LOWER than the ration card entry	Quantity mentioned by the respondent HIGHER than the ration card entry
Gumla	351	36.8	4.9	58.4	2	100	0	0
Hardoi	148	46.6	12.8	40.5	131	56.5	7.6	35.9
Korba	636	97.3	0.9	1.7	46	97.8	2.2	0
Nalanda	226	54.4	7.1	38.5	229	69.4	7.9	22.7
Rajgarh	191	67	13.6	19.4	329	61.4	17	21.6
Sundargarh	197	93.9	4.1	2	22	86.4	4.6	9.1
Udaipur	22	90.9	4.6	4.6	537	84.5	5.4	10.1
Total**	1,766	71.9	5.3	22.9	1,295	73.7	8.8	17.5
Bhilwara	NA				292	95.6	3.1	1.4

	Oil (sample size: 3,053)				Sugar (sample size: 1,122)		
District	Household sample	Quantity mentioned by the respondent SAME as ration card entry	Quantity mentioned by the respondent HIGHER than the ration card entry	Quantity mentioned by the respondent LOWER than the ration card entry	Household sample	Quantity mentioned by the respondent SAME as ration card entry	Quantity mentioned by the respondent HIGHER than the ration card entry	Quantity mentioned by the respondent LOWER than the ration card entry
Gumla	522	94.3	0.1	4.5	6	83.3	0	16.7
Hardoi	260	64.6	5	30.4	84	58.3	3.6	38.1
Korba	485	87.6	3.1	9.3	580	88.5	2.2	9.3
Nalanda	434	14.3	0.7	85	4	0	0	100
Rajgarh	462	84.2	2.4	13.4	168	60.1	14.9	25
Sundargarh	210	96.7	0.5	2.9	140	87.9	2.1	10
Udaipur	680	96.2	0.7	3.1	140	93.6	2.1	4.3
Total **	3,042	78.4	1.7	19.9	119	82.2	4.2	13.6
Bhilwara	670	97.2	1	1.8	9	89	0	11.1

*Does not include Bhilwara.

Depending on the district, we observed differences between what respondents recalled and what they received according to the entries in the ration cards. In Korba, Sundargarh and Udaipur the discrepancies were low across all food items.

85% and more households in these districts said that what they received was what the ration card said. But in Gumla, Hardoi, Rajgarh and Nalanda the discrepancies were high.

In terms of the amounts recalled by the respondents being lower than the amounts in the ration cards, the case of Nalanda stood out for all goods with the percentages ranging from 22% to 100%. For oil, 85% of the respondents in Nalanda recalled a quantity that was lower than what was written on the ration card. It is also worth noting that 100% of the respondents in Nalanda recalled quantities of sugar purchased lower than what was written on the cards, which could indicate leakages in distribution[32].

The overall average of the households that reported receiving lower quantities of rice was 22.9%, wheat 8.8%, oil 19.9% and sugar 13.6%. The Government of India itself admits that leakages and diversions from the PDS are high, estimated in the most recent evaluation at 58% for BPL grains (data from 2011)[33].

Compared to the others, the household provision in which the highest percentages of discrepancies were recorded between the quantities recalled and the quantities registered in the cards was rice (58.4% in Gumla and 40.5% in Hardoi). Rice was also the good with the lowest percentage of the two amounts being equal (71.9%).

Despite these problems in the PDS system, a number of states are strengthening PDS implementation. Improved performance can be seen in some cases such as districts in Chhattisgarh and Rajasthan, which have data distinct from that of other districts.

Lessons

The exploration of household links to the PDS as done in PAHELI 2011 generated several important learnings. Given the current debate on food security, it is important that independent analyses of PDS functioning are carried out. If such assessments are to be done by ordinary people, the tools and methods must be robust, the focus must be on core issues and the process must generate data that is useful.

A major issue that emerges from the current exercise is that it is not clear why many households do not have ration cards (the figure was 25% in Gumla and 20% in Korba). Interestingly, in Korba, the discrepancy between quantity recorded and quantity received was low, indicating good delivery. However, it is curious why a fifth of all households were outside the PDS net. Further, 21.1% of the households did not respond to the question "Do you have a ration card?". In Hardoi and Nalanda, the figure was very high at 36% and 49% respectively. This needs to be probed further.

(*MGNREGS is dealt with in a separate section*)

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[32]It is worth noting that a very high percentage of leakages were found in Bihar in a study conducted by the World Bank (2011).

[33]World Bank (2011): "Diversion and Leakage in the PDS", p. 40, Social Protection for a Changing India, Vol. II.

Concluding thoughts: Life and livelihood

To bring the discussion back to the starting point, let us look at how PAHELI 2011 has helped us understand the current status of human development in the seven districts and how far we have come in terms of the measureable MDGs.

CORRELATES A. LIFE:	Type of house Land ownership Livestock Transport	Cooking fuel Food Intake Household possessions

- Type of house: A majority of the people lived in kutcha houses; the figure for all districts together was 55.9%.
- Cooking fuel: 97% of the rural households surveyed used sticks and firewood as a fuel.
- Land ownership: Most of the households surveyed owned some land (80.8%). PAHELI did not collect information on the amount of land owned.
- Food intake: The figure for chronic energy deficiency among adult women was 65.9% (BMI< 18.5).
- Livestock: Cows/buffaloes/oxen were the most common animals owned by households; 62% of them owned these animals.
- Household possessions: Overall, landless households who had at least five category A items (basic household possessions) was 16.5%. In districts like Nalanda and Hardoi, the figure was very low, which implied that people there did not even have basic assets.
- Transport: Bicycles were the most prominent mode of transportation, with the overall average across districts being 64%.

B. LIVELIHOOD:	Work Migration Financial inclusion of women Public Distribution System (PDS)

- Work: Cultivation on own land was the most prominent work activity among men while it was household activity among women. 39.4% of the men reported being engaged in cultivation on own land and 63% of the women reported being engaged in household work.
- Migration: Overall, 10% of the men and 3.7% of the women migrated from the districts surveyed. Among men, the average number of days was 97, and among women, 80.7.
- Financial inclusion of women: On the whole, 37.1% of the women reported having an account. Of those who reported having an account, 59.1% had it in a bank.
- PDS-related information: Among those who had ration cards, the quantity of food grains recalled by the people was often found to be lower than the quantity mentioned in the ration cards. Overall, 22.8% reported lower quantities for wheat and rice, 16.6% for sugar and 13.7% for oil.

The approach used in PAHELI 2011 to assess the status of core life and livelihood indicators led to key findings from the districts surveyed on correlates of poverty. The same tool kit can be used to assess the status of such indicators/outcomes in any unit. For example, in a village, PAHELI 2011 can be used to conduct a complete census and create a village report card. For larger units like blocks, a sample survey

can be carried out. In any geographical unit, it is important to assess key measures or observable correlates of poverty periodically, in order to understand whether there are changes in the quality and standard of life of people in general and also to see whether the life of the 'last person in the community'- the absolute final level of reach is improving or not. In this framework of life and livelihoods, the access of households to social protection schemes, their awareness of them and their benefits from them need to be taken into account.

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Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)

Millennium Development Goal

The Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) is considered to be the "largest safety net programme in the world" (World Bank 2011). Enacted in 2005, the act has two main objectives—providing employment to unskilled members of rural households who are willing to work for the minimum wage and creating durable assets at the village level[34]. Compared to previous national schemes, it has several innovative features. They include an emphasis on the employment of women, the provision of facilities such as childcare, drinking water and sheds at work-sites, and payments made via formal channels such as banks or post-offices to prevent fraud and leakages.

[34]http://nrega.nic.in/netnrega/home.aspx

The MGNREGS is one of the most important social sector programmes in India and it was essential that it be included as a component in PAHELI 2011. This was to understand the experience of rural households and their links to the scheme as well as how well it is actually implemented on the ground. In both the village and household questionnaires, one section of PAHELI 2011 was dedicated to the MGNREGS. The PAHELI 2011 survey was carried out during the monsoon (July), a time when very little MGNREGS work was possible. During the period that PAHELI 2011 was in the field, there were few active work-sites in the villages sampled. Hence no tables are included here on those findings. Most of the discussion and analysis in this section is based on households' perceptions and experiences with the MGNREGS.

In PAHELI 2011, the following questions were examined.

- Awareness: Are villagers aware of the MGNREGS scheme and to what extent? Which provisions do they have knowledge of?

- Application: How many people applied for employment and through which channels did they apply?

- Receipt of job card: Was the job card received? How long after the application was it received? Does the applicant have the job card with himself or herself or is it with someone else?

- Participation in work: If the applicant was assigned work, for what duration was he or she engaged in it?

- Payment received: How was the payment processed? Was the minimum wage received? How far was the work-site from the respondent's village?

The table below summarises the basic information about the sample.

TOTAL NUMBER OF MEN AND WOMEN RESPONDENTS		
	Men	Women
Number	1,306	5,313
Percentage	19.7	80.3

The number of women respondents was much higher than men. This was not surprising because the main PAHELI 2011 respondent was an adult woman. Since the sample has this issue of "self-selection", the findings are not disaggregated by gender.

Table 1 outlines the findings on awareness of the scheme.

TABLE 1: THOSE WHO WERE AWARE OF MGNREGS (%)			
District	Sample size	Aware of the scheme	Of those who were aware, those who knew what the first two provisions were*
Gumla	1,120	35.1	28.5
Hardoi	768	29.3	12
Korba	1,089	47.2	37.9
Nalanda	533	16.9	27.8
Rajgarh	1,086	19.8	28.8
Sundargarh	1,160	26.5	15
Udaipur	955	61.9	27.9
Total	**5,928**	**35.9**	**28.2**
Bhilwara	1,031	67.4	27.6

*These provisions are 100 days of employment per household a year and payment of the minimum wage. ** Total does not include Bhilwara.*

On the whole, 35.9% of the respondents in the seven districts were aware of the MGNREGS scheme. The awareness was far above the average in Udaipur and Bhilwara and far less in Nalanda and Rajgarh. In hindsight, questions could have been differently worded to be more descriptive or state-specific. For example, in Bihar, instead of asking villagers if they were aware of the MGNREGS, they could have been asked if they were engaged in "mitti ka kaam" (working with earth or soil). Such questions would probably have resulted in more accurate findings. In future surveys, it will be important to know what the local terms are for such work so that they can be integrated into the main questions.

Only a small fraction of the respondents knew what the first two provisions of the act were—100 days of work per household a year and payment of the minimum wage. Overall, the average was 28.2% but it was as low as 12% in Hardoi and 15% in Sundargarh.

Table 1 presents a curious picture. The aim of the MGNREGS is to help the poor in rural areas obtain employment. The PAHELI 2011 districts were rural and deliberately chosen for being poorer than the average. As such, they certainly were MGNREGS targets and there should have been more awareness of the scheme. The low awareness in all the districts suggests stronger information and advocacy campaigns are needed to inform more people about the MGNREGS. The questions related to MGNREGS need to be focused further, field tested and improved for future interventions to bear the envisaged results.

The data generated by the PAHELI 2011 exercise on awareness about MGNREGS is thought provoking. The awareness about MGNREGS is not high and the awareness of specific provisions is lower still. Before taking the PAHELI 2011 toolkit forward in subsequent data collection efforts, it will be important to dig deeper into this issue. For example: has the framing of the questions including the language and vocabulary used been a problem? Should this question have been asked of the head of the household who is usually a man rather than to an adult woman (the usual respondent in PAHELI 2011). In this round of PAHELI 2011 we did not explore the reasons for low awareness. Perhaps this will be essential to do in any further rounds of such work.

TABLE 2: THOSE WHO APPLIED FOR WORK AND HOW THEY APPLIED (%)									
District	Those aware of the scheme	Of those who were aware, those who applied for work	How they applied for employment						
			Orally	Written application	Through pradhan/sarpanch	Through rozgar sewak	Others	No response	Total
Gumla	393	27	47.2	34	3.8	5.7	2.8	6.6	100
Hardoi	225	38.2	57	15.1	20.9	4.7	0	2.4	100
Korba	514	34.2	48.3	10.2	23.9	8	1.1	8.5	100
Nalanda	90	30	11.1	44.4	11.1	18.5	7.4	7.4	100
Rajgarh	215	32.6	51.4	14.3	20	1.4	0	12.9	100
Sundargarh	100	40	22.5	10	27.5	10	7.5	22.5	100
Udaipur	591	62.8	27.5	32.9	13.8	21.8	3.2	0.8	100
Total**	**2,128**	**41.2**	**38.1**	**24.5**	**16.3**	**13.1**	**2.5**	**0.8**	**100**
Bhilwara	695	75.8	36.8	42.3	4.9	14.2	1	0.8	100

** Total does not include Bhilwara.

Less than half the people aware of the scheme applied for work under the MGNREGS (41.2%). In the two districts of Rajasthan that were surveyed, Udaipur (62.8%) and Bhilwara (75.8%), the figure was much higher. The district with the lowest percentage of applicants was Gumla (27%).

The most common method of applying for work was oral (38.1%), followed by applications in writing (24.5%). In Sundargarh, the most common way people applied for work was through pradhans or sarpanchs (27.5%).

The percentage of applicants from scheduled tribes (STs), scheduled castes (SCs) and other backward classes (OBCs) is shown in Table 3.

TABLE 3: CASTES OF THOSE WHO APPLIED FOR WORK							
District	Sample Size	Castes of respondents who applied for work (%)					
		ST	SC	OBC	Others	No response	Total
Gumla	106	50.9	8.5	17	8.5	15.1	100
Hardoi	86	3.5	43	40.7	12.8	0	100
Korba	176	68.8	5.7	23.3	1.1	1.1	100
Nalanda	27	7.4	44.4	25.9	18.5	3.7	100
Rajgarh	70	7.1	12.9	64.3	14.3	1.4	100
Sundargarh	40	37.5	42.5	12.5	5	2.5	100
Udaipur	371	65.8	5.7	11.6	17	0	100
Total **	**2,128**	**50.7**	**13.1**	**22.2**	**11.6**	**2.4**	**100**
Bhilwara	527	11.8	30.2	53.7	3.4	1	100

**Does not include Bhilwara.

There was no big difference between households cultivating their own land whether they had applied for work or not. But if we look at it district-wise, there was some difference in Gumla, Nalanda and Bhilwara, where households with land were less likely to apply for work. In the other districts, the pattern, if any, was the reverse—households cultivating their own land were slightly more likely to apply for work under the MGNREGS.

The other difference was in the daily wage category. Those from this category who applied for work (10.5%) were more than those who did not (7.9%). This may have been because households that mainly rely on daily wage labour have an uncertain source of income compared to households that cultivate their own land. So it may have been worth their while to apply for MGNREGS work. District-wise the differences were larger. In Gumla, Hardoi and Nalanda, the difference between those who applied for work and those who did not, was quite remarkable in households that relied on wage labour. Indeed, in these three districts, the percentage that applied for work was two or three times (Gumla) the percentage that did not.

So wage labour on others' land was the category where the most differences between the two types of households were found and this was very evident in some of the districts. The data did not show any other difference between households that applied for work and those that did not.

To understand who applied for MGNREGS work, we looked at applications from different households by type of house.

District	Type of house (%)		
	Kutcha	Semi pucca	Pucca
Gumla	10.3	5.1	0
Hardoi	14.3	10.6	6.7
Korba	19.1	11.3	10.9
Nalanda	5.8	6.5	4.1
Rajgarh	8.3	6.9	5.5
Sundargarh	15.5	14.5	16.7
Udaipur	49.3	37.3	23
Total**	**17.9**	**12.9**	**11.5**
Bhilwara	50.7	60.1	46.9

TABLE 5: THOSE WHO APPLIED FOR WORK BY TYPE OF HOUSE LIVED IN

**Total does not include Bhilwara.

More of the MGNREGS applications were from those living in kutcha houses, which was not surprising given that the majority of people in the sample lived in such houses. Further, since households living in kutcha houses could have been poorer than those living in pucca houses, it was understandable that a higher proportion from them applied for work.

In an attempt to grasp how households' assets could be associated with applications for work under the MGNREGS, we created a below the poverty line (BPL) category using some criteria that bear a resemblance to those used by the Ministry of Rural Development. Households that met one of the following criteria were excluded from the BPL category.

- Owning a car, motorcycle, truck, autorickshaw

- Living in a pucca house

- Owning a refrigerator

- Having a landline telephone

Table 6 reports the findings. But it is important to note that the PAHELI 2011 method may underestimate[35] the real number of BPL households.

District	Households that applied for work (%)	
	Non-BPL (PAHELI calculation)	BPL (PAHELI calculation)
Gumla	11.3	9.6
Hardoi	6.7	13.3
Korba	8.8	17.8
Nalanda	3.9	6.4
Rajgarh	6.2	7.9
Sundargarh	17.1	14.9
Udaipur	27.1	47.1
Total**	**12.6**	**16.6**
Bhilwara	48	54

TABLE 6: NON-BPL AND BPL HOUSEHOLDS THAT APPLIED FOR WORK

**Total does not include Bhilwara.

More applications were received from poorer households for MGNREGS work than less poor ones. As the MGNREGS is meant to target poor households, based on the profile of the applicants and the data collected in the course of the survey, we can assume that this aim is being met to some extent.

This section looked at households' awareness of the MGNREGS and the features of those that applied for work under it. On the whole, awareness of the scheme was low and the percentage of applications from those who knew about it was also low. On the other hand, households that applied for work were from what are considered the poorest segments of the population. To a limited extent MGNREGS seems to have met the aim of providing employment to the poor in rural areas . On a final note, it could be worth exploring why many of the rural poor who are aware of the MGNREGS do not subsequently apply for work.

[35]For example, the PAHELI 2011 tools did not collect information on disabilities, which is a criteria looked at by the government in assigning households to the BPL category. Further, the methodology of the Socio Economic Census in Rural Areas assigns deprivation scores to households that do not meet the exclusion criteria from the BPL. This cannot be done to the PAHELI 2011 sample because the tools did not collect such information.

The next section addresses the MGNREGS from a more technical perspective. It provides information on some time-bound indicators such as whether job cards and passbooks were received and how long it took to get them. It also examines how long it took to get work and what the duration of work was. Table 7 provides information on job cards and the time frame within which they were received.

District	Sample size	Applicants who received job cards (%)	Time elapsed between applying for job card and receiving it					
			0-15 days	15-30 days	30-60 days	More than 60 days	No response	Total
Gumla	106	83	30.7	54.6	3.4	9.1	2.3	100
Hardoi	86	57	63.3	24.5	6.1	4.1	2	100
Korba	176	83.5	73.5	20.4	3.4	2	0.7	100
Nalanda	27	70.4	21.1	36.8	15.8	26.3	0	100
Rajgarh	70	91.4	53.1	15.6	4.7	4.7	21.9	100
Sundargarh	40	87.5	37.1	14.3	8.6	20	20	100
Udaipur	371	94.6	65.5	26.2	6	2	0.3	100
Total	**876**	**86**	**59.4**	**27.1**	**5.5**	**4.7**	**3.5**	**100**
Bhilwara	527	98.3	69.5	25.5	4.1	0.4	0.6	100

**Total does not include Bhilwara.

On an average, 86% of those who applied for work received a job card. This was a little lower (57%) in Hardoi. Since a job card is essential to start work, it was important to look at when it was delivered. According to government guidelines, it should be delivered within a fortnight of application.

Barring Gumla, Nalanda and Sundargarh, between 53.1% and 73.5% of the applicants in the other districts received a job card within 15 days. Most of the applicants in Gumla (54.6%) and Nalanda (36.8%) received it within 15 to 30 days. But in Nalanda, a rather high percentage also received it after more than 60 days (26.3%).

In Bhilwara, almost everyone who applied received the job card (98.3%). Most of them received it within 15 days (69.5%) and 25.5% between 15 and 30 days.

Applicants are supposed to be assigned to work-sites not more than 15 days after applying for work. Table 8 shows whether and to what extent this happened in the districts surveyed.

TABLE 8: TIME TAKEN TO RECEIVE WORK								
Districts	Sample size of applicants	Applicants who received work (%)	Time elapsed between applying for work and getting it					
			0-15 days	15-30 days	30-60 days	More than 60 days	No response	Total
Gumla	106	58.5	24.2	56.5	1.6	14.5	3.2	1.6
Hardoi	86	45.4	59	25.6	7.7	0	7.8	100
Korba	176	81.8	68.8	25	4.2	2.1	0	100
Nalanda	27	22.2	33.3	16.7	16.7	33.3	0	100
Rajgarh	70	72.9	54.9	15.7	3.9	9.8	15.7	100
Sundargarh	40	60	25	8.3	4.2	37.5	25	100
Udaipur	371	83.8	74.6	19.6	3.2	1.3	1.3	100
Total **	**876**	**72.7**	**63.6**	**24**	**3.8**	**5**	**3.6**	**100**
Bhilwara	527	96.6	77.8	19.1	1.8	0.4	1	100

**Total does not include Bhilwara.

Overall, the percentage of applicants who received work was 72.7%. It was lower than the average in Nalanda (22.2%), Hardoi (45.4%), Gumla (58.5%) and Sundargarh (60%). The percentage of those who received work in 15 days varied among the districts. In Korba, Rajgarh, Udaipur and Bhilwara, the majority of applicants received work within 15 days, but in Gumla, Hardoi, Nalanda and Sundargarh, the percentages were lower, between 24.2% and 59%.

In Bhilwara, almost all (96.6%) who applied for work received it and the vast majority (77.8%) began work within 15 days.

The MGNREGS is supposed to provide an allowance in two cases—if no work is provided after it is applied for and if work is provided more than 14 days after it is applied for. However, the number of people who received an allowance was only 14; that is, not even 1% of those who were entitled to it.

The MGNREGS states that every household should be given the opportunity to work for at least 100 days a year. Table 9 shows the average number of working days the beneficiaries received.

TABLE 9: DURATION OF WORK RECEIVED						
District	Number of days work lasted (%)					
	0-15 days	15-30 days	30-60 days	More than 60 days	No response	Total
Gumla	21	27.4	37.1	9.7	4.8	100
Hardoi	43.6	33.3	0	15.4	7.7	100
Korba	41	38.2	9	11.1	0.7	100
Nalanda	16.7	33.3	16.7	33.3	0	100
Rajgarh	49	29.4	5.9	5.9	9.8	100
Sundargarh	66.7	8.3	8.3	0	16.7	100
Udaipur	70.4	10	10	6.8	2.9	100
Total**	**55**	**21.2**	**11.5**	**8.5**	**3.9**	**100**
Bhilwara	39.1	17.5	18.5	22.2	2.8	100
Male	84.2	10.8	0	5	0	100
Female	36.6	16.3	20.9	25.4	0.8	100

**Total does not include Bhilwara.

The data does not let us calculate whether the act's requirement was met, but on an average 55% of the beneficiaries managed to work 0 to 15 days and 21.2% between 15 and 30 days. There was some variation among the districts. Nalanda had the highest percentage of people who worked for more than 60 days (33.3%). In Gumla, 37.1% of the beneficiaries worked between 30 and 60 days.

Summing up, it would be fair to say that according to the data collected in the course of the PAHELI 2011 survey, while most of the beneficiaries in Hardoi, Rajgarh, Sundargarh and Udaipur worked for 0 to 15 days, a good number in Gumla, Korba and Nalanda were employed for more days. In Bhilwara, the proportion that worked for more than 60 days was 22.2%.

Table 10 provides information of how payments were processed.

TABLE 10: MODE OF PAYMENT TO BENEFICIARIES (%)								
District	Sample size	Direct bank transfer	Cheque in hand	Cash in hand	Post office	Others	No response	Total
Gumla	62	29	3.2	27.4	16.1	4.8	19.4	100
Hardoi	39	64.1	2.6	0	2.6	0	30.8	100
Korba	144	18.8	29.9	20.8	24.3	1.4	4.9	**100**
Nalanda	6	16.7	33.3	33.3	16.7	0	0	100
Rajgarh	51	21.6	9.8	39.2	2	7.8	19.6	100
Sundargarh	24	12.5	8.3	16.7	33.3	0	29.2	100
Udaipur	311	26.7	1.3	13.2	36.7	6.8	15.4	100
Total**	**637**	**26.4**	**9.3**	**17.9**	**26.7**	**4.7**	**15.1**	**100**
Bhilwara	509	15.1	5.1	16.9	43.8	14	5.1	100

*Total does not include Bhilwara.

There was considerable variation among the districts and looking at an overall average may not be the best way of analysing this information. To avoid fraud and leakages, the MGNREGS states that all payments should be processed via a bank or post office.

Payments were processed through banks 64.1% of the time in Hardoi but with the exception of Gumla (29%), it was well below 30% in all the other districts. The post office was a common option in Korba (24.3%), Udaipur (36.7%) and Bhilwara (43.8%). So the districts where most payments took place according to the requirement (direct bank transfers or post offices) were Hardoi, Udaipur and Bhilwara. In the other districts, a large number of the payments took place in ways not envisaged by the act—in the form of cheques or cash.

Table 11 has information on the average wage received and the average distance of MGNREGS work-sites from villages.

TABLE 11: AVERAGE WAGE RECEIVED AND DISTANCE TRAVELLED			
District	Average wage received (Rs.)	Minimum wage	Average distance (km)
Gumla	101	NA	1
Hardoi	114	99.5	1
Korba	99.5	82.2	1.5
Nalanda	89	83.7	1
Rajgarh	75	87.4	1.6
Sundargarh	88	106	2.4
Udaipur	71	99.5	2
Total **	92.8	NA	1.5
Bhilwara	78.6	99.5	1.3

** Total does not include Bhilwara.

The distance to work-sites in all the districts, with the exception of Sundargarh, met the MGNREGS stipulation that places of work be within five km of villages. The requirement that the minimum wage be paid was not met in Rajgarh, Sundargarh, Udaipur and Bhilwara.

The next two tables provide additional information on job cards and passbooks.

TABLE 12: LOCATION OF JOB CARDS										
Place	Is the job card with you? (%)			If not, with whom is it?						
	Sample size	Yes	No	Mukhiya	Ward panch	Thekedar	Other workers	Rozgar sewak	Others	No response	Total
All seven districts	750	75.8	24.2	13.6	11.7	12.3	3.3	23.4	26	9.7	100
Bhilwara	516	67.8	32.2	6.1	1.8	5.5	0	13.4	72	1.2	100

On an average, 75.8% of the applicants across the seven districts had physical possession of their job cards meeting the act's requirement that job cards be with those who applied for them. Among those who did not have their job card with them, 26% said it was with others, 23.4% said it was with the rozgar sewak and 13.6% said it was with the mukhiya. That fact that job cards were often with local authorities and not with households has been corroborated by the World Bank as well (World Bank 2011). In Bhilwara, the percentage of those who had their job cards with them was 67.8%. Among those who did not have it with them, it was mainly with others (72%). In both these cases, the main description for others was "mate".

TABLE 13: POSSESSION AND LOCATION OF PASSBOOKS											
Place	Do you have a passbook?		If yes, is it with you?	If not, with whom is it?							
	Sample size	Yes	No	Yes	Mukhiya	Ward panch	Thekedar	Other workers	Rozgar sewak	Others	No response	Total
All seven districts	680	79.7	20.3	88.1	13.1	14.8	8.2	6.6	14.8	32.8	9.8	100
Bhilwara	495	95.6	4.4	90	13	0	4.4	2.2	4.4	71.7	4.4	100

The average of workers in the seven districts who had a passbook was 79.7% and 88.1% of them had it with them. The minority (20.3%) who did not have physical possession of their passbook said it was with others (32.8%) or ward panch or rozgar sewak (both 14.8%). In Bhilwara, 95.6% respondents had a passbook and up to 90% of them carried it with them. Among those who did not, it was mainly with others (71.7%). Within others, it was either with a "mate" (70%) or at the post office (30%). However, it is important to note that only 27.8% of those who answered "others" provided further details.

Conclusion

This section of PAHELI 2011 has offered two set of results, one about awareness of the MGNREGS and the other about whether some of its provisions have been fully implemented.

Awareness is a major issue as only 35.9% of the households knew about the MGNREGS and knowledge of its first two provisions was rarer. Therefore, the need to conduct a proper information campaign can not be emphasised enough. The positives aspects are that more people from among SCs, STs, BPL households and households living in kutcha house applied for work. Given that the MGNREGS intends to address the employment needs of the poorest households, it can be surmised that some progress has been made in this direction. Intriguingly, among those who knew of the scheme, less than half (41.2%) applied for work under it. The figure could have been low because the survey was carried out during the monsoon, a time when the demand for labour was not that high. But this is speculation and the issue needs to be studied in depth.

The findings on implementation of the act's requirements show that most of the applicants in Hardoi, Korba, Rajgarh, Udaipur and Bhilwara received work within 15 days of applying for it. In the remaining districts, it took longer. The percentage of applicants who eventually received work varied across the districts. In Gumla, Korba, Rajgarh, Sundargarh, Udaipur and Bhilwara at least 60% of them got work, but in Hardoi the figure was 45.4% and in Nalanda, 22.2%.

According to the act, if no work is provided at all or if it is not provided within 15 days, applicants are to be paid an allowance. A mere 1% of those entitled to the allowance received it.

A main provision of the act is that 100 days of work be assigned to each household a year. Only in Nalanda and Bhilwara did a high percentage of applicants receive work for more than 60 days. In all the other districts, most of the households did not receive more than one month of work.

One of the innovative features of the MGNREGS is the stipulation that payments be made through official channels to prevent fraud and corruption. In Gumla, Hardoi, Sundargarh, Udaipur and Bhilwara, after adjusting for no response, most of the payments took place through either banks or post offices. But in the remaining districts, cheques and cash were handed out to many.

To end on a positive note, the findings on the minimum wage and the distance of work-sites from villages were encouraging. The average distance to work-sites was 1.7 km, well within then the maximum distance of five km set by the act. The minimum wage requirement was met in all but four districts (Rajgarh, Sundargarh, Udaipur and Bhilwara).

SECTION-II
WATER
AND
SANITATION
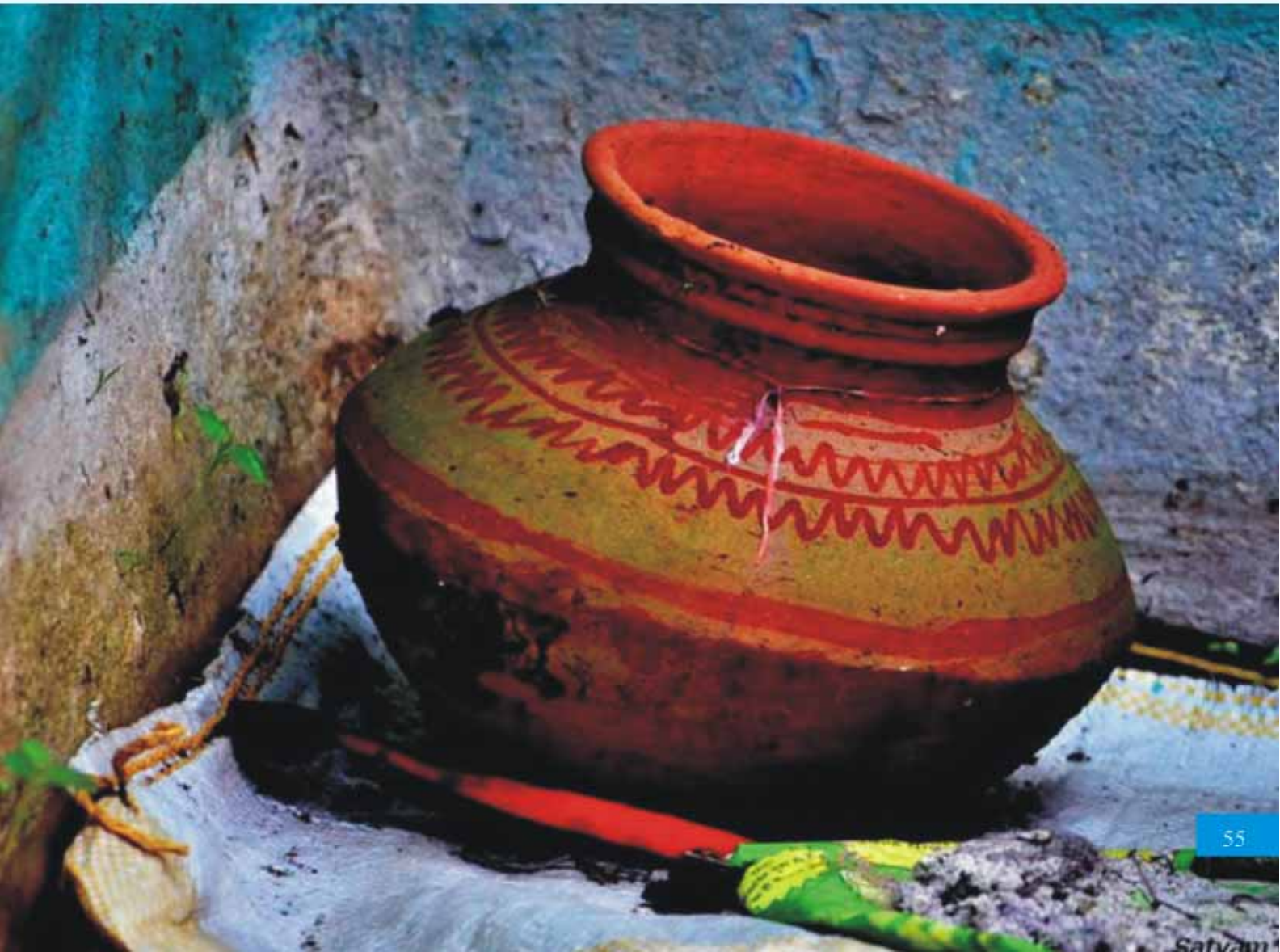
② Water And Sanitation

In 2010, the United Nations recognised universal access to clean water as a basic human right as well as a vital step towards improving living standards[36]. Clean drinking water is a fundamental and essential element of life. Without it, people cannot be healthy or productive. Drinking unsafe water leads to illness, which reduces attendance in school for children and results in lost economic and work opportunities for adults. Where water is not easily accessible, the collection of water becomes a time-consuming process that takes time away from other activities.

Water supply and sanitation in India continue to be inadequate, despite longstanding efforts by various levels of government and communities to improve coverage. According to the Millennium Development Goals India country report 2009, the 2015 target for the proportion of households with access to safe drinking water (83%) was achieved by 2007-08[37]. Census data for 2011 indicates that 82.7% of rural households receive water from a tap or hand pump[38]. Thus, while the share of those with access to an

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[36] http://www.un.org/apps/news/story.asp?NewsID=36308. Last accessed on 2/01/12.
[37] Millennium Development Goals India Country Report, 2005.
[38] 2011 Census Data: http://www.censusindia.gov.in/2011census/hlo/Data%20sheet/Drinking%20Water.pdf

improved water source is relatively high, water quality and reliability remain an issue. For example, most wells that serve as primary water sources for households are uncovered. Further, less than half of the households have access to drinking water within their premises[39].

The lack of sanitation is a major cause of disease throughout the world. Improving sanitation is known to have a considerable positive impact on health in households and across communities[40]. The sanitation situation in India is grave, particularly in rural areas. According to census data 2011, 69% of rural households have no latrine[41]. In fact, the WHO and UNICEF Joint Monitoring Programme estimated that 638 million people living in India practice open defecation – 58% of the worldwide total.

Goal 7C: Reduce by half the proportion of people without sustainable access to safe drinking water and basic sanitation
Target 7.8: Proportion of population using an improved drinking water source **Target 7.9:** Proportion of population using an improved sanitation facility

National Rural Drinking Water Programme (NRDWP)

Goal: "To provide every rural person with adequate safe water for drinking, cooking and other domestic basic needs on a sustainable basis. This basic requirement should meet minimum water quality standards and be readily and conveniently accessible at all times and in all situations."

(Source: NRDWP FAQs, http://rural.nic.in/sites/downloads/our-schemes-glance/FAQsNRDWP.pdf)

Total Sanitation Campaign (TSC)

Features
- A nominal subsidy in the form of an incentive is given to rural poor households for construction of toilets.
- Emphasis on Information, Education and Communication (IEC), Capacity Building and Hygiene Education for effective behaviour change with involvement of PRIs, CBOs, and NGOs.
- Key interventions: Individual household latrines (IHHL), School Sanitation and Hygiene Education (SSHE), Community Sanitary Complex, Anganwadi toilets supported by Rural Sanitary Marts (RSMs) and Production Centers (PCs).

Source: Total Sanitation Campaign, http://tsc.gov.in/RuralSanitationNew/HomePage.aspx

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[39] 2011 Census Data: http://www.censusindia.gov.in/2011census/hlo/Data%20sheet/Drinking%20Water.pdf
[40] http://www.who.int/topics/sanitation/en/. Last accessed on 29/02/12.
[41] 2011 Census data: http://www.censusindia.gov.in/2011census/hlo/Data%20sheet/Latrine.pdf

Water and sanitation in PAHELI 2011 survey: The approach

For PAHELI 2011, it was important to be able to create measurable indicators that could be used by ordinary people. We worked with Arghyam, our partner for this section, to identify basic and essential indicators that were easily measurable and subsequently field tested them in a series of pilots. Based on recommendations from Arghyam and the field pilot experience, we chose to explore the following domains through interactions with households, communities, schools and anganwadis.

HOUSEHOLDS Water	COMMUNITY Water	SCHOOL and ANGANWADI Water
• Quality: Bacterial contamination (faecal coliform testing); satisfaction regarding quality of water. • Ease of access: Type of source, distance from home, time taken to collect water. • Reliability: Duration for which water is available every day; periods of scarcity. • Quantity: Quantity of water available for drinking and other purposes as compared to international standards.	• Location: Mapping water sources in the village. • Quality: Testing fluoride levels at five primary water sources in the village. • Provision: Whether the village has government water supply. • Regularity/dependability: If the water sources in the village provide water throughout the year.	• Quality: Bacterial contamination (faecal coliform testing). • Provision: Whether schools have drinking water facilities (and whether they work).
Sanitation	**Sanitation**	**Sanitation**
• Where household members defecate. • Whether the household has toilets and if they are in use. • Whether the toilets were built under a government scheme. • Perceptions related to causes of diarrhoea.	• Mapping open defecation areas. • Observing the common methods of waste disposal.	• Whether schools and anganwadis have useable toilet facilities. • Whether schools have useable girls' toilets. • If children were observed washing their hands with soap before eating on the day of the survey.

In addition, national standards and international guidelines, including the Rajiv Gandhi National Drinking Water Mission (RGNDWM), the Total Sanitation Campaign (TSC), WHO drinking water guidelines[42] and BIS standards for drinking water[43] have been used for benchmarking purposes.

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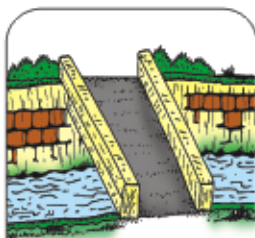
[42]WHO Guidelines for Drinking-Water Quality, 4th Edition:
http://www.bis.org.in/cert/REQUIREMENTSIS14543.htm
[43]BIS standards for drinking water: http://www.bis.org.in/cert/REQUIREMENTSIS14543.htm

Methods and tools

PAHELI 2011 tool

The PAHELI 2011 tools were designed, for the water and sanitation section, to be easy to use, understand and explain—employing pictorial tools wherever possible. During piloting we observed that pictures generated more interest in the villages and made it easier to engage individuals and households. The field pilots were informative, which allowed us to improve the visuals and refine the questions.

1= Tap: inside your home or public	2= Hand Pump	3= Well	4= Reservoir
5= Pond/Lake	6= Canal	7= River	8= Any other (Specify)

Write only <u>one</u> code

Mapping and activity based assessments

Besides pictorial tools, other activity-based assessments also played an important role in generating interest and discussions among individuals and households in the village.

Village water and sanitation mapping

A mapping of community water sources was carried out for each sampled village. Of these, water from five major community sources was also tested for fluoride. The PAHELI 2011 exercise indicated that water mapping is a very good preparatory step in villages — as the process engaged villagers assisting in the mapping exercise spurring discussions surrounding water and sanitation. Similarly, the charting of open defecation areas helped to create awareness and generate curiosity and interest. A few questions asked

of the community at large and some village-level observations by surveyors also helped illuminate some broader issues of relevance for the entire village—such as availability of government water sources and methods of waste water disposal.

Water quality testing

Two types of water quality testing were carried out: fluoride and microbial/bacterial contamination. Five community water sources in every village were tested for fluoride. Microbial/bacterial contamination (faecal coliform) testing was performed in the surveyed households as well as in schools and anganwadis. People were particularly interested in the process of testing and in the results. At the point of data collection, there was a great deal of discussion on water quality, how one could know whether water was safe or clean and what the process of testing entailed. The fluoride levels were available soon after testing allowing us to convey the results to community members who enquired. However, as the microbial testing took 36 hours, it was not always possible to share the results. Going forward, it will be important to devise mechanisms to share the results of the household water quality testing with the households as well as to discuss simple solutions related to water purification and water handling practices.

Findings

A. Water

Sample description

The survey covered 8,080 households across seven districts. In addition, it covered 1,336 households in Bhilwara district. For this specific section, households were mainly asked a series of questions about water and sanitation use and practices. The respondent in each case was an adult female. A breakdown of households throughout the surveyed districts is shown in Table 1. Further, facilities related to water and sanitation in schools, anganwadi centres and health sub-centres were visited. Descriptions of the facilities sampled are provided in Tables 2 to 4.

TABLE 1: HOUSEHOLD SAMPLE DESCRIPTION				
District	Villages visited	community drinking water sources tested for fluoride	Households surveyed	Households where water was tested
Gumla	59	123	1,190	821
Hardoi	58	222	1,180	1,178
Korba	60	216	1,178	1,089
Nalanda	57	254	1,067	1,044
Rajgarh	59	161	1,178	1,087
Sundargarh	54	117	1,167	1,005
Udaipur	56	111	1,120	1,116
Total**	**403**	**1,204**	**8,080**	**7,340**
Bhilwara	68	85	1,336	1,211

** Does not include Bhilwara district.

TABLE 2: ANGANWADI SAMPLE DESCRIPTION				
District	Villages visited	Anganwadis visited	Anganwadis where water was tested	Anganwadis where toilet-related data was collected
Gumla	59	59	48	56
Hardoi	58	56	28	53
Korba	60	55	50	55
Nalanda	57	49	43	48
Rajgarh	59	54	29	51
Sundargarh	54	50	29	43
Udaipur	56	50	34	49
Total**	**403**	**373**	**261**	**355**
Bhilwara	68	55	41	54

** Does not include Bhilwara district.

TABLE 3: SCHOOL SAMPLE DESCRIPTION				
District	Villages visited	Schools visited	Schools where water was tested	Schools where toilet-related data was collected
Gumla	59	57	43	52
Hardoi	58	56	35	56
Korba	60	59	51	59
Nalanda	57	54	50	53
Rajgarh	59	58	33	54
Sundargarh	54	52	28	49
Udaipur	56	56	35	55
Total**	**403**	**392**	**275**	**378**
Bhilwara	68	65	44	63

** Does not include Bhilwara district.

TABLE 4: HEALTH SUB-CENTRE SAMPLE DESCRIPTION			
District	Villages visited	Health sub-centres visited	Health sub-centres where toilet-related data was collected
Gumla	59	14	14
Hardoi	58	13	11
Korba	60	14	12
Nalanda	57	14	14
Rajgarh	59	13	11
Sundargarh	54	13	13
Udaipur	56	25	23
Total**	**403**	**106**	**98**
Bhilwara	68	19	18

*** Does not include Bhilwara district.*

In the survey, questions related to water were based on a few main themes: Quality (fluoride and bacterial contamination, perceptions of water quality), access (in terms of water sources used, distance from water sources and time spent collecting water), reliability (water availability and summer water shortages) and quantity (consumption- litres per capita). The analysis in this section has been divided accordingly and treats each point separately[44].

Quality

Unsafe drinking water is extremely hazardous to health and can lead to widespread acute and chronic illnesses. Diarrhoeal diseases such as cholera, typhoid and dysentery, caused by unsafe water and poor sanitation, are common across the developing world—killing 4,000 children every day[45].

One source of contamination in water is bacteria. Unlike other types, the probability of bacterial contamination is high along the entire water supply chain including at the source and during collection, storage or handling. However, as users do not always purify water, it is difficult to ascertain the point of contamination. Therefore, we decided to test water at the point of use in the surveyed households.

PAHELI 2011 surveyors were instructed to collect drinking water in each surveyed household and test it. An H2S strip test was used to detect the presence of faecal coliform in the water. This test took 36 hours, therefore surveyors were required to label the water sample bottles, store them in kits provided and note down responses at the appropriate time. Table 5 shows levels of contamination in tested samples.

[44] Comparisons to other sources of information (Ministry of Water Resources, Ground Water Board, NSS, NFHS) have been made where possible.
[45] http://www.wateraid.org/international/what_we_do/the_need/6067.asp. Accessed on 30/12/11.

TABLE 5: BACTERIAL CONTAMINATION OF DRINKING WATER					
District	No. of respondents	Percentage of households by drinking water quality			
		Contaminated	Not contaminated	No data	Total
Gumla	1,190	58.7	10.3	31.0	100.0
Hardoi	1,180	82.7	17.1	0.2	100.0
Korba	1,178	76.8	15.6	7.6	100.0
Nalanda	1,067	71.4	26.4	2.2	100.0
Rajgarh	1,178	76.9	15.4	7.7	100.0
Sundargarh	1,167	59.7	26.4	13.9	100.0
Udaipur	1,120	75.1	24.6	0.4	100.0
Total**	**8,080**	**71.6**	**19.3**	**9.2**	**100.0**
Bhilwara	1,336	76.9	13.8	9.4	100.0

* H$_2$S strip test was used to detect the presence the faecal coliforms. ** Does not include Bhilwara district.

On an average, across all districts, close to 70% of households were found to be using drinking water with bacterial contamination. In Hardoi district, the figure was extremely high at 82.7%. Given the background of poor health and malnutrition, the poor quality of water is a critical problem that needs urgent attention. Water quality in terms of bacterial contamination is affected by season. Besides, the location of the testing site and any activity around it (open defecation etc.) may also impact water quality. Additionally, the depth of wells and hand-pumps is also an influencing factor as the deeper they are, the lesser the chance is of contamination (due to more filtration by deeper soil layers). Information on all these influencing factors however, was beyond the scope of PAHELI 2011.

The first few steps towards addressing poor water quality include developing an understanding of safe water, realising the implications of drinking unsafe water and learning about effective methods to purify water before consumption.

Respondents in PAHELI 2011 were also asked about their satisfaction with the quality of water.

TABLE 6: SATISFACTION WITH DRINKING WATER						
District	No. of HH	Percentage of households by level of satisfaction				
		Fully satisfied	Partly satisfied	Not satisfied	No data	Total
Gumla	1,190	73.0	23.9	2.1	1.0	100.0
Hardoi	1,180	79.6	15.2	4.7	0.6	100.0
Korba	1,178	75.5	21.6	2.3	0.6	100.0
Nalanda	1,067	69.1	20.5	9.3	1.1	100.0
Rajgarh	1,178	56.5	36.7	5.4	1.4	100.0
Sundargarh	1,167	78.9	18.4	1.5	1.2	100.0
Udaipur	1,120	37.9	45.8	15.4	1.0	100.0
Total**	**8,080**	**67.4**	**25.9**	**5.7**	**1.0**	**100.0**
Bhilwara	1,336	70.7	19.6	8.9	1.0	100.0

** Does not include Bhilwara district.

One can see a large disparity between the actual quality of water and perceptions regarding it. While 71.6% of the households across the seven districts were found to have contaminated water, 67.4% of the households reported that they were fully satisfied with the water quality. Another 25.9% reported being partially satisfied. Only 5.7% of the surveyed households were not satisfied with the quality of drinking water. This indicates that more efforts need to be made to spread awareness about what safe drinking water is and how people can determine whether their drinking water is safe.

In the case of Bhilwara, 76.9% of the surveyed households had contaminated water and 70.7% of the households were fully satisfied with the quality of water.

Given the relatively high levels of satisfaction with drinking water, it was not surprising that people did not feel the need to purify water. Table 7 gives a summary of the water purification techniques that were observed in the sampled households.

TABLE 7: PURIFICATION OF DRINKING WATER								
District	Sample size	Percentage of HH that purify water			Percentage of HH using each purification method*			
		Do not purify	Use at least one purifying method	No data	Boiling	Adding chlorine tablets/alum	Filter through a cloth	Use filter water
Gumla	1,190	56.7	43.0	0.3	35.3	0.8	15.1	0.4
Hardoi	1,180	98.9	0.8	0.3	0.4	0.3	0.0	0.1
Korba	1,178	27.9	63.7	8.4	3.0	1.2	45.8	2.0
Nalanda	1,067	97.5	2.0	0.6	0.4	0.3	1.0	0.3
Rajgarh	1,178	29.6	69.6	0.8	0.3	0.6	68.5	0.0
Sundargarh	1,167	68.6	29.9	1.5	6.8	0.9	21.9	0.6
Udaipur	1,120	5.9	93.9	0.2	0.0	0.1	93.8	0.1
Total **	8,080	54.8	43.5	1.8	6.8	0.6	35.2	0.5
Bhilwara	1,336	14.5	82.2	3.4	0.2	0.1	81.7	3.4

*Multiple responses were allowed; so percentages do not add up to 100. Filtering through a cloth has been listed as a method of "purification" based on respondents' perceptions. ** Does not include Bhilwara district.*

In Udaipur and Rajgarh, a majority of households purified water using at least one method. However, a closer look at these numbers reveals that almost all the households in these districts only filtered water through a cloth. It is important to note that filtering through a cloth removes suspended particles and

this removes the pathogens attached to the particles to a limited extent. In essence, filtering is the first step, which has to be followed by further disinfection to purify water. Overall, 35.2% of the surveyed households across the seven districts reported only filtering through a cloth. In this respect, Gumla was the only exception with 35.3% of the households reporting that they boiled water. In some districts, such as Hardoi (98.9%) and Nalanda (87.5%), hardly any households purified water through any method.

Other sources of water contamination that can be a cause of concern are fluoride and arsenic[46]. In low concentrations, fluoride has beneficial effects on teeth. However, too much exposure to fluoride in drinking water, or a combination of exposures from different sources, can have negative effects on health. These range from mild dental fluorosis to crippling skeletal fluorosis, depending on the level and time span of exposure. The latter is a considerable cause of morbidity in several parts of the world[47].

As fluoride contamination can only be found at the level of water sources and not in the supply chain, we tested for fluoride contamination only at the village water sources. However, it was not feasible to test every water source in the village as some villages have up to 60 sources. Thus, after all water sources were mapped, the community was consulted and requested to identify five primary water sources in the village. If there were no primary sources in the community (such as in villages with one hand pump for every few houses), five water sources from the village that were representative of smaller sections were selected for testing. Easy to use, fast fluoride tests were procured to reduce the margin of error. Apart from the task of explaining the testing process during training, groups of surveyors were also required to try this test during practice visits to the field in order to familiarise themselves with the procedure. Apart from this, pictorial and written explanations were provided with the survey material.

District	Percentage of community water sources with fluoride above permissible limits			
	Sample size	Below or equal to permissible limit (1.5 mg/l)	Above permissible limit (1.5 mg/l)	Total
Gumla	123	91.9	8.1	100.0
Hardoi	222	99.1	0.9	100.0
Korba	216	94.4	5.6	100.0
Nalanda	254	89.4	10.6	100.0
Rajgarh	161	94.4	5.6	100.0
Sundargarh	117	92.3	7.7	100.0
Udaipur	111	81.1	18.9	100.0
Total**	1,204	92.5	7.5	100.0
Bhilwara	85	76.5	23.5	100.0

TABLE 8: FLUORIDE LEVELS IN COMMUNITY WATER SOURCES

* Where possible, five main water sources were tested in each village. Results are based on the number of water sources that were eventually tested. ** Does not include Bhilwara district.

[46] Fluoride in Drinking Water, WHO, 2006.
[47] Fluoride in Drinking Water, WHO, 2006.

On average, fluoride contamination above permissible levels was recorded in 7.5% of the samples collected across the seven districts. Samples collected from Udaipur (18.9%), Nalanda (10.6%), Gumla (8.1%) and Sundargarh (7.7%) showed substantial levels of fluoride contamination. These are important results, especially because Nalanda and Gumla are listed as fluoride-affected districts by the Ministry of Water Resources (MoWR), Government of India[48]. However Sundargarh does not feature as a fluoride-affected district on the list at the MoWR website. Hence, the results call for an intensive fluoride monitoring exercise in Sundargarh to identify the extent of contamination.

To summarize, microbial/bacterial contamination was high across all districts. Efforts need to be made towards inculcating hygienic practices among the people for collecting, transporting, storing and handling water. In addition, simple purification methods that they can adopt and practice regularly need to be introduced. Fluoride contamination in Sundargarh is an important finding as it does not feature as a fluoride-affected district on the list at the MoWR website. Further research needs to be carried out to understand the extent of contamination.

(In later sections, this report will discuss the findings of bacterial contamination in drinking water in schools and anganwadi centres. The incidence of bacterial contamination in these institutional drinking water sources was also high.)

Access

Access to water is an important issue. If the water source is far from where people live, different members of the household, especially girls and women, spend a lot of time and effort in collecting water.

All households in the survey were asked questions on the primary source of water in order to understand access issues. More importantly, the type of source has a direct bearing on whether water is available throughout the year as well as on the quality of water. For example, while a hand pump may be usable throughout the year, lakes and rivers may dry up for some months in the year leading to scarcity. On the other hand, stagnant ponds may not be a source of clean water.

Table 9 shows the distribution by type of water source for all households, by district.

[48]http://indiawater.gov.in/IMISReports/NRDWPBlockMain.aspx?IDistrict=0065&DtName=NALANDA
http://indiawater.gov.in/IMISReports/NRDWPDistrictMain.aspx?IState=034&StName=JHARKHAND

TABLE 9: PRIMARY WATER SOURCE							
District	No. of households	Percentage of Households by Water Source					
		Tap inside the household	Hand pump	Well (open and borewells)	others	No data	Total
Gumla	1,190	0.6	46.2	49.2	2.2	1.8	100.0
Hardoi	1,180	69.6	25.3	4.7	0.1	0.3	100.0
Korba	1,178	5.7	69.2	19.3	2.7	3.1	100.0
Nalanda	1,067	6.2	85.3	8.2	0.0	0.4	100.0
Rajgarh	1,178	3.5	52.5	32.3	6.7	5.0	100.0
Sundargarh	1,167	2.9	71.1	18.9	4.8	2.3	100.0
Udaipur	1,120	12.1	51.8	25.2	9.6	1.3	100.0
Total**	**8,080**	**14.5**	**56.7**	**22.8**	**4.0**	**2.0**	**100.0**
Bhilwara	1,336	21.3	40.9	24.0	13.3	0.5	100.0

* Results are based on the number of households where surveyors got a response to this question. ** Does not include Bhilwara district.

Hand pumps were the primary source of water (56.7%) for a majority of households in the sample, followed by wells (22.8%). Of the sample, only 14.5% households reported taps (private or public in their homes) as their primary source of water. The 'other'category in the table refers to ponds/lakes, reservoirs, canals and rivers. These have not been classified individually as very few households reported using them.

According to Government of India norms, safe drinking water should be available within a walking distance of 1.6 km or elevation difference of 100 metres in hilly areas. These norms are different if the terrain is arid, semi-arid or mountainous. For the purpose of keeping the tool simple to use and understand, we did not divide distances according to the above classification. However, a broad categorisation was used. Table 10 describes the situation based on distance from primary water source.

TABLE 10: DISTANCE FROM PRIMARY WATER SOURCE							
District	Sample size	Percentage of households according to distance from primary water source					
		In or just outside home	Within 250 m	250 m - 1 km	1 km or more	NA	Total
Gumla	1,190	24.6	54.4	17.5	1.0	2.5	100.0
Hardoi	1,180	79.2	19.9	0.4	0.0	0.4	100.0
Korba	1,178	38.6	47.6	9.5	0.3	3.9	100.0
Nalanda	1,067	69.2	24.7	4.7	0.0	1.5	100.0
Rajgarh	1,178	18.3	42.4	22.9	9.9	6.5	100.0
Sundargarh	1,167	27.4	56.0	12.6	0.3	3.8	100.0
Udaipur	1,120	24.4	44.5	24.0	5.5	1.7	100.0
Total**	**8,080**	**40.3**	**41.4**	**13.0**	**2.4**	**2.9**	**100.0**
Bhilwara	1,336	28.3	39.4	26.4	4.6	1.4	100.0

* Results are based on the number of households where surveyors got a response to this question. ** Does not include Bhilwara district.

According to the NSS 65th round, drinking water facilities within household premises were available in nearly 41% of rural households. On an average, 40.3% of households in PAHELI 2011 districts reported drinking water facilities in or just outside the home. In addition, 41.4% of households reported collecting drinking water within 250 metres of their home. Of the surveyed households, 13% had their primary water source within a distance of 250m-1 km. However, there was variation among districts in the last category—24.0% households in Udaipur, 22.9% in Rajgarh and 17.5% in Gumla reported collecting water from a primary source 250m-1 km away. Overall, it was heartening to note that the proportion of households who had to travel 1km or more to collect water was low at 2.4%. Here too, Rajgarh recorded the highest number of such households at 9.9%, followed by Udaipur at 5.5%.

Another dimension of access to water is the time taken to collect it from the source. Information on this was gathered by asking respondents how much time they spent on each trip to collect water from the primary water source. This task is usually done by women and girls in the family and in cases where the source of water is located far away, this exercise can be physically taxing and lead to a loss of time that can be spent on other activities.

TABLE 11: TIME TAKEN TO COLLECT WATER FROM PRIMARY WATER SOURCE							
District	No. of Households	Percentage of households by time taken to collect water					
		< 15 min	Between 15 min and 1 hour	Between 1 and 2 hours	More than 2 hours	No data	Total
Gumla	1,190	60.8	35.6	1.1	0.4	2.1	100.0
Hardoi	1,180	91.8	7.5	0.0	0.1	0.7	100.0
Korba	1,178	65.1	30.5	1.2	0.0	3.2	100.0
Nalanda	1,067	79.9	17.2	0.8	0.7	1.4	100.0
Rajgarh	1,178	31.2	42.7	16.8	4.1	5.2	100.0
Sundargarh	1,167	64.3	32.2	0.8	0.2	2.6	100.0
Udaipur	1,120	34.6	54.8	6.7	2.6	1.3	100.0
Total**	8,080	61.0	31.5	3.9	1.1	2.4	100.0
Bhilwara	1,336	38.1	52.7	7.3	1.1	0.8	100.0

*** Does not include Bhilwara district.*

Relatively speaking, a large number of households in Rajgarh spent more than 15 minutes in fetching water. (Only 31.2% of the households reported that it took them less than 15 minutes for each trip.) For 42.7% of the households in Rajgarh, the trip took between 15 minutes to an hour, for 16.8% between one and two hours, and for 4.1% more than two hours. Hardoi had the best access with 91.8% of the households reporting that each trip took less than 15 minutes and almost all the rest saying it took between 15 minutes to an hour.

In summary, the most common types of water sources used by households were hand pumps (50%), wells (22%) and taps (14%). On the whole, only a small number of households travelled more than 1 km to collect water. However, the variations across districts were large—Rajgarh and Udaipur had many more

households in this category. Similarly, in the time taken to collect water, only 1.1% of the households reported taking more than two hours to collect water per trip and 3.9% reported taking between one and two hours.

Reliability

While the data from the sampled villages and households indicates reasonably good access to water, it is useful to explore the reliability of these water sources. In some cases, water sources may be in close proximity but the water supply is not necessarily regular.

TABLE 12: FREQUENCY OF DRINKING WATER AVAILABILITY							
District	Sample size	Percentage of households by frequency of availability					
		All the time	Once everyday	Alternate days	Once a week or less	No data	Total
Gumla	1,190	78.6	16.7	0.3	2.4	1.9	100.0
Hardoi	1,180	97.4	1.4	0.5	0.3	0.4	100.0
Korba	1,178	92.6	1.2	0.3	2.3	3.6	100.0
Nalanda	1,067	91.9	5.6	0.2	1.5	0.8	100.0
Rajgarh	1,178	72.5	18.9	1.1	1.9	5.6	100.0
Sundargarh	1,167	93.7	2.7	0.2	0.2	3.3	100.0
Udaipur	1,120	85.6	6.5	5.0	2.7	1.3	100.0
Total **	**8,080**	**87.3**	**7.7**	**1.1**	**1.6**	**2.4**	**100.0**
Bhilwara	1,336	81.8	6.0	7.2	4.3	0.7	100.0

** Does not include Bhilwara district.

87.3% of the households across the seven districts reported that water from their primary source was available all the time, while 7.7% reported it was available only once a day. The number of households that got water only once every day was very high in Rajgarh and Gumla at 18.9% and 16.7% respectively. In comparison, 97.4% of the Hardoi households received water all the time. At 5.0%, Udaipur had the largest proportion of households receiving water on alternate days.

In Bhilwara, 4.3% of the households reported receiving water once a week or less and 7.2% of the households reported receiving water on alternate days.

Households also face problems with specific types of water sources. For example, hand pumps can stop yielding water due to a dip in the water table during summer months. It is for this reason that respondents were asked whether they faced such shortages/scarcity in the summer months and how long these periods of scarcity lasted.

TABLE 13: WATER SHORTAGES IN SUMMER MONTHS							
District	Sample size	Percentage of households by duration of summer water shortages					
		None	Less than a week	1-4 weeks	More than a month	No data	Total
Gumla	1,190	49.6	10.8	4.9	30.6	4.2	100.0
Hardoi	1,180	62.8	29.2	3.6	4.0	0.3	100.0
Korba	1,178	51.8	27.6	8.1	8.7	3.8	100.0
Nalanda	1,067	41.5	29.5	8.3	19.7	1.0	100.0
Rajgarh	1,178	13.0	25.4	12.7	43.0	5.9	100.0
Sundargarh	1,167	20.6	43.0	21.5	6.3	8.7	100.0
Udaipur	1,120	50.2	26.9	11.2	10.2	1.6	100.0
Total **	**8,080**	**41.3**	**27.4**	**10.0**	**17.6**	**3.7**	**100.0**
Bhilwara	1,336	54.1	28.1	6.7	10.6	0.6	100.0

** Does not include Bhilwara district.

Across the seven districts, 41.3% of the households were found to have no water shortages in the summer. However there were enormous variations among the districts. Only 13% of the households in Rajgarh faced no water shortages, while in Hardoi 62.8% did. These variations were also seen in responses by households facing water shortages for over a month. In Rajgarh it was 43.0%, while in Gumla it was 30.6%. Close to 20% of the surveyed households in Nalanda, a drought prone district, also reported water shortages for more than a month, followed by Udaipur (10.2%). Close to one-fourth of the surveyed households in Sundargarh reported water shortages for one to four weeks.

To summarise, the majority of households received water all the time or at least once every day. However, there were disparities across districts. For example, Udaipur had more households in the "alternate days" and "once a week or less" categories.

Quantity

The Rajiv Gandhi National Rural Drinking Water Mission (RGNDWM) has fixed a minimum norm of 40 litres per capita per day (LPCD). The focus in PAHELI 2011 has been on drinking water, water for bathing and sanitation and for cooking and washing.

As it was not easy for surveyors or respondents to provide estimates in litres, questions were asked in measures frequently used such as buckets, lotas and glasses. Thereafter, volumes were calculated based on standard sizes. More details on this calculation are given in the footnote to Table 14.

TABLE 14: AVERAGE WATER CONSUMPTION IN LITRES PER CAPITA PER DAY (LPCD)						
District	Drinking	Bathing	Toilet uses	Cooking	Washing	LPCD
Gumla	1.2	30.0	3.5	6.4	24.1	65.3
Hardoi	1.5	27.0	10.6	4.0	17.7	60.8
Korba	1.6	30.0	10.5	10.7	19.6	72.3
Nalanda	1.8	26.0	6.0	8.5	21.8	64.1
Rajgarh	1.8	24.0	4.5	3.9	20.2	54.4
Sundargarh	1.4	28.0	3.0	10.1	18.9	61.4
Udaipur	1.8	25.0	4.5	5.3	18.2	54.8
Total**	**1.6**	**27.1**	**6.1**	**7.0**	**20.1**	**60.0**
Bhilwara	1.8	21.0	2.2	4.1	17.8	46.8

* Note: The challenge for an exercise like PAHELI 2011 is to be able to translate norms into easily understandable and useable indicators. Therefore, a series of systematic equivalency calculations were based on the data collected on water use employing measures that were familiar in the village. The data reported in the table above were calculated through questions 6 and 7 in the water questionnaire. Respondents were asked how much water they used on a daily basis for drinking, bathing and toilet uses in terms of glasses, lotas and buckets. These numbers were multiplied by standard sizes in litres for each type of container. The bathing question also included frequency of bathing as a response option and responses were calculated taking the bathing frequency into account. Since cooking and washing are done at a household level rather than individually, these estimates were asked for the household as a whole in terms of buckets. Once these quantities were converted to litres they were divided by household size to get an average figure for one member of the household. Thereafter, averages for different categories—drinking, bathing, toilet uses, cooking and washing—were added to get the litres per capita per day (LPCD) figure in the last column of the table. Results are based on answers from 9,416 households. Each water use was asked as a separate question. The following percentages of the entire sample were used to calculate each type of water usage—drinking (85%), bathing (78%), toilet uses (99%), cooking (93%) and washing (98%). These percentages were not 100% because households who did not respond and non-measurable water quantities (for example, from those who mentioned bathing in rivers) were excluded.

When the data collected is translated using the process described above, the estimate for average LPCD consumption for the surveyed population across the seven districts was 60 LPCD, which is greater than that specified by the RGNDWM. The surveyed households in Bhilwara reported the lowest (about 47 litres) average per capita water consumption a day. Hence, it will be important to take another look at this minimum LPCD figure and move towards water security-based planning (as suggested by the NRDWP guidelines) to fix a locally appropriate figure. It is also important to think of how the common water quantity measures in villages can be translated into meaningful data.

B. Sanitation

The UNICEF-WHO JMP 2010 update estimates that 638 million people in India practice open defecation—this means that more than half the world's open defecation occurs in India. Due to the large number of villages practicing open defecation, the focus of the sanitation questionnaire was on locating where people were defecating: in the open, in household toilets or in community toilets. Stress was not placed on the type of toilet (whether this fell into the category of improved or unimproved sanitation). Rather, if a household toilet was located, surveyors were to observe whether it was being used.

Since the focus of the Total Sanitation Campaign has shifted to information, education and communication (IEC) rather than subsidising toilet construction, only BPL families receive subsidies to construct toilets. If a toilet was found in a surveyed household, the respondents were asked whether assistance from a government scheme had been used. Due to the shift to IEC, gauging awareness becomes a measure of the effectiveness of the campaign. Therefore, one question on perception related to diarrhoea was asked.

Sanitation is important not only to human health but also to economic and social development. The primary challenge in India is eradication of open defecation. (Under the Total Sanitation Campaign, the main goal of the Government of India is eradicating the practice of open defecation by 2017[49].) Open defecation can have several negative effects, including pollution of ground water, contamination of agricultural produce and facilitating the spread of diseases such as diarrhoea and cholera[50]. Despite these negative effects, open defecation is practiced widely in India.

District	No. of households	Percentage of households					
		Open defecation	Household toilet	Community toilet	Others	No data	Total
Gumla	1,190	94.5	5.0	0.0	0.0	0.6	100.0
Hardoi	1,180	79.2	19.5	0.0	0.1	1.2	100.0
Korba	1,178	87.0	12.4	0.0	0.0	0.6	100.0
Nalanda	1,067	68.9	29.8	0.3	0.0	1.0	100.0
Rajgarh	1,178	88.5	9.6	0.1	0.1	1.7	100.0
Sundargarh	1,167	90.8	7.4	0.0	0.3	1.5	100.0
Udaipur	1,120	90.5	8.5	0.0	0.0	1.1	100.0
Total **	**8,080**	**85.8**	**13.0**	**0.1**	**0.1**	**1.1**	**100.0**
Bhilwara	1,336	93.6	4.9	0.0	0.0	1.4	100.0

TABLE 15: OPEN DEFECATION VS USE OF TOILETS

*** Does not include Bhilwara district.*

A staggering number of surveyed persons in PAHELI 2011 practiced open defecation—85.8% across the seven districts. Only 13.0% of the surveyed population used a household toilet. Almost no households used a community toilet.

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[49] http://tsc.gov.in/RuralSanitationNew/HomePage.aspx. Accessed on 30/12/11.
[50] Briefing Note: Abandoning Open Defecation, WaterAid.

In Bhilwara, 93.6% of the households reported they practiced open defecation.

A major reason for open defecation in rural areas is the lack of useable toilets, whether in households or communities. The Total Sanitation Campaign has moved away from providing financial assistance for building toilets, except to families living below the poverty line. Whilst there can be other reasons for open defecation, that fewer than one-fifth of the households in the surveyed districts had toilets indicates that toilet availability should certainly be addressed.

TABLE 16: HOUSEHOLDS WITH TOILETS					
District	Number of households	Percentage of households			
		Has a toilet	Does not have a toilet	No data	Total
Gumla	1,190	16.5	75.5	8.1	100.0
Hardoi	1,180	23.1	76.3	0.7	100.0
Korba	1,178	20.5	76.9	2.6	100.0
Nalanda	1,067	34.8	46.2	19.0	100.0
Rajgarh	1,178	12.0	73.9	14.1	100.0
Sundargarh	1,167	8.1	86.0	6.0	100.0
Udaipur	1,120	13.0	86.3	0.8	100.0
Total **	**8,080**	**18.1**	**74.7**	**7.2**	**100.0**
Bhilwara	1,336	8.4	91.2	0.4	100.0

** Does not include Bhilwara district.

74.7% of the surveyed households reported that they did not have a toilet. As per the NFHS-3 (2005-06), 74% of the households in rural areas do not have toilets and as per the NSS 65th round (2008-2009), 65% of rural households do not have toilets. Although 18.1% of households reported that they had a household toilet, only 13% reported defecating in household toilets.

In Bhilwara, 8.4% of the households had toilets.

Studies show that despite having toilets in households, in some cases, members practice open defecation. The reasons for this vary from household to household. Often a toilet has been constructed but there is no regular water supply or proper drainage. In many cases, the constructed toilet has become a storage room. It is also important to understand cultural and social practices related to sanitation. In an attempt to understand whether besides the lack of toilets, resistance to using toilets was contributing to open defecation, the percentage of households that had a toilet not in use was also recorded. Surveyors were asked to observe this, and if it was not possible, the field was left blank.

TABLE 17: USE OF HOUSEHOLD TOILETS				
District	Sample size (households with toilet)	Of the households with toilets, percentage where toilet is in use		
		In use	Not in use	No data
Gumla	196	20.9	32.7	46.4
Hardoi	272	76.1	14.3	9.6
Korba	241	49.0	36.9	14.1
Nalanda	371	47.4	2.4	50.1
Rajgarh	141	56.0	13.5	30.5
Sundargarh	94	14.9	7.5	77.7
Udaipur	145	55.2	24.1	20.7
Total **	**1,460**	**49.0**	**18.0**	**33.1**
Bhilwara	112	63.9	36.1	25.9

** Does not include Bhilwara district.

Surveyors observed (where possible) that only 49% of the households with toilets were actually using them. On an average, surveyors were not able to see toilets in 33% of the surveyed households.

In Bhilwara, 63.9% of the household toilets were in use.

We also attempted to understand whether households that built toilets used their own finances or relied on the Total Sanitation Campaign or some other government scheme.

TABLE 18: ASSISTANCE FROM GOVERNMENT SCHEME FOR TOILET CONSTRUCTION					
District	Sample size (households with toilet)	Percentage of households with toilets			
		Built under TSC	Not built under any scheme	Other schemes	No data
Gumla	196	45.9	32.1	0.5	21.4
Hardoi	272	67.3	27.2	0.4	5.2
Korba	241	73.9	16.6	1.7	7.9
Nalanda	371	21.6	66.3	0.0	12.1
Rajgarh	141	51.1	25.5	1.4	22.0
Sundargarh	94	45.7	20.2	2.1	31.9
Udaipur	145	39.3	43.5	0.0	17.2
Total **	**1,460**	**48.2**	**37.1**	**0.7**	**14.1**
Bhilwara	112	33.9	53.6	0.0	12.5

** Does not include Bhilwara district.

About 37.1% of the households with toilets constructed them without aid from a government scheme and 48.2% of the households built them under the Total Sanitation Campaign.

PAHELI 2011 made a small attempt to explore people's perceptions on the relationship of water and health. One question was included in the questionnaire about the cause of diarrhoea. A sizable

percentage of the surveyed population cited poor water (44.6%) and food quality (43.5%) as major reasons for diarrhoea. At the same time, myths such as "too much heat" also seemed to be a popular perception (31.4%). In fact, only a small percentage (8.7%) of the surveyed population cited "bacteria in the water" as one of the reasons for diarrhoea. Lack of awareness about the basic causes of diarrhoea is a cause for concern as the absence of hygienic practices could have damaging results on health, especially of children.

		TABLE 19: PERCEPTIONS ON CAUSES OF DIARRHOEA								
		Percentage of women who indicated belief*								
State	Sample size	Poor quality of water	Poor food quality	Not washing hands after defecation/before eating food	Evil eye	Too much heat	Less water in the body	Other diseases	Bacteria in the water	Other beliefs
Gumla	1190	45.0	34.6	6.8	6.0	8.9	9.2	2.9	13.4	0.2
Hardoi	1180	21.2	55.8	2.9	4.8	35.4	6.7	4.2	2.2	0.4
Korba	1178	57.1	51.3	6.9	3.0	40.9	5.3	3.1	4.4	0.5
Nalanda	1067	44.0	51.5	9.8	6.1	41.8	8.1	7.0	6.9	0.0
Rajgarh	1178	66.6	47.3	6.8	4.7	30.7	9.1	1.7	11.0	0.2
Sundargarh	1167	21.0	8.1	0.4	3.9	1.0	0.6	0.2	2.7	9.2
Udaipur	1120	57.6	60.8	18.7	21.1	63.4	15.3	11.6	20.7	0.2
Total **	**8080**	**44.6**	**44.0**	**7.4**	**7.0**	**31.4**	**7.7**	**4.3**	**8.7**	**1.5**
Bhilwara	1336	60.8	43.5	10.3	8.2	52.5	19.2	14.5	7.3	0.2

*Multiple responses were allowed; thus percentages will not add up to 100 in each row. ** Does not include Bhilwara district.*

In summary, the majority of households practiced open defecation. A small percentage of households had toilets (18.1%) and only half the households with toilets were using them. Half the households with toilets reported assistance from a government scheme in their construction. Perceptions on the cause of diarrhoea were not accurate. Besides investment in household toilets and community toilets, a focus on changing people's open defecation habits is also required, as well as promoting an understanding of the link between poor sanitation and diarrhoea.

C. Village-level questions

During the village water mapping process, several questions were asked about the village community. The first related to whether the village had a government water source, and further, whether water supply was available throughout the year.

Table 20 shows the availability of government water supply in the surveyed villages. Table 21 shows the status of water supply.

District	Percentage of villages with government water supply				
	Sample size	Available	Not available	NR	Total
Gumla	59	39.0	44.1	17.0	100.0
Hardoi	58	10.3	72.4	17.2	100.0
Korba	60	61.7	28.3	10.0	100.0
Nalanda	57	50.9	45.6	3.5	100.0
Rajgarh	59	47.5	28.8	23.7	100.0
Sundargarh	54	33.3	24.1	42.6	100.0
Udaipur	56	41.1	30.4	28.6	100.0
Total **	**403**	**40.7**	**39.2**	**20.1**	**100.0**
Bhilwara	68	38.2	38.2	23.5	100.0

TABLE 20: VILLAGES WITH GOVERNMENT WATER SUPPLY

These estimates are based on reports received from villagers during the mapping process. ** Does not include Bhilwara district.

District	Percentage of villages with water supply throughout the year				
	Sample size	Yes	No	NR	Total
Gumla	59	61.0	22.0	17.0	100.0
Hardoi	58	63.8	19.0	17.2	100.0
Korba	60	65.0	23.3	11.7	100.0
Nalanda	57	59.7	35.1	5.3	100.0
Rajgarh	59	22.0	54.2	23.7	100.0
Sundargarh	54	20.4	37.0	42.6	100.0
Udaipur	56	48.2	23.2	28.6	100.0
Total **	**403**	**48.9**	**30.5**	**20.6**	**100.0**
Bhilwara	68	41.2	35.3	23.5	100.0

TABLE 21: WATER SUPPLY THROUGHOUT THE YEAR

* This estimate is based on reports received from villagers during the mapping process. ** Does not include Bhilwara district.

30.5% of the villages across the seven districts reported that their water sources did not provide them with water throughout the year.

In Bhilwara, 35.3% of the villages reported not having water supply throughout the year.

On the subject of sanitation, one aspect that was observed at the village level was waste water disposal. Surveyors were asked to observe methods of waste water disposal in villages and tick as appropriate.

TABLE 22: WASTE WATER DISPOSAL									
District	Sample size	Soak pit	Cesspool	Drainage	Fields	Road	Surface water body	Others	NR
Gumla	59	15.3	0.0	22.0	20.3	8.5	1.7	5.1	27.1
Hardoi	58	6.9	13.8	34.5	8.6	8.6	1.7	3.5	22.4
Korba	60	23.3	0.0	13.3	13.3	16.7	1.7	6.7	21.7
Nalanda	57	12.3	0.0	47.4	21.1	1.8	7.7	1.8	8.8
Rajgarh	59	6.8	1.7	45.8	3.4	8.5	1.7	0.0	28.8
Sundargarh	54	0.0	11.1	3.7	18.5	7.4	1.9	7.4	48.2
Udaipur	56	5.4	0.0	26.8	19.6	3.6	14.3	0.0	30.4
Total **	403	10.2	3.7	27.8	14.9	7.9	4.2	3.5	26.6
Bhilwara	68	8.8	0.0	20.6	7.4	32.4	5.9	0.0	25.0

*During village mapping, surveyors were asked to observe where waste water flows in the village. While there could be several responses to this question, they were asked to report the two most prominent means of waste water disposal. Results are based on the number of villages where surveyors were able to observe the situation clearly. ** Does not include Bhilwara district.*

D. Water and sanitation in schools and anganwadis

Here we will discuss the provision and quality of drinking water and toilets in anganwadi centres and government primary schools and the provision of toilets in health sub-centres.

Water

The importance of safe drinking water has been stressed upon throughout this section. With close to universal school enrolment across India, it is essential to look at the quality of drinking water available in schools. In fact, the Right to Education Act mandates safe drinking water in schools.

The PAHELI 2011 exercise tested water quality in anganwadi centres and schools in the sampled villages. Refer to Tables 2 to 4 for a comprehensive description of the facilities sampled. The tables in the section below outline the key findings.

TABLE 23: BACTERIAL CONTAMINATION IN SCHOOL AND ANGANWADI DRINKING WATER										
	Anganwadis					School				
District	Sample size	Contaminated (%)	Not Contaminated (%)	No data	Total (%)	Sample size	Contaminated (%)	Not Contaminated (%)	No data	Total (%)
Gumla	59	52.5	28.8	18.6	100.0	57	49.1	26.3	24.6	100.0
Hardoi	56	26.8	21.4	51.8	100.0	56	42.9	19.6	37.5	100.0
Korba	55	69.1	18.2	12.7	100.0	59	67.8	18.6	13.6	100.0
Nalanda	49	57.1	30.6	12.2	100.0	54	72.2	18.5	9.3	100.0
Rajgarh	54	42.6	11.1	46.3	100.0	58	53.5	3.5	43.1	100.0
Sundargarh	50	32.0	20.0	48.0	100.0	52	30.8	21.2	48.1	100.0
Udaipur	50	38.0	30.0	32.0	100.0	56	32.1	30.4	37.5	100.0
Total **	373	45.6	22.8	31.6	100.0	392	50.0	19.6	30.4	100.0
Bhilwara	55	63.6	9.1	27.3	100.0	65	55.4	10.8	33.9	100.0

** Does not include Bhilwara district.

A fairly high percentage of bacterial contamination was recorded in water samples collected from schools (average contamination 50%) and anganwadi centres (average contamination 45.6%). For schools and anganwadis, 19.6% and 22.8% respectively showed no contamination. It must be noted that water quality testing could only be carried out in 70% of the schools and anganwadis.

Bhilwara had 55.4% and 63.6% of schools and anganwadis with contaminated water respectively.

TABLE 24: DRINKING WATER FACILITIES IN SCHOOLS						
District	Number of schools	Percentage of Schools				
		No facility	Facility but drinking water not available	Drinking water available	NR	Total
Gumla	57	3.5	0.0	82.5	14.0	100
Hardoi	56	0.0	12.5	85.7	1.8	100
Korba	59	1.7	10.2	79.7	8.5	100
Nalanda	54	3.7	7.4	77.8	11.1	100
Rajgarh	58	13.8	12.1	65.5	8.6	100
Sundargarh	52	0.0	1.9	82.7	15.4	100
Udaipur	56	8.9	3.6	85.7	1.8	100
Total **	392	4.6	6.9	79.7	8.7	100
Bhilwara	65	4.6	3.1	80.8	12.3	100

*During the school visit section of the survey, surveyors were asked to observe whether schools had drinking water facilities and whether drinking water was available at these facilities. ** Does not include Bhilwara district.*

Across the seven districts, surveyors observed that 79.7% of the schools had drinking water facilities and water was available in them. There was no drinking water facility in 4.6% of the schools and 6.9% of the schools had no water despite facilities being available.

Water quality in schools and anganwadis

After adjusting for missing data, about 67% of the water samples collected from 261 anganwadis and 72% of the water samples collected from 275 schools were found to be contaminated by bacteria across the seven surveyed districts in PAHELI 2011. The BIS standard[51] for drinking water is nil contamination by bacteria. This is therefore a serious issue, particularly in the context of the Right to Free and Compulsory Education Act (RTE) which mandates "safe and adequate drinking water facility for all children". The PAHELI 2011 results reveal that most of the schools surveyed across different states fail to meet the obligations set by the respective state governments following the notification of rules under the RTE. A recent ruling by the Supreme Court of India[52] also strengthens the existing legislation on the subject and reinforces the urgency of providing safe drinking water to schools (see Box 1). While the quality of drinking water in rural households is also unhealthy as seen in the results of PAHELI 2011, attention

Supreme Court ruling on provision of drinking water in schools

The Supreme Court on August 9, 2011 gave a week's time to the states to ensure provision of potable drinking water in every government school if they did not want to face "serious consequences". This followed a PIL filed by the Environmental and Consumer Protection Foundation, an NGO. A bench of Justices Dalveer Bhandari and Deepak Verma said water was the most basic provision that must be ensured in every school and lamented that some states like Uttar Pradesh, Bihar, Orissa and Jharkhand had not complied with its April 29 order. The court had asked the states to ensure drinking water in schools by May 31. The bench asked the chief secretaries of these four states to file compliance reports by September 15. However, it also warned other states that if it was found that there were schools where drinking water had not been made available, "very serious consequences will follow". Incidentally, PAHELI 2011 covered one district in all these four states.

towards school drinking water is a priority for several reasons. As of 2009, about 386,000 children[53] (which included school-going children) in India died every year due to diarrhoeal diseases, mainly caused by consumption of unsafe drinking water, poor sanitary conditions and unhygienic practices. In an atmosphere of poor health, children are unable to fulfil their education potential, which reduces their future potential as earners and perpetuates poverty. Schools are an ideal entry point in villages for the knowledge and practice of safe drinking water. Prioritising safe drinking water for children is the right thing to do. Children also act as "agents of change" to take water quality knowledge to the community[54].

[51] Standard for drinking water, Bureau of Indian Standards (BIS; IS 10500:1991)

[52] "Provide drinking water in schools within a week: SC", The Times of India, Mumbai Edition, August 10, 2011

[53] "Vaccines, hygiene could stop diarrhea deaths: U.N", Reuters A.P., U.S. Edition, October 14, 2009

[54] As per the Hon'ble Supreme Court of India, ensuring access to safe drinking water is a constitutional mandate. As discussed earlier, the RTE recently has established access to safe and adequate drinking water in schools and anganwadis as a basic right of students. India has one of the largest numbers of school-going children, especially in rural areas (as per the NFHS 3 -2006). About 81% of the children in the age group of 6-10 attend schools in rural areas. To provide safe drinking water, sanitation and hygiene education to schoolchildren, the Government of India

Sanitation

Features of the Total Sanitation Campaign include School Sanitation and Hygiene Education (SSHE) and anganwadi toilets supported by Rural Sanitary Marts (RSMs) and Production Centres (PCs). This section seeks to examine the water and toilet status in schools, anganwadi centres and health sub-centres.

Table 25 shows the status of toilets in anganwadis and health sub-centres.

TABLE 25: TOILETS IN ANGANWADIS AND HEALTH SUB-CENTRES**									
	Anganwadi Centres					Health Sub-Centres			
District	Sample size	Functional and clean	Functional but dirty	Available but Not functional	No toilet	Sample size	Functional and clean	Functional but dirty	Available but Not functional	No toilet
Gumla	56	17.9	10.7	17.9	53.6	14	50.0	7.1	21.4	21.4
Hardoi	53	5.7	3.8	26.4	64.2	11	45.5	0.0	0.0	54.5
Korba	55	18.2	5.5	32.7	43.6	12	66.7	8.3	16.7	8.3
Nalanda	48	12.5	4.2	8.3	75.0	14	42.9	7.1	14.3	35.7
Rajgarh	51	9.8	9.8	13.7	66.7	11	72.7	9.1	9.1	9.1
Sundargarh	43	25.6	18.6	48.8	7.0	13	38.5	0.0	21.7	13.0
Udaipur	49	12.2	6.1	26.5	55.1	23	56.5	8.7	21.7	13.0
Total **	355	14.4	8.2	24.5	53.0	98	53.1	6.1	17.4	23.5
Bhilwara	54	9.3	7.4	5.6	77.8	18	100.0	0.0	0.0	0.0

*In villages where there were anganwadi centres and health sub-centres, surveyors were asked to observe whether they had functional toilets. Results are based on anganwadi centres and health centres in Gumla, Hardoi, Korba, Nalanda, Rajgarh, Sundargarh and Udaipur. ** Does not include Bhilwara district.*

Only 14.4% of all anganwadi centres visited had a functional and clean toilet; 53.0% had no toilet at all. Of all sub-centres, 53.1% had functional and clean toilets whereas 23.5% had no toilets.

Besides being a sanitary concern, a lack of useable toilets has adverse effects on education. It can result in children not attending school or being unable to concentrate as they are uncomfortable. Further, the lack of separate girls' toilets often constitutes a security risk for them apart from being a major reason for discontinuance of education among girls.

launched the school water supply, sanitation and hygiene education programme (SSHE) through the Ministry of Rural Development under the Accelerated Rural Water Supply and Swajaldhara Programmes and the Sarva Shiksha Abhiyaan of the Ministry of Human Resource Development during 1999. Almost a decade later, during 2008-09, the Ministry of Drinking Water Supply and Sanitation (MDWS; erstwhile Department of Drinking Water Supply), began the Jalmani programme which aims to install simple standalone water purification systems (SAWPS) in rural schools to enable school children to have access to safe water. As of 2009, about 386,000 children (which included school-going children) in India died every year due to diarrhoeal diseases, mainly caused by consumption of unsafe drinking water, poor sanitary conditions and unhygienic practices.

TABLE 26: TOILETS AND GIRLS' TOILETS IN SCHOOLS											
District	No. of schools	General toilet					Separate girls' toilet				
		No facility	Not useable	Useable	No data	Total	No facility	Not usable	Usable	No data	Total
Gumla	57	14.0	28.1	43.9	14.0	100	22.8	22.8	42.1	12.3	100
Hardoi	56	26.8	57.1	12.5	3.6	100	44.6	46.4	7.1	1.2	100
Korba	59	39.0	37.3	15.3	8.5	100	64.4	17.0	8.5	10.2	100
Nalanda	54	9.3	20.4	63.0	7.4	100	40.7	14.8	33.3	11.1	100
Rajgarh	58	25.9	39.7	22.4	12.1	100	50.0	15.5	22.4	12.1	100
Sundargarh	52	5.8	15.4	67.3	11.5	100	26.9	17.3	38.5	17.3	100
Udaipur	56	5.4	28.6	51.8	14.3	100	16.1	12.5	62.5	8.9	100
Total**	392	18.4	32.7	38.8	10.2	100	28.3	20.9	30.4	10.5	100
Bhilwara	65	4.6	20.0	66.2	9.2	100	26.2	12.3	43.1	18.5	100

*** Does not include Bhilwara district.*

Across the seven districts, only 38.8% of the schools had useable toilet facilities. Another 32.7% had unusable facilities, while 18.4% had no toilet facilities. The situation for girls' toilets was worse with only 30.4% of the schools having useable girls' toilets, 20.9% having unusable girls' toilets and 28.3% having no girls' toilet facilities. Appendix Table 1 compares the estimates above with state-level estimates from the ASER 2011 survey. A lack of basic hygienic practices can have serious consequences on children's health. PAHELI 2011 attempted to capture this information in a simple manner. Surveyors were asked to record whether children washed their hands before eating on the day of the survey.

TABLE 27: SCHOOLS IN WHICH CHILDREN WASH HANDS WITH SOAP BEFORE EATING					
District	No. of schools surveyed*	Percentage of schools			
		Children wash hands with soap before eating	Do not wash	No data	Total
Gumla	57	25.4	54.2	20.3	100.0
Hardoi	56	5.4	85.7	8.9	100.0
Korba	59	38.2	43.6	18.2	100.0
Nalanda	54	14.3	67.4	18.4	100.0
Rajgarh	58	16.7	63.0	20.4	100.0
Sundargarh	52	84.0	10.0	6.0	100.0
Udaipur	56	42.0	50.0	8.0	100.0
Total **	392	31.6	53.9	14.5	100.0
Bhilwara	65	30.9	41.8	27.3	100.0

*During the school visit, surveyors were asked to observe whether children in the school washed their hands with soap before eating. ** Does not include Bhilwara district.*

Across the seven districts, the percentage of schools where children were observed washing their hands with soap before eating on the day of the survey was quite low (31.6%). It is particularly low in Hardoi at 5.4% and the highest was in Sundargarh at 84.0%.

A large percentage of schools did not have toilet facilities; however, several had facilities that were not useable. This points to the need not only for the building of toilet facilities but also ensuring that they are maintained properly. The situation was worse with regards to girls' toilets. In angwanwadis and public health centres, it was observed that toilets were not always in use. Encouraging children to wash their hands with soap before eating, a simple practice, could have a dramatic impact on their health.

Way forward

The water quality test results (of schools and anganwadis), especially for bacterial contamination, were alarming. These results warrant immediate attention. Since PAHELI 2011 was a limited survey of eight districts and a one-time effort, a more comprehensive survey is required to gauge the extent of the problem in all the states. Such a survey will help prioritise remedial action. Further, regular quality monitoring of water sources becomes extremely critical to understanding seasonal variations. Samples showing bacterial contamination should be sent to a laboratory to find the extent of contamination. Research is also needed to understand the effects of poor and unsafe water quality on children.

Drinking contaminated water is responsible for significant outbreaks of faecal-oral diseases such as cholera, typhoid, diarrhoea, viral hepatitis A, dysentery and dracunculiasis (guinea worm disease). According to UNICEF[55], factors related to water, sanitation and hygiene affect children's right to education in many ways. In an atmosphere of poor health, children are unable to fulfil their education potential. Repeated incidences of diarrhoea could also result in weight loss, stunted growth and vitamin deficiency. This heightens the chances of dropping out of school, leading to reduced earning potential, greater poverty, and impairing the capability of individuals and not just their earning potential[56].

The government at all levels, including the state governments, Panchayats and zilla parishads must treat the issue of school water quality with higher urgency. It should mandate time-bound action plans from the states to ensure all schools have a safe drinking water supply and monitor the plans to completion. An immediate mechanism for implementation is available through the Jalmani programme of the MDWS. The programme is at best partially successful as evident from the results of PAHELI 2011 as well as a study commissioned by the MDWS[57]. The performance of the Jalmani programme needs to be improved and extended to cover all the schools in the country. In fact, it could become the primary vehicle for providing safe drinking water in schools. State governments and zilla parishads need to be sensitised on the gravity of the issue and supported to take remedial action, especially in view of the effect it has on the enrolment and continuance of education, particularly in the case of girls.

[55] Water, sanitation and hygiene in schools, UNICEF India, 2011.
[56] Khurana, I. & Sen, R.; Rural water supply in India: Issues & Approaches, WaterAid India, 2008.
[57] An assessment of the Jalmani programme in rural India: A Report by the Centre of Media Studies, 2011.

Sustainability

Knowing the scale of the water quality problem, merely gauging its effects on students and supplying clean water may not solve the problem in its entirety. Only an integrated approach to water quality improvement with sanitation and hygiene education will serve the purpose. The intervention should also include studying the origin and route of contamination, assessing sanitary risk and building protection measures to reduce contamination at the source. Water quality test results of PAHELI 2011 at the surveyed households show an almost complete lack of understanding of water quality at the community level. Focusing on children and providing them with knowledge with regard to maintaining water quality and effective sanitation practices can be a first step in societal change and should help develop them as "agents of change". This will not only provide safe water and a hygienic environment in schools, the children will also convey the message back home. As "agents of change", these children will help create awareness about water quality and its link to health within the community.

Concluding thoughts : Water and sanitation

Water Quality

There was a distinct gap between popular perceptions of water quality and the reality in all the surveyed districts. On an average, about 72% of the surveyed households expressed satisfaction with the quality of their drinking water. In glaring contrast to this perception, about 71.6% of the water samples collected from these households were found to be bacterially contaminated. This indicated a lack of understanding at the users' end regarding indicators of good quality water. This also indicated widespread bacterial contamination in the surveyed locations and calls for regular monitoring of drinking water sources.

A majority (about 55% on an average) of the surveyed households did not purify drinking water. This indicated a lack of understanding about the need to purify drinking water and the effectiveness of different purification techniques. To reiterate the point made earlier, filtering water through a cloth was perceived to be an effective purification option by many households and about 36% of all the surveyed households seemed to adopt this as their most preferred option. Large-scale education and awareness generation is required on this issue.

About 67% of the water samples collected from 261 anganwadis and 72% of the water samples collected from 275 schools were found to be bacterially contaminated across the seven surveyed districts in PAHELI 2011. This is a serious issue and warrants immediate attention, especially in the context of the Right to Education Act which mandates "safe and adequate drinking water facility for all school children".

Sanitation

Almost 88% of the surveyed population across all districts defecated in the open. In addition to that, almost 80% of the surveyed households reported that they did not have a toilet. This is a serious cause for concern, especially when a centrally sponsored flagship scheme on sanitation (Total Sanitation Campaign) has been in effect in these states for more than a decade.

Appendix

•The table below compares PAHELI 2011 district-level estimates of the availability of toilet and drinking water facilities in primary schools with state-level ASER estimates.

Appendix Table 1: Comparison of School Toilet and Water Facilities with ASER 2011 State-Level Data

District/State	Data Source	Toilet facilities					Separate girls' toilet facilities					Drinking water facilities				
		No facility	Not useable	Useable	No data	Total	No facility	Usable or locked	Usable	No data	Total	No facility	Available but no water	Drinking water available	No data	Total
Gumla / Jharkand	PAHELI	14.0	28.1	43.9	14.0	100	22.8	22.8	42.1	12.3	100	3.5	0.0	82.5	14.0	100.0
	ASER	19.1	43.5	37.5	-	100	23.4	40.1	36.6	-	100	11.1	8.3	80.6	-	100
Hardoi / U.P.	PAHELI	26.8	57.1	12.5	3.6	100	44.6	46.4	7.1	1.2	100	0.0	12.5	85.7	1.8	100.0
	ASER	7.4	38.8	53.9	-	100	16.6	36.0	47.4	-	100	5.4	10.2	84.4	-	100
Korba / Chhattisgarh	PAHELI	39.0	37.3	15.3	8.5	100	64.4	17.0	8.5	10.2	100	1.7	10.2	79.7	8.5	100.0
	ASER	28.9	41.5	29.6	-	100	51.8	17.5	20.0	-	100	34.7	38.5	26.8	-	100
Nalanda / Bihar	PAHELI	9.3	20.4	63.0	7.4	100	40.7	14.8	33.3	11.1	100	3.7	7.4	77.8	11.1	100.0
	ASER	19.0	35.3	45.7	-	100	37.6	27.1	35.4	-	100	6.8	9.4	83.8	-	100
Rajgarh / Madhya Pradesh	PAHELI	25.9	39.7	22.4	12.1	100	50.0	15.5	22.4	12.1	100	13.8	12.1	65.5	8.6	100.0
	ASER	24.3	43.9	31.9	-	100	43.8	32.8	23.4	-	100	19.3	12.1	68.6	-	100
Sundargarh / Odisha	PAHELI	5.8	15.4	67.3	11.5	100	26.9	17.3	38.5	17.3	100	0.0	1.9	82.7	15.4	100.0
	ASER	14.9	33.3	51.8	-	100	25.2	28.0	46.8	-	100	11.2	14.3	74.5	-	100.0
Udaipur / Rajasthan	PAHELI	5.4	28.6	51.8	14.3	100	16.1	12.5	62.5	8.9	100	8.9	3.6	85.7	1.8	100.0
		3.3	26.9	69.9	-	100	9.3	24.5	66.3	-	100	21.9	8.5	69.5	-	100
Bhilwara / Rajasthan	PAHELI	4.6	20.0	66.2	9.2	100	26.2	12.3	43.1	18.5	100	4.6	3.1	80.8	12.3	100.0
	ASER	3.3	26.9	69.9	-	100	9.3	24.5	66.3	-	100	21.9	8.5	69.5	-	100

SECTION-III
MATERNAL
AND
CHILD HEALTH
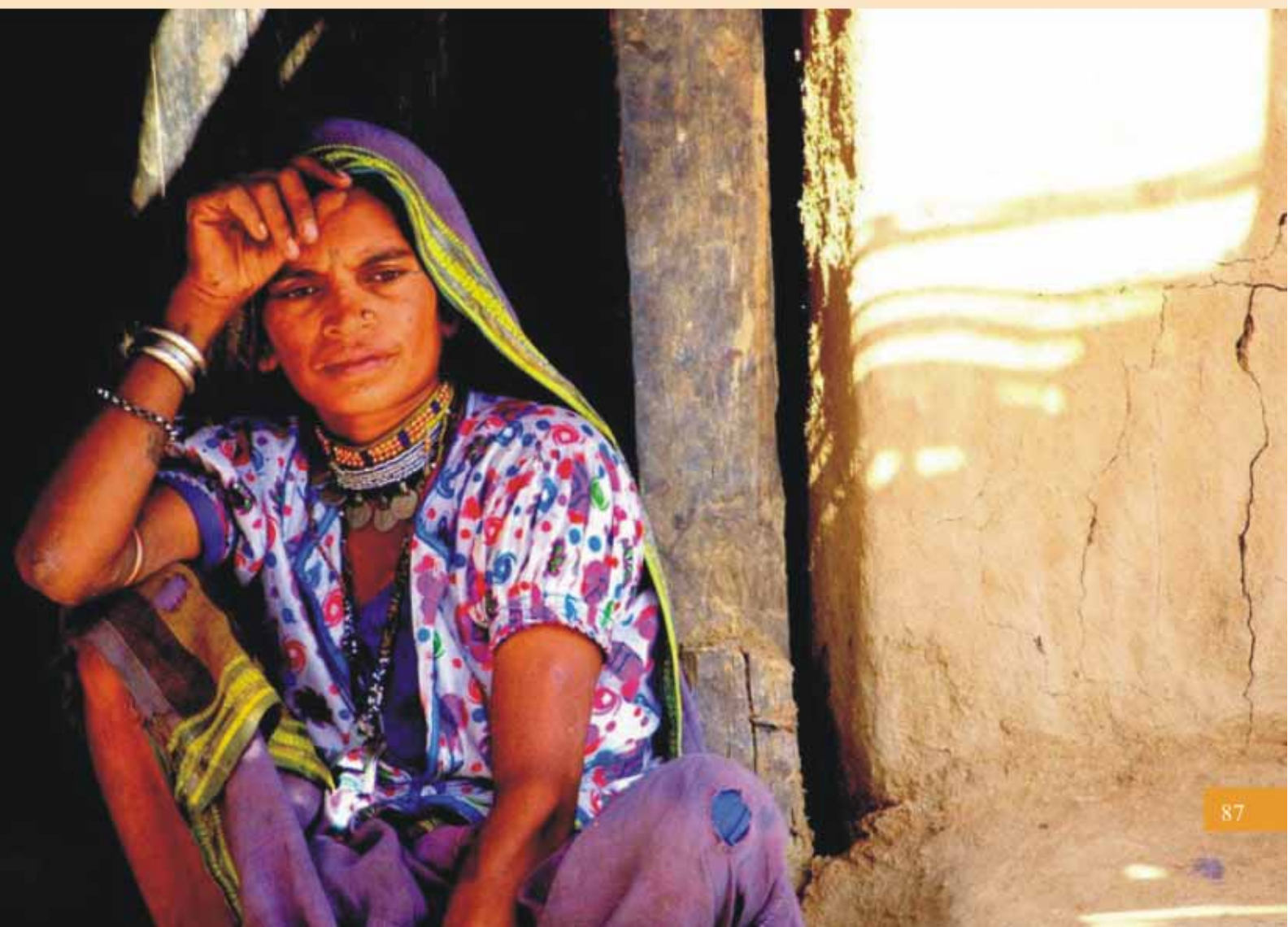
3 Maternal And Child Health

India has made considerable progress in improving health indicators such as life expectancy, child mortality, infant mortality and maternal mortality in the last six decades[58]. Nevertheless, a lot remains to be done. Food and nutrition security issues are a grave concern, given insufficient diets and poor household nutrition security. A large proportion of children and women are malnourished. Complications related to pregnancy and childbirth pose a significant threat to the health of women[59]. Since health is an essential component of development and crucial to the nation's economic growth and stability, availability of basic healthcare is critical to the development process. Recognising the strong link between poverty and ill health, the public provisioning of affordable and reliable healthcare is important.

[58] Eleventh Five-Year Plan document; chapter on Health and Family Welfare and AYUSH.
[59] National Family Health Survey (NFHS) reports; NFHS-1, NFHS-2 and NFHS-3.

The National Rural Health Mission (NRHM), a flagship programme of the Government of India, has taken several strides towards this[60].

Maternal and child health and nutrition are addressed as critical issues in the framework of the Millennium Development Goals (MDGs). The progress towards achievement of MDGs 4 and 5 that specifically address health, however, seems to be slow, especially in some regions.

Millennium Development Goals

Goal 4: Reduce child mortality	
Target 4a: Reduce by two-thirds the mortality rate among children under five	4.1 Under-five mortality rate 4.2 Infant mortality rate 4.3 Proportion of one- year-old children immunised against measles
Goal 5: Improve maternal health	
Target 5a: Reduce by three quarters the maternal mortality ratio	5.1 Maternal mortality ratio 5.2 Proportion of births attended by skilled health personnel
Target 5b: Achieve, by 2015, universal access to reproductive health	5.3 Contraceptive prevalence rate 5.4 Adolescent birth rate 5.5 Antenatal care coverage (at least one visit and at most four visits) 5.6 Unmet need for family planning

National Rural Health Mission

Recognising the importance of health in the process of economic and social development and improving the quality of life of citizens, the Government of India launched the National Rural Health Mission to carry out the necessary structural changes in the healthcare delivery system. Launched in 2005, the NRHM is the Government of India's largest public health programme.

Goals

1. Reducing the infant mortality rate (IMR) and maternal mortality rate (MMR).

2. Promoting universal access to integrated and comprehensive public health services.

3. Improving child health, water availability, sanitation and hygiene.

4. Preventing/controlling communicable and non-communicable diseases, including locally endemic diseases.

5. Stabilising the population and the gender and demographic balance.

6. Revitalising local health traditions and systems of health (ayurveda, yoga and naturopathy, yunani, siddha, and homoeopathy; AYUSH).

7. Promoting healthy lifestyles.

8. Appointing an accredited social health activist (ASHA) in every village.

Maternal and child health in PAHELI 2011 survey: The approach

It was important to create measurable indicators that could be used by ordinary people. We held discussions with experts to identify these critical but easily measurable indicators. The ease of measurement of these indicators was tested in the field in a series of pilot surveys that were carried out by the core team. Based on experts' comments and field experience, the domains from MDG 4 and 5 we chose to study were the following:

- Pregnancy care

- Childbirth

- Infant and young child care, feeding and immunisation

We selected indicators in the domains related to mothers, infant and young child care, health and nutrition on the basis of ease of measurement by ordinary people were selected. These indicators pertained to antenatal care, institutional deliveries and post-natal care, the facilities available and availed of during pregnancy and childbirth, infant and young child feeding, and immunisation.

The NRHM addresses various components of the indicators included in MDGs 4 and 5. The Janani Suraksha Yojana (JSY) is a safe motherhood intervention being implemented with the objective of reducing maternal and neonatal mortality rates by promoting institutional deliveries among economically disadvantaged pregnant women. The JSY integrates cash assistance with delivery and post-delivery care. The increase in the percentage of institutional deliveries is the yardstick of performance of the JSY. It has identified the accredited social health activist or ASHA (the key grassroots-level worker under the NRHM) as an effective link between the Government and poor pregnant women. The Integrated Child Development Services (ICDS), a scheme in operation since 1975, provides health, nutrition and non-formal education opportunities to infants and young children and their mothers. It provides for supplementary nutrition, immunisation, health check-ups, preschool non-formal education, nutrition and health education and referral services. Apart from healthcare outcomes in households, the PAHELI 2011 survey assessed people's experience with the JSY, ICDS and ASHAs.

Methods and tools

The tool used for collecting information was largely pictorial. The visualisation helped to improve engagement with the community. The respondents were mothers of young children. Enquiries pertaining to pregnancy care, childbirth, post-natal care and immunisation were made to mothers who had at least one child less than three years old at the time of the survey. Mothers were interviewed about aspects of the care available and availed of during pregnancy, delivery and post delivery.

Respondents were also asked about their links to the health care schemes provided by the government and their participation in these was assessed. An attempt was made to look into the perceived difficulties of taking advantage of government facilities and provisions.

Mothers of young children were interviewed to get a sense of the prevalent practices in feeding and immunising infants and young children.

The nutritional status of children was assessed by recording their weights. Weight-for-age was used as an indicator for assessing the extent of the problem of underweight children below six. Weighing scales were arranged from anganwadis or health centres and local functionaries cooperated in the exercise. Since anganwadis are the service delivery points of the ICDS, it was possible to assess mothers' knowledge about the anganwadi in their village. Edible salt in India is to be iodised. Samples of the salt used for cooking were collected and analysed to determine the iodine level.

Samples of sections from the tool used for the enquiries are shown here. The salient findings are summarised in the sections that follow.

Findings

This section describes the survey's findings in the following domains from which the various indicators were selected.

A. Indicators for maternal health	B. Indiacators for child health	C. Households' interaction with facilities
• Antenatal and post-natal care • Place of delivery: Institutional deliveries • Incentives; difficulties perceived by households in gaining the incentives • Iodine content of edible salt	• Initiation of breastfeeding • Practices in feeding young children • Immunisation	• Awareness of mothers about anganwadis and their services

A. Maternal health correlates

Although the MDG components tracked with respect to maternal health were institutional deliveries and the presence of skilled personnel during childbirth, a variety of indicators related to these domains were also measured. This section describes the PAHELI 2011 findings on these indicators.

Care in pregnancy: antenatal and post natal

It is recommended that pregnant women undergo at least three antenatal check-ups and take two tetanus toxoid (TT) injections. Widespread anaemia because of iron deficiency is prevalent among Indian

women, particularly pregnant women, and this affects safe motherhood and child health. Anaemia has increased from 52% to 56% among married women and from 50% to 58% among pregnant women (NFHS-1 and 2). Pregnant women are advised to take full courses of iron folic acid (IFA) tablets. These are recommended after delivery as well. Table 1 summarises the check-ups undergone, TT injections received and IFA tablets taken by rural women in the PAHELI 2011 districts.

TABLE 1: SERVICES AVAILED OF BY PREGNANT WOMEN*				
		Injections, check-ups and IFA tablets (%)		
District	No. of respondents	Received at least one TT injection	Underwent at least one check-up	Took IFA tablets during pregnancy
Gumla	448	96.4	82.8	84.4
Hardoi	441	71.1	36.6	39
Korba	384	90.6	82.3	77
Nalanda	425	87.8	58.1	57.2
Rajgarh	396	83.7	62.1	41
Sundargarh	314	97.1	91.7	92
Udaipur	414	87.6	77.2	73.4
Total **	2,822	87.4	69	65.3
Bhilwara	366	85.3	73.7	55.5

*Enquiries made among mothers with at least one child less than three years old. Rows do not add up to 100. **Total does not include Bhilwara.

The survey data reveal that nearly 70% of the women in the seven districts had at least one antenatal check-up[61]. At least one TT injection was taken by 87.4% of the women. These figures varied across the districts. In Hardoi, only 36.6% of the women reported going for at least one check-up during pregnancy as compared to 91.7% of women in Sundargarh. The survey approached the two issues (antenatal check-ups and TT injections) independently so as to elicit the best responses. If asked together, there was the risk that women would recall the details of one more clearly than the other. Those who underwent a check-up or received a TT injection were asked where they did so. As seen in Table 2, a government facility was used in 80% of the cases for antenatal care. In Sundargarh, more than 90% of the women reported that they went to a government facility for antenatal check-ups. In Nalanda only 61% did so.

Overall, the results indicated that the services extended to pregnant women by the government were utilised by a vast majority. However, there were variations among the districts. Hardoi showed very low figures compared to Sundargarh, where participation was very high.

Across the seven districts surveyed, 65% of the women took IFA tablets during pregnancy. The percentage of women who took IFA tablets during pregnancy was the highest (92%) in Sundargarh, where 97% received at least one TT injection and 92% (the highest among the districts surveyed) underwent at least one antenatal check-up. On the other hand, in Hardoi, where only 39% of the women took IFA tablets during pregnancy, just 37% (the lowest among the districts surveyed) availed themselves of antenatal check-up facilities at least once. In Rajgarh, only 41% of the women reported having taken IFA tablets during pregnancy. The figure was low (57%) in Nalanda as well. In Bhilwara, 85% of the women

[61] Information on antenatal check-ups was sought from women who had at least one child less than three years old at the time of the survey.

reported having received at least one TT injection, 74% reported having undergone at least one antenatal check-up. 56% reported taking IFA tablets during pregnancy.

District	No. of women who went for at least one check-up or received one TT injection during pregnancy	Govt	Private	Others*	Total
TABLE 2: SOURCE OF ANTENATAL CARE					
Gumla	436	85.6	9.9	4.6	100
Hardoi	324	76.5	16.7	6.8	100
Korba	351	71.2	22.5	6.3	100
Nalanda	381	60.6	30.5	8.9	100
Rajgarh	334	85.6	9.9	4.6	100
Sundargarh	307	92.2	6.2	1.6	100
Udaipur	367	87.5	6.8	5.7	100
Total**	2,500	80	16.2	3.8	100
Bhilwara	323	76.5	13.6	9.9	100

*Others include women who did not know or did not report the source. ** Total does not include Bhilwara.*

Taking IFA tablets during pregnancy was linked to women undergoing antenatal check-ups and receiving TT injections. Table 3 compares the percentage of women who took IFA tablets during pregnancy that had an antenatal checkup/received one TT injection to those who did neither. The table shows that the percentage of women who took IFA tablets during pregnancy, had at least one antenatal check-up or received at least one TT injection was more than double that of those who did neither.

District	Number of respondents	Women who received at least one TT injection or underwent one check-up (%)	Women who reported not receiving even one TT injection or undergoing one check-up (%)
TABLE 3: LINK BETWEEN TAKING IFA TABLETS AND PRENATAL CARE			
		Consumed IFA tablets	
Gumla	448	86	48.8
Hardoi	440	49.4	27.6
Korba	383	82.3	43.1
Nalanda	425	61.7	33.3
Rajgarh	393	47.6	16.9
Sundargarh	314	93.2	64.3
Udaipur	413	81.5	30
Total**	2,816	72.1	31.5
Bhilwara	366	62.2	22.4

*Enquiries on prenatal care were made among mothers with at least one child less than three years old. **Total does not include Bhilwara.*

The data strongly indicate the importance of antenatal check-ups and maintaining contact with the facility providing prenatal care.

Place of delivery

Institutional deliveries minimise maternal mortality and also reduce neonatal and infant mortality. The JSY focuses on increasing the rate of safe institutional deliveries, especially among the poor and

vulnerable sections of the population. The PAHELI 2011 survey attempted to assess the rate of institutional deliveries in the surveyed districts. Other provisions of the JSY were also assessed.

Women with at least one child younger than three years old were asked questions on the place of delivery and the various aspects addressed by government schemes. Table 4 gives details on the place of delivery.

District	No. of respondents	Place of delivery (%)		Status of facility women went to (%)		Assistance by health worker for women who gave birth in an institution (%)		Assistance by health worker for women who gave birth at home (%)	
		Institution	Home	Govt	Pvt	Health worker stayed at institution	Health worker visited after birth	Skilled person present during delivery	Health worker visited after birth
Gumla	454	41.6	58.4	86.2	13.8	80.4	65.1	76.6	23.8
Hardoi	446	44.6	55.4	82.9	17.1	85.4	37.7	61.9	8.1
Korba	389	34.2	65.8	66.9	33.1	71.4	49.6	58.6	22.3
Nalanda	423	71.6	28.4	71.3	28.7	63.7	41.3	61.7	17.5
Rajgarh	397	78.1	21.9	89.4	10.7	48.4	17.4	32.2	5.8
Sundargarh	288	75.7	24.3	93.1	6.9	89.5	65.6	30	31.4
Udaipur	414	66.7	33.3	92	8	42.8	39.5	73.9	18.8
Total **	**2811**	**57.9**	**42.1**	**82.8**	**17.2**	**65.9**	**42.7**	**61.8**	**18.1**
Bhilwara	367	54	46.1	79.8	20.2	49	37.4	55	12.4

TABLE 4: DETAILS ON PLACE OF DELIVERY*

Enquiries on the place of delivery were made among mothers with at least one child less than three years old; the rows do not add up to 100%. **Total does not include Bhilwara.

Across the seven districts, it was found that a higher proportion of women reported giving birth in an institution (57.9%) than at home (42.1%). However, the reverse situation was observed in Gumla, Hardoi, and Korba. Overall, the majority of institutional deliveries (82.8%) took place in government facilities.

Institutional deliveries and the presence of skilled personnel during childbirth are tools to control maternal, neonatal and infant mortality. The findings reveal that the surveyed districts met the targets for institutional deliveries and skilled personnel by 50%. Concrete strategies need to be mapped out to further progress in these areas to meet the MDGs on maternal and infant mortality.

Presence of health worker/skilled person during delivery

In the case of institutional deliveries, a health worker stayed with the mother 65.9% of the time. In Sundargarh, as many as 89.5% of the women reported that a health worker stayed with them at the institution during delivery. However, in Udaipur, only 42.8% of the women reported this. The percentage of such women was low (48.4%) in Rajgarh as well. As shown in Table 5, the majority of women (64.1%) reported that an ASHA stayed with them during delivery. In some cases, an auxiliary nurse midwife (ANM) (9.4%) or anganwadi worker (AWW) (4.0%) was reported to have stayed with the women at the institution during delivery. As per the JSY, ASHAs are supposed to stay with women in an institution until they are discharged after delivery.

			Type of health worker who stayed during delivery (%)					
District	No. of institutional deliveries	Women who reported health worker stayed during delivery* (%)	ASHA	ANM	AWW	Not ASHA, ANM or AWW	No response	Total
Gumla	189	80.4	71.1	12.5	4	7.9	4.6	100
Hardoi	199	85.4	77.7	3.5	1.8	16.5	0.6	100
Korba	133	71.4	47.4	11.6	8.4	31.6	1.1	100
Nalanda	303	63.7	72	8.3	1	15	3.6	100
Rajgarh	310	48.4	31.3	8.0	10.7	41.3	8.7	100
Sundargarh	218	89.5	94.4	3.1	0	1	1.5	100
Udaipur	276	42.8	28	26.3	6.8	37.3	1.7	100
Total**	1,826	65.9	64.1	9.4	4	19.3	3.2	100
Bhilwara	198	49.0	38.1	24.7	13.4	23.7	0	100

TABLE 5: ASSIATANCE BY HEALTH WORKER DURING INSTITUTIONAL DELIVERY

*Enquiries were made among mothers with at least one child less than three years old. **Total does not include Bhilwara.*

While the involvement of ASHAs was high in Sundargarh (94.4%), Hardoi (77.7%), Nalanda (72.0%) and Gumla (71.1%), it was low in Udaipur (28%), Rajgarh (31.3%) and Korba (47.4%). However, in these three districts, ASHAs, ANMs or AWWs were reported to have been present at the institution during delivery by 60% to 70% of the women.

In the case of home deliveries, a skilled person such as a doctor or trained "dai" was reported to have been present during delivery in 61.8% of the cases (Table 4). In Gumla, the presence of such skilled persons was reported by 76.6% of the women, the highest across seven districts. This was limited in Sundargarh (30.0%) and Rajgarh (32.2%). However, home deliveries were just above 20% in both these districts.

In the PAHELI 2011 survey, ASHAs and AWWs were also contacted to understand their profile in terms of training, the monetary benefits received and contacts with their superiors or supervisors. The participation of ASHAs was low in Udaipur, Rajgarh and Korba, while they were very active in Sundargarh. A close look at their profiles revealed some important differences in the training received and their contacts with ANMs in these districts.

Only 8.9% of the ASHAs in Udaipur, 6.7% in Korba and 1.7% in Rajgarh reported receiving monthly training. In contrast 33.3% of the ASHAs in Sundargarh reported having received monthly training, the highest among all the districts. A wide gap was also observed in contact between ASHAs and ANMs in these districts. In Sundargarh, 59.3% of the ASHAs reported that they had had weekly contact with ANMs in the past month. This frequency was far better than that in all the other districts. Weekly contact with ANMs was reported by only 14% of the ASHAs in Nalanda, 13.3% in Korba, 8.9% in Udaipur, 6.9% in Hardoi and 5.1% in both Gumla and Rajgarh. More frequent contact with ANMs may have played a role in making the ASHAs more active, due to tighter monitoring and/or continued guidance and motivation.

Post-delivery visit by health worker

Women were asked whether any health worker had visited them in the week after they delivered their youngest child. Tables 6 and 7 give information on the post-delivery contact between health workers and women who gave birth in institutions and those who did so at home.

Post-delivery visits by health workers were more likely to be made in the case of institutional deliveries. Across the seven districts, 42.7% of the women who delivered in an institution reported that they were visited by a health worker shortly after the birth of their child. However, only 18.1% women who delivered at home reported such post-delivery visits by health workers.

When these visits were broken down by type of health worker, it was observed that the percentage of post-delivery visits made by ASHAs and ANMs was almost the same in the case of institutional deliveries and home deliveries. Visits by ASHAs were reported by 59.1% of the women who had institutional deliveries and by 56.1% of those who gave birth at home. Among women who had institutional deliveries, 23.9% reported post-delivery visits by ANMs. Of those who gave birth at home, 21.5% reported visits by ANMs. Post-delivery visits by AWWs were higher in the case of home deliveries (15.4%) than institutional deliveries (9.2%).

Though there were inter-district variations, post-delivery visits by health workers were high in the case of institutional deliveries. This postnatal follow up seemed to be a big advantage of institutional deliveries.

District	No. of institutional deliveries	Women who were visited by a health worker after delivery (%)	Type of skilled health worker who visited (%)						
			ASHA	ANM	AWW	Others	Do not know	No response	Total
Gumla	189	65.1	65	26	4.1	1.6	0.8	2.4	100
Hardoi	199	37.7	76	10.7	5.3	6.7	0	1.3	100
Korba	133	49.6	45.5	25.8	21.2	0	1.5	6.1	100
Nalanda	303	41.3	73.6	16	5.6	1.6	0.8	2.4	100
Rajgarh	310	17.4	20.4	63	3.7	9.3	1.9	1.9	100
Sundargarh	218	65.6	81.8	7.7	4.2	2.8	1.4	2.1	100
Udaipur	276	39.5	22	40.4	23.9	9.2	1.8	2.8	100
Total **	**1,826**	**42.7**	**59.1**	**23.9**	**9.2**	**4**	**1.2**	**2.6**	**100**
Bhilwara	198	37.4	40.5	29.7	23.0	2.7	0	4.1	100

TABLE 6: POST-DELIVERY VISIT BY HEALTH WORKERS IN INSTITUTIONS

**Total does not include Bhilwara.

TABLE 7: POST-DELIVERY VISIT BY HEALTH WORKERS AT HOME*

District	No. of women who gave birth at home	Women who were visited by a health worker after delivery (%)	Type of skilled health worker who visited (%)						
			ASHA	ANM	AWW	Others	Do not know	No response	Total
Gumla	265	23.8	69.8	15.9	6.4	6.4	0	1.6	100
Hardoi	247	8.1	80	15.0	0	5	0	0	100
Korba	256	22.3	35.1	28.1	29.8	1.8	1.8	3.5	100
Nalanda	120	17.5	76.2	9.5	14.3	0	0	0	100
Rajgarh	87	5.8	20.0	20.0	60.0	0	0	0	100
Sundargarh	70	31.4	77.3	13.6	0	4.6	0	4.6	100
Udaipur	138	18.8	23.1	42.3	23.1	7.7	0	3.9	100
Total**	**1,183**	**18.1**	**56.1**	**21.5**	**15.4**	**4.2**	**0.5**	**2.3**	**100**
Bhilwara	169	12.4	19.1	52.4	23.8	4.8	0	0	100

* Enquiries were made among mothers with at least one child less than three years old. **Total does not include Bhilwara.

Mode of transport to institution

The mode of transport reportedly used by women to reach an institution for delivery is shown in Table 8. On an average, across the seven districts, an ambulance was used in only 6% of the cases. However, in Sundargarh, almost a quarter of the women said that they reached the facility in an ambulance. The most common mode of transport was a car or taxi (64%).

TABLE 8: MODE OF TRANSPORT TO INSTITUTIONS FOR DELIVERY*

District	No. of institutional deliveries	Type of transport used by women to reach the institution (%)							
		On foot	Bullock cart	Car/Taxi	Bicycle	Ambulance	Others	No response	Total
Gumla	189	8.5	0.5	60.3	3.7	4.2	20.6	2.1	100
Hardoi	199	0.5	3.5	60.3	2.5	0.5	31.7	1	100
Korba	133	5.3	0	56.4	0.8	0.8	36.8	0	100
Nalanda	303	11.6	1.7	63	0.7	2.6	17.2	3.3	100
Rajgarh	310	3.6	1	60	0.3	5.5	29	0.6	100
Sundargarh	218	4.1	0	63.8	2.3	24.8	0	5.1	100
Udaipur	276	8.0	0.4	78.6	0.7	3.3	8.3	0.7	100
Total**	**1,628**	**6.2**	**1**	**64**	**1.4**	**6**	**19.4**	**1.9**	**100**
Bhilwara	198	2.5	0	87.4	0	2	6.1	2	100

* Enquiries were made among mothers with at least one child less than three years old. **Total does not include Bhilwara.

Table 9 shows that arrangements for a car or taxi in a majority of the cases (80.5%) was made by the households themselves. ASHAs were reported to have arranged cars or taxis in 14.2% of the cases. It should be noted that it is difficult to establish who paid for the car or taxi.

TABLE 9: ARRANGEMENT OF CAR/TAXI FOR REACHING INSTITUTIONS*							
District	Number that went by car/taxi, jeep	ASHA	Households	Relatives	Other health workers	Do not know	No response	Total
Gumla	114	20.2	75.4	2.6	0.9	0	0.9	100
Hardoi	120	20.8	78.3	0	0	0	0.8	100
Korba	75	2.7	89.3	4	4	0	0	100
Nalanda	191	19.9	74.4	2.1	0	0.5	3.1	100
Rajgarh	186	3.2	88.7	4.3	0.5	0.5	2.7	100
Sundargarh	139	27.3	69.8	2.9	0	0	0	100
Udaipur	217	7.4	86.6	1.8	2.8	0.5	0.9	100
Total**	1,042	14.2	80.5	2.5	1.1	0.3	1.4	100
Bhilwara	173	11	79.2	3.5	4.6	1.2	0.6	100

*Enquiries were made among mothers with at least one child less than three years old. **Total does not include Bhilwara.*

Monetary benefits under Janani Suraksha Yojana

TABLE 10: MONETARY BENEFITS UNDER JSY*											
District	No. of women who had institutional births and responded to JSY queries	Those who received money under JSY (%)	Details on the money received under JSY								
			Average amount received	Whether fees were paid to receive the amount (%)				Whether problems were faced in receiving benefits (%)			
				Yes	No	NR	Total	Yes	No	NR	Total
Gumla	189	83.1	1,604	14.7	82.2	3.2	100	28.7	68.2	3.2	100
Hardoi	199	79.4	1,389	8.9	89.2	1.9	100	34.2	63.3	2.5	100
Korba	133	76.7	1,388	11.8	87.3	1	100	19.3	79.7	1	100
Nalanda	303	68.3	1,404	38.2	59.4	2.4	100	19.3	79.7	1	100
Rajgarh	310	87.7	1,399	10.3	87.1	2.6	100	28.3	68.8	2.9	100
Sundargarh	218	90.8	1,352	7.6	86.9	5.6	100	9.6	86.4	4	100
Udaipur	276	90.9	1,527	4	94	2	100	15.1	83.3	1.6	100
Total **	1,628	82.4	1,437	14.5	82.8	2.7	100	21.9	75.7	2.4	100
Bhilwara	198	78.8	1,460	5.1	92.3	2.6	100	7.7	89.1	3.2	100

*Enquiries were made on the JSY among mothers with at least one child less than three years old; NR: No Response. ^ Details of type of problems faced are provided in table 15 later in the section.**Total does not include Bhilwara.*

The JSY scheme aims to reduce infant and maternal mortality rates by providing financial incentives to women who live below the poverty line (BPL) so that they opt to give birth in a hospital. Table 10 shows that across seven districts, 82.4% of the women reported receiving money under the JSY. The average amount received was Rs. 1,437. Most women (82.8%) reported not having paid an additional fee to obtain the money. There were variations across districts in the percentage of women who reported having paid fees. This ranged from 4% in Udaipur to 38.2% in Nalanda. Thus the results indicated that the overall performance of the JSY was quite satisfactory.

Tables 11 to 14 provide details on the JSY monetary benefits in terms of the place where the money was received by women who had institutional deliveries, the functionary through whom the benefit was received, the mode of payment and whether the money was paid in instalments.

TABLE 11: PLACE WHERE MONEY WAS RECEIVED UNDER JSY*					
District	No. of women who received JSY money	Where the JSY money was received by women who had institutional deliveries (%)			
		Home	Institutions	No response	Total
Gumla	157	7.6	85.4	7	100
Hardoi	158	5.1	94.3	0.6	100
Korba	102	4.9	90.2	4.9	100
Nalanda	207	4.3	95.2	0.5	100
Rajgarh	272	1.8	94.1	4	100
Sundargarh	198	12.6	77.8	9.6	100
Udaipur	251	0.8	99.2	0	100
Total**	**1,345**	**4.9**	**91.5**	**3.6**	**100**
Bhilwara	156	7.1	91.7	1.3	100

* Enquiries were made among mothers with at least one child less than three years old. **Total does not include Bhilwara.

TABLE 12 : FUNCTIONARY THROUGH WHOM MONETARY BENEFITS WERE RECEIVED							
District	No. of respondents*	ASHA	AWW	ANM	Others	No response	Total
Gumla	157	17.2	7.6	46.5	22.9	5.7	100
Hardoi	158	32.3	1.3	5.7	57	3.8	100
Korba	102	8.8	1	45.1	42.2	2.9	100
Nalanda	207	15	4.3	41.1	34.8	4.8	100
Rajgarh	272	1.5	1.5	37.1	47.8	12.1	100
Sundargarh	198	59.1	16.7	2.5	0	21.7	100
Udaipur	251	4.4	2.8	21.5	67.3	4	100
Total**	**1,345**	**18.6**	**5.1**	**27.7**	**40.1**	**8.5**	**100**
Bhilwara	156	5.1	5.1	37.8	49.4	2.6	100

* Respondents were women who had institutional deliveries and claimed to have received money under the JSY. ** Total does not include Bhilwara.

TABLE 13: MODE OF PAYMENT UNDER JSY*						
District	No. of respondents*	Cheque	Cash	Others	No response	Total
Gumla	157	76.4	19.1	0.6	3.8	100
Hardoi	158	93.7	3.2	0	3.2	100
Korba	102	86.3	12.7	0	1	100
Nalanda	207	77.3	19.3	0.5	2.9	100
Rajgarh	272	87.1	8.5	1.1	3.3	100
Sundargarh	198	78.8	14.1	0	7.1	100
Udaipur	251	86.5	11.2	0.4	2	100
Total**	**1,345**	**83.7**	**12.4**	**0.4**	**3.4**	**100**
Bhilwara	156	73.1	25	0	1.9	100

* Enquiries were made among mothers with at least one child less than three years old. **Total does not include Bhilwara.

TABLE 14: WHETHER MONETARY BENEFIT WAS RECEIVED IN INSTALMENTS*					
District	No. of respondents*	Yes	No	No response	Total
Gumla	157	19.7	77.1	3.2	100
Hardoi	158	6.3	91.8	1.9	100
Korba	102	13.7	85.3	1	100
Nalanda	207	6.8	91.8	1.4	100
Rajgarh	272	17.6	80.1	2.2	100
Sundargarh	198	4	88.4	7.6	100
Udaipur	251	6.8	92	1.2	100
Total**	1,345	10.6	86.8	2.7	100
Bhilwara	156	6.4	91.7	1.9	100

*Enquiries were made among mothers with at least one child less than three years old. **Total does not include Bhilwara.*

As shown in Table 11, the majority of the beneficiaries (91.5%) who reported receiving monetary benefits under the JSY said that they were given the amount in an institution. Table 12 shows that almost half the women received the money via an ASHA (18.6%), an AWW (5.1%) or ANM (27.7%). A cheque was handed over in the majority (83.7%) of cases (Table 13). In Hardoi, 94% of the payments were made by cheques. The money was disbursed in full, as opposed to installments, in 87% of the cases (Table 14).

It is positive to note that 76% of the women who were beneficiaries of the JSY across the seven districts reported that they faced no problems in receiving what they were entitled to (Table 10). Table 15 summarises the difficulties in receiving the benefits that were reported by 22% of the beneficiaries . *It has to be noted that since the proportion of those who claimed to have faced difficulties was low, the information on the nature of the difficulties pertains to an even smaller proportion.* Of the women who reported facing difficulties, 23.5% indicated that paper work was the problem. Encouragingly, the behaviour of health workers was not a major problem, with only 4.8% of women mentioning it. On average, across the seven districts, only 12% of the beneficiaries reported that distance was a problem, 24.4% in Gumla and 21.1% in Udaipur cited it as a reason. In Hardoi, only 2% of the beneficiaries said this was a problem.

TABLE 15: DIFFICULTIES IN OBTAINING JSY MONETARY BENEFITS*								
District	No. of respondents	Distance to the health facility	Paper work	Inconvenient timings	Behaviour of health workers	Others	No response	Total
Gumla	45	24.4	28.9	13.3	2.2	20	11.1	100
Hardoi	54	1.9	31.5	1.9	7.4	44.4	13	100
Korba	20	15	15	30	0	20	20	100
Nalanda	40	5	20	12.5	5	25	32.5	100
Rajgarh	77	9.1	16.9	1.3	6.5	35.1	31.2	100
Sundargarh	19	15.8	21.1	15.8	0	10.5	36.8	100
Udaipur	38	21.1	28.9	2.6	5.3	28.9	13.2	100
Total**	**293**	**11.9**	**23.5**	**7.8**	**4.8**	**29.7**	**22.2**	**100**
Bhilwara	12	8.3	41.7	0	8.3	16.7	25	100

*Enquiries were made among mothers with at least one child less than three years old. **Total does not include Bhilwara.*

The findings discussed so far indicate that progress is under way in achieving the maternal health correlates assessed. Some districts performed very well with regard to the assessed indicators while others ranked lower. Mothers seemed to be participating in government schemes, though there were differences among the districts. Contact with health workers and institutions increased the participation of women in maternal health schemes. The JSY and ASHAs seemed to be performing satisfactorily. Inter-district variations in these indicators could be linked to the profile, training and supervision of grassroots-level functionaries.

B. Child health correlates

In the survey related to children's health, the immunisation status and a number of indicators affecting infant and young child health were examined. These indicators included feeding practices and the nutritional status of young children. Information on the immunisation status and feeding practices of the youngest child less than three years old at the time of the survey was sought, while exclusive breastfeeding was assessed in the case of infants less than six months old. The nutritional status was assessed by estimating the extent to which children younger than six were underweight.

Immunisation

The data on immunisation summarised in Tables 16 to 18 is based on the immunisation cards of children. Entries made on the immunisation cards available were used to determine the immunisation status. Table 16 shows that immunisation cards were available in 83.6% of the households. In individual districts, the percentages of households ranged from 71% (Hardoi) to 94% (Sundargarh). In Hardoi and Udaipur, there were no cards available in the households of nearly 30% of the children.

TABLE 16: HOUSEHOLDS WHERE IMMUNISATION CARDS WERE AVAILABLE				
District	No. of respondents*	Yes (%)	No (%)	Total
Gumla	465	89.9	10.1	100
Hardoi	479	70.8	29.2	100
Korba	425	91.8	8.2	100
Nalanda	442	87.1	12.9	100
Rajgarh	391	83.1	16.9	100
Sundargarh	355	94.4	5.6	100
Udaipur	486	72.6	27.4	100
Total **	3,043	83.6	16.4	100
Bhilwara	376	87.2	12.8	100

*Enquiries were made among mothers with at least one child less than three years old. **Total does not include Bhilwara.*

Despite the fact that most of the households (83.6%) in the seven districts had immunisation cards, only a small proportion of the cards had entries that were clear and legible and therefore useable. Tables 17 and 18 give immunisation details as recorded on the immunisation cards of the children.

IMMUNIZATION SCHEDULE						
Infant and Child Immunization Chart						
	6 Antigens schedule	DPT	BCG	Polio	Measles	Vitamins
	On birth		BCG1			
1	1 and a half months	DTP1		Polio1		
2	2 and a half months	DTP2		Polio2		
3	3 and a half months	DTP3		Polio3		
4	9 and a half months				Measles	Vitamins A
5	15-24 months	DPT booster		Polio booster		Vitamins A2 and 3

TABLE 18: IMMUNISATION STATUS OF CHILDREN 12-23 MONTHS OLD (%)*					
No. of children	BCG	At least three polio doses	At least three DPT doses	Measles vaccine	Full Immunization **
354	40.7	49.4	49.7	45.5	11.3

*Includes Bhilwara. ** Includes BCG, at least three polio doses, at least three DPT doses and measles vaccine.*

Nearly 50% of the children were immunised with BCG vaccine, polio vaccine, DPT vaccine and measles vaccine. Full immunisation including all these vaccines had been carried out in only 11.3% of the cases. The small sample size should be kept in mind while considering this data.

Infant and young child feeding

Sound infant and young child feeding practices are crucial for the optimum growth and health of children. Information on feeding practices is tabulated in Table 19. Breastfeeding was universal with 98% of the women reporting to have breastfed their child.

Immediate breastfeeding is recommended so that the newborns get colostrum, the first milk that is very nutritious and has anti-infective properties. Only 60% of the women reported they had breastfed their babies within half an hour of delivery. This was lowest (46%) in Hardoi and highest (77%) in Sundargarh.

It is recommended that infants be exclusively breastfed until six months of age. After this, their diet has to be supplemented with additional food to meet their growing nutritional needs. Most women (75%) began complementary feeding after six months though around 10% reported introducing complementary food between four and six months.

Exclusive breastfeeding is recommended for the first six months so as to minimise the chances of infection. In the first six months, breast milk alone is sufficient to meet the nutritional needs of infants. Respondent mothers with babies less than six months of age at the time of the survey were asked whether their child had been fed anything other than breast milk in the last 24 hours. It was found that 78% of the infants had been exclusively breastfed. Exclusive breastfeeding was the highest in Hardoi (92%) and lowest in Sundargarh (51%)

District	No. of respondents	Women who ever breastfed their child (%)	Women having a child less than 3 years old									
			Time breastfeeding was initiated (%)					Time semi-solid foods were begun (%)				
			Within half an hour	Within 24 hours	More than 24 hours	No response	Total	Less than 4 months	More than 6 months	4 to 6 months	No response	Total
Gumla	435	99.8	71.9	20.4	6.0	1.6	100	3.5	75.1	8.5	13	100
Hardoi	443	98.9	46.1	35.8	17.4	0.7	100	4.3	77.1	12.4	6.2	100
Korba	372	99.7	55.3	32.6	10.5	1.6	100	3.6	70.9	15.9	9.6	100
Nalanda	397	99	69.2	26	3.6	1.3	100	2.8	85.6	8.3	3.3	100
Rajgarh	422	89.3	57.3	32.9	6.4	3.5	100	8.4	66.7	11.1	13.8	100
Sundargarh	278	100	77	18.4	2.2	2.5	100	7.4	70.3	3.4	19	100
Udaipur	406	98.8	50.4	39.9	9.2	0.5	100	4.4	80.7	9.1	5.9	100
Total **	**2,753**	**97.8**	**60.2**	**29.9**	**8.2**	**1.6**	**100**	**4.8**	**75.4**	**10.1**	**9.7**	**100**
Bhilwara	365	99.7	59.3	33.5	6	1.1	100	7.3	73.2	11.4	8.2	100

TABLE 19: INFANT AND YOUNG CHILD FEEDING

* Enquiries were made among mothers with at least one child less than three years old. **Total does not include Bhilwara.

TABLE 20: INITIATION OF BREAST FEEDING AND PLACE OF DELIVERY			
District	No. of respondents	Place of delivery of women who breast fed within half an hour of giving birth (%)	
		Home	Institution
Gumla	420	70.7	76.8
Hardoi	434	36.1	59.1
Korba	359	50.7	65.6
Nalanda	385	64.6	72.4
Rajgarh	353	48	62.2
Sundargarh	244	72.6	82.4
Udaipur	396	40.2	55.7
Total**	**2,591**	**53.6**	**66.9**
Bhilwara	353	63.6	58.1

* Enquiries were made among mothers with at least one child less than three years old. Rows do not add up to 100. **Total does not include Bhilwara.

As seen in Table 20, early initiation of breastfeeding (within half an hour of giving birth) was reported more often in institutional deliveries. Overall, the chance of this was 13.3 percentage points higher if the delivery took place in an institution (66.9%) than if it happened at home (53.6%). This could have been due to the supervision of health personnel in institutions. In Gumla, Nalanda and Sundargarh, the difference was remarkable (less than 10 percentage points) by place of delivery. Interestingly, in Hardoi, early initiation of breastfeeding in institutional deliveries was low (59.1%), but there was a difference of 23 percentage points (highest among all the districts surveyed) between those who had institutional deliveries and those who gave birth at home. It may therefore be presumed that contact with an institution was important in promoting early breastfeeding. Even if institutional deliveries could not instil this good practice among all women (as in Hardoi), the performance was much better compared to cases where deliveries had taken place at home.

Nutritional status of children

	0 to 72 Months (%)			**Less than 36 Months (%)**		**36 to 72 Months (%)**	
District	**No. of children**	**Moderately underweight**	**Severely underweight**	**Moderately underweight**	**Severely underweight**	**Moderately underweight**	**Severely underweight**
Gumla	257	45.5	28.4	44.6	28.8	51.4	25.7
Hardoi	257	42.4	25.3	40.3	25.2	44.2	25.4
Korba	344	34.9	20.1	33.1	17.8	42	29
Nalanda	230	55.2	46.1	53.1	46.9	62.7	43.1
Rajgarh	199	44.8	30.2	44.9	29.1	44	34.2
Sundargarh	Very few records						
Udaipur	340	60.6	41.8	58.8	40.0	65.3	46.3
Total **	**1,634**	**47**	**31.5**	**44.5**	**30.7**	**52.5**	**33.3**
Bhilwara	112	54.5	31.3	52.5	30.7	Very few records	

TABLE 21: NUTRITIONAL STATUS ASSESSED BY WEIGHT OF CHILDREN LESS THAN SIX YEARS OLD*

* Nutritional status assessed by weight-for-age using WHO child growth standards: <http://www.who.int/childgrowth/standards/weight_for_age/en/index.html>. Children with below -2SD (standard deviation) weight for age Z-score are moderately underweight and those with below -3SD weight for age Z-score are severely underweight.

**Total does not include Bhilwara.

NFHS-3 estimates that 47% of Indian children are underweight. Low body weight in children is linked to morbidity, poor development and scholastic achievement.

In the seven districts surveyed, 47% of the children aged less than 72 months were underweight, with 32% of them severely underweight. A still higher proportion of children aged between 36 to 72 months were undernourished (53%) of them 33% were severely undernourished. The highest proportion of severe undernourished children were in Nalanda (46%) and Udaipur (42%).

Iodisation of salt

Iodine is an essential micronutrient for normal human growth and development. Iodine deficiency can cause physical and mental retardation, cretinism, abortions, still births, deafness, squints and various types of goitre. The Government of India has been implementing the National Iodine Deficiency Disorders Control Programme (NIDDCP), formerly known as the National Goitre Control Programme (NGCP), since 1962. It banned the sale of non-iodised salt in the country in 2006 under the Prevention of Food Adulteration Act. Salt used for cooking has to have at least 15 ppm of iodine.

In the PAHELI 2011 survey, salt samples were analysed for iodine levels using iodine test kits. In the seven districts, 68% of the salt samples obtained from households were iodised at the 15 ppm level. However, in Hardoi and Nalanda, less than half the households were using optimally iodised salt. Sundargarh had the highest usage of iodised salt with 91.6% households using optimally iodised salt (Table 22).

Table 22: SALT IODISATION					
District name	No. of households	Finding of iodine test		Not tested	Total
		Sub-optimally iodised	Optimally iodised at 15 ppm level		
Gumla	1,190	20.3	75.3	4.4	100
Hardoi	1,180	58.5	40.6	0.9	100
Korba	1,175	21.4	78.1	0.5	100
Nalanda	1,061	56.3	43.5	0.2	100
Rajgarh	1,178	39.4	57.6	3.1	100
Sundargarh	1,160	8.3	91.6	0.1	100
Udaipur	1,120	19.9	79.7	0.5	100
Total*	**8,064**	**32.2**	**67.6**	**1.4**	**100**
Bhilwara	1,332	22.2	77.6	0.2	1000

*Total does not include Bhilwara.

C. Interaction of households with facilities

The anganwadi centre (AWC) is the delivery point for services under the ICDS umbrella. The perception of potential beneficiaries is vital to the sound performance of any scheme or welfare programme. In the PAHELI 2011 survey, we attempted to assess the perception and awareness of mothers of children aged less than six years about the AWC in their village and the services it provided.

Contact with anganwadi centre

Table 23 summarises the level of awareness of women about AWCs and the services offered by them. As AWCs cater to infants, and young children and pregnant and nursing mothers, the mothers of young children were expected to be aware of the AWCs and their services.

Most of the women across the seven districts (96%) knew that an AWC existed in their village. The majority (60.5%) were aware that the AWC provided food for children. Relatively fewer were aware of the other services offered. Overall, not even half the women mentioned food for pregnant and nursing women (37.4%) or immunisation for children (35.6%) as AWC services. In Hardoi, only 20% of the mothers knew about food for women and 14% about immunisation as services offered by the AWC.

Antenatal care and monitoring children's growth were mentioned by less than 30% of the women across the seven districts. Hardoi, where only 8.8% of the women mentioned antenatal care as an AWC service, ranked at the bottom in terms of women availing of this service. The number of women who had at least one antenatal check-up and took IFA tablets during pregnancy was the least in Hardoi. On the other hand, Sundargarh, where 42.7% women (the highest among the districts surveyed) mentioned antenatal check-ups as an AWC service, ranked the highest in terms of the proportion of women who took advantage of this service and took IFA tablets during pregnancy.

AWCs providing non-formal education to children were mentioned by less than 10% of respondents. However, there were inter-district variations. In Rajgarh, only 2.6% of the women mentioned this, while in Sundargarh, 24.1% did so.

District	No. of respondents	Women who knew about the AWC (%)	Women who said the following services were provided by AWCs						
			Food for children	Food for pregnant and nursing mothers	Immunisation	Antenatal care	Growth monitoring and referral services	Dietary advice to mothers	Non-formal education for children
Gumla	1,053	99	72.7	55.4	51.7	44.8	35.8	22.9	9.0
Hardoi	1,030	96.0	44.5	20.4	14.0	8.8	7.1	3.2	9.8
Korba	813	98.3	63.7	43.1	39.3	29.5	19.3	7.6	9.6
Nalanda	713	92.4	52.1	28.1	32.9	23.7	17.8	9.6	4.3
Rajgarh	771	95.5	55.3	26.0	24.5	19.3	20.9	10.6	2.6
Sundargarh	661	93.7	76.1	52.2	49.8	42.7	41.0	17.8	24.1
Udaipur	706	95.6	61.5	36.9	40.3	28.9	22.4	12.0	6.4
**Total ** **	**5,747**	**96**	**60.5**	**37.4**	**35.6**	**27.9**	**23.0**	**12.0**	**9.2**
Bhilwara	728	81.6	66.8	39.2	35.7	21.2	16.3	12.5	6.4

*Title: TABLE 23: CONTACT WITH ANGANWADI CENTRE**

*Enquiries were made among mothers with at least one child less than six years old. Mothers were just asked to mention what services are provided (according to them) at the AWC, No time reference was given. Responses were not prompted. Rows do not add up to 100 because of multiple responses. ** Total does not include Bhilwara.*

Concluding thoughts: Maternal and child health

With respect to the indicators measured in the PAHELI 2011 survey, the following conclusions can be drawn pertaining to the MDGs on maternal and child health:

C. MATERNAL HEALTH STATUS INDICATORS	Antenatal and post-natal care Place of delivery: Institutional deliveries and incentives; difficulties perceived by households in gaining incentives

- Despite variations seen among the districts, it can be concluded that maternal care services extended by the government during pregnancy are being utilised by a substantial number of women. Contact with institutions and health workers gives an impetus to participation in welfare schemes.
- Overall participation in the JSY was quite satisfactory. Some progress has been made in terms of institutional deliveries and the presence of skilled persons at the time of child birth. However, concrete strategies need to be mapped out to take the leap towards meeting the targets under the MDGs on maternal and infant mortality.

D. CHILD HEALTH STATUS INDICATORS	Initiation of breast feeding Young children: feeding practices Immunisation

- About half (45.5%) the children more than one year old were immunised against measles.
- A little more than half the women (60%) initiated breast feeding within half an hour of delivery. Contact with an institution promoted early initiation of breast feeding infants.
- Almost half (46%) the children less than six years old were underweight and around one-third (32%) of them were severely undernourished.

IODISATION OF SALT	Almost three-fourths (68%) of the salt samples obtained from households were optimally iodised.
E. HOUSEHOLDS' INTERACTION WITH FACILITIES	Awareness of mothers about anganwadi centres and their services

- Awareness about anganwadi centres was good (96%) among the mothers of young children. More than half (60.5%) the women were aware that the AWC provided food for children. But relatively fewer women were aware of the other services offered by the AWC. Awareness about non-formal education provided to children was particularly low.
- Hardoi, where only 8.8% women mentioned antenatal care as an AWC service, ranked at the bottom in terms of women availing themselves of this service.

SECTION-IV
EDUCATION AND LITERACY

4 **Education and Literacy**

The UN Millennium Development Goals (MDGs) 2 and 3 call for universal access to primary education and the elimination of gender disparities at all educational levels by 2015. The target for MDG 2 is to ensure that all children should be able to complete full primary schooling by 2015, which is discussed in this study in terms of enrollment figures for children aged 6 to 14. The target for MDG 3 is to eliminate gender disparity at all levels of education no later than 2015, which is analysed in the present study through a comparison of enrollment rates by gender and an examination of women's literacy levels.

Millennium Development Goals

MDG 2: Achieve universal primary education
Target: Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling.

MDG 3: Promote gender equality and empower women
Target: Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015.

In India, several policy initiatives are relevant to the accomplishment of MDGs 2 and 3. The Right of Children to Free and Compulsory Education Act (RTE), effective since 2010, mandates state-funded education for all children aged 6 to 14. Further, the RTE outlines norms for school enrollment, access and infrastructure, teacher appointments, teacher learning materials and pupil-to-teacher ratio. The delivery of these provisions is facilitated by the Government of India in partnership with state governments through the Sarva Shiksha Abhiyan (SSA), the nation's flagship programme for achieving universal primary education. The SSA provides funding for the establishment of new schools in areas that lack educational facilities and provides basic infrastructure resources—such as toilets, drinking water and additional classrooms—to existing schools. In addition, the SSA attempts to improve the quality of education through programmes that train new teachers, build the capacity of existing teachers and develop teacher-learning materials. A third policy relevant to children's education is the Mid-Day Meal scheme (MDM), which provides free lunch in government schools with the intention of improving child nutrition as well as school enrollment, attendance and learning levels. Finally, the National Literacy Mission (NLM) is an initiative that aims to increase adult literacy through the implementation of volunteer-led literacy instruction campaigns.

Prior studies have provided the context for the PAHELI 2011 data on rural India's progress towards accomplishment of the mandates of RTE and education-related MDGs. The Annual Status of Education Report (ASER) has been carried out in all rural districts in India since 2005. It provides district level data on MDG goals like enrollment and basic learning levels.

ASER 2011 found that the net enrollment rate of children between the ages of 6 and 14 was 96.7%, while the Government of India's data suggested an enrollment rate of 98.3%. The figure hovers close to 90% in all the developing countries of the world. Despite the fact that enrollment of school-age children in India is relatively high and continues to increase, studies on children's learning outcomes are not as heartening. ASER 2011 reported that only 48.2% of the children in Standard V were capable of reading a Standard II-level text. This implies that children's reading levels not only lag behind expectations for the class they are currently in, but also that nearly half of all children are at least three years behind schedule in learning to read. Learning levels in mathematics were similarly low, with only 59.1% of the children in Standard I able to recognise numbers and only 27.6% of the children in Standard V able to solve basic division problems. This study attempts to assess progress using similar measures in eight districts known to lag behind on many indicators of development.

Methods and tools

In order to assess progress on MDG 2, the sample households were surveyed for the school enrollment status of children between the ages of 3 and 16. Women in each household were surveyed on whether they had attended school and how much schooling they had received, in order to assess progress on MDG 3. PAHELI 2011 moved beyond assessing progress towards benchmarks for MDGs 2 and 3 by collecting data on correlates of educational outcomes, especially learning outcomes, which do not have clear benchmarks in either the MDGs or the RTE. Preschool enrollment data was collected with the intention of assessing the school readiness of young children. Learning levels of women and children were obtained through activity-based assessments, which served the dual purpose of obtaining data on children's and women's learning levels and creating community engagement at the point of data collection. These assessments, which were abbreviated versions of the ASER assessment tool, included a test of ability to read a Standard I-level paragraph in the native language (for women and children) and to perform two-digit subtraction with borrowing (for children only). A Standard I-level paragraph consists of four sentences with four to five words per sentence. Images of the household survey tool and the reading and mathematics assessment tools are shown below.

अनुच्छेद

रानी नदी किनारे रहती है।
नदी में बहुत मछलियाँ हैं।
रानी उनको दाना देती है।
वे सब मज़े से दाना खाती हैं।

अनुच्छेद

काले बादल छाए हैं।
तेज़ बारिश हो रही है।
मोर भी नाच रहा है।
सब नाच देख रहे हैं।

घटाव

52 − 24	76 − 47
48 − 29	75 − 37
46 − 38	31 − 15
65 −18	23 − 14

Besides the household survey, PAHELI 2011 collected data on village educational facilities through observations of government primary schools. School data provided information on observable indicators of compliance with RTE norms such as the availability of infrastructure and delivery of services (for example, drinking water and mid-day meals). Data on student enrollment and teacher appointment was collected to observe compliance with the mandated pupil-to-teacher ratio norms. Further, classroom observations were conducted in Standards II and IV to check the availability of basic teaching supplies, such as blackboards.

Findings

This section describes the PAHELI 2011 findings on the indicators outlined below:

A. School enrollment of children	B. Learning levels of children in standards III and V	C. Women's education and literacy	D. Pre-school enrollment and school readiness
• School enrollment of children aged 6 to 14. • Out-of-school children in groups that are often denied educational access (girls, scheduled castes/scheduled tribes, very poor).	• Reading learning levels. • Mathematics learning levels.	• School completion/attendance rates of adult women. • Literacy levels of adult women.	• Pre-school and school enrollment of children aged three to six.

Household survey sample description

The findings below are based on a survey of 8,065 adult women and 15,964 children between the ages of 3 and 16, described in more detail in Table 1 below.

TABLE 1: SAMPLE DESCRIPTION OF HOUSEHOLD SURVEY		
District	**Number of adult women surveyed**	**Number of children surveyed**
Gumla	1,008	2,153
Hardoi	1,198	2,461
Korba	910	1,744
Nalanda	902	2,170
Rajgarh	943	1,932
Sundargarh	1,031	1,442
Udaipur	881	1,979
Total **	**6,873**	**13,881**
Bhilwara	1,192	2,083

**Total does not include Bhilwara.

School enrollment and out-of-school children

School enrollment is the primary indicator of progress towards MDG 2's ambition of universal access to a full course of primary schooling. ASER 2011 measured enrollment in rural India at 96.7%, indicating that

3.3% of the population of children aged 6 to 14 have either dropped out of school or never been enroled. Inequities in school enrollment remain, with girls less likely than boys to receive a full course of education and children belonging to the scheduled castes and scheduled tribes less likely than others to receive an education. Despite the continuing lack of access to schooling for some children, significant progress has been made towards achieving universal enrollment in recent years. Between 2005 and 2011, the out-of-school rate for children aged 6-14 in rural India fell from 6.6% to 3.3% and the out-of-schol rate for girls of ages 11-14—a particularly vulnerable group due to unequal dropout rates by gender—fell from 11.2% to 5.2%. Private school enrollment has also steadily increased in rural areas since 2005. However, some states, including Rajasthan and Uttar Pradesh in the current study, have not achieved enrollment levels commensurate with that of the rest of the country (ASER 2011).

Table 2 shows the school enrollment rates of children determined through the PAHELI 2011 household survey. Children aged six to fourteen are included, given the RTE focus on children of that age group.

TABLE 2: SCHOOL ENROLLMENT OF CHILDREN AGE 6-14								
			Percentage of Children by Enrollment Status					
District	Gender	Number of children	Enrolled in government school	Enrolled in private school	Enrolled in other (e.g. Madrasa, EGS)	Not enrolled	No data	Total
Gumla	All	1,410	67.2	21.7	0.8	3.2	7.1	100.0
	Boys	719	63.6	23.4	1.1	4.2	7.8	100.0
	Girls	651	71.0	20.1	0.6	2.3	6.1	100.0
Hardoi	All	1,636	54.5	27.3	1.0	9.9	7.3	100.0
	Boys	891	51.7	31.6	0.3	9.1	7.2	100.0
	Girls	721	57.6	22.2	1.8	11.1	7.4	100.0
Korba	All	1,173	86.2	6.1	0.0	3.5	4.3	100.0
	Boys	555	87.0	6.7	0.0	3.1	3.2	100.0
	Girls	594	85.5	5.7	0.0	3.8	4.9	100.0
Nalanda	All	1,447	73.5	8.8	0.4	6.5	10.8	100.0
	Boys	741	71.5	11.5	0.5	6.1	10.4	100.0
	Girls	647	74.8	6.3	0.2	7.2	11.6	100.0
Rajgarh	All	1,270	67.5	18.0	1.7	4.9	8.0	100.0
	Boys	610	62.1	23.1	2.6	3.9	8.2	100.0
	Girls	565	74.3	11.2	1.1	5.7	7.8	100.0
Sundargarh	All	979	77.6	9.7	0.0	4.6	8.0	100.0
	Boys	478	76.4	11.3	0.0	4.2	8.2	100.0
	Girls	473	79.1	8.0	0.0	5.5	7.4	100.0
Udaipur	All	1,297	63.8	14.7	0.2	13.6	7.6	100.0
	Boys	649	65.3	15.9	0.5	12.0	6.3	100.0
	Girls	618	62.8	13.1	0.0	15.6	8.6	100.0
Total**	All	9,212	69.0	15.9	0.6	6.8	7.6	100.0
	Boys	4,643	66.7	18.7	0.7	6.3	7.4	100.0
	Girls	4,269	71.5	12.8	0.6	7.5	7.7	100.0
Bhilwara	All	1,443	73.5	7.0	0.4	10.6	8.5	100.0
	Boys	742	79.1	8.9	0.1	6.9	5.0	100.0
	Girls	648	67.9	5.3	0.5	15.4	11.0	100.0

*Total does not include Bhilwara.

The percentage of out-of-school children (aged 6 to 14) in the PAHELI 2011 districts was 6.8%, more than 3% higher than the all-India figure in ASER 2011 (3.3%). Two districts had notably lower percentages of out-of-school children—Gumla (3.2%) and Korba (3.5%). Both districts in Rajasthan had high percentages of out-of-school children, 13.6% in Udaipur and 10.6% in Bhilwara.

The majority of enroled children studied in government schools (69.0%), but a fairly high number also attended private schools (15.9%). Private school enrollment was lower in Korba (6.1%), Nalanda (8.8%) and Sundargarh (9.7%). Rajasthan was less uniform on this indicator, with a relatively low private school enrollment rate in Bhilwara (7.0%) and a near-average private school enrollment rate in Udaipur (14.7%). A small percentage of children also attended other types of schools, such as *madrasas* or institutions under the education guarantee scheme (EGS).

Gender disparities in access to schooling were relatively low but existed, with 6.3% of boys and 7.5% of girls not attending school. The two districts with the highest percentages of out-of-school children, Bhilwara (10.6%) and Udaipur (13.6%), both in Rajasthan, also had the highest differences in out-of-school rates for girls and boys. A difference existed between the private school enrollment rates of girls (12.8%) and boys (18.7%), suggesting a continuing gender disparity in the willingness of rural families to invest resources in education. This disparity existed at some level in every district, ranging from fairly low (for example, 5.7% of girls versus 6.7% of boys in Korba) to more than double (11.2% of girls versus 23.1% of boys in Rajgarh).

Table 3 breaks down the percentages of out-of-school children by age, gender and district for a more detailed understanding of the children who are least likely to receive an education.

TABLE 3: OUT-OF-SCHOOL CHILDREN AGED 6-10 AND 11-14 BY GENDER								
	Ages 6-10				Ages 11-14			
District	Number surveyed	% Out-of-school all	% Out-of-school boys	% Out-of-school girls	Number surveyed	% Out-of-school all	% Out-of-school boys	% Out-of-school girls
Gumla	841	1.9	3.5	0.3	569	5.1	5.0	5.1
Hardoi	953	5.5	5.5	5.2	683	16.2	14.3	18.9
Korba	653	1.9	1.9	1.8	520	5.6	4.5	6.3
Nalanda	945	5.9	5.2	6.9	502	7.8	7.7	7.5
Rajgarh	767	3.7	3.0	4.3	503	6.8	5.2	7.8
Sundargarh	541	8.5	8.4	8.3	438	5.7	5.9	5.9
Udaipur	817	9.2	7.4	10.7	480	18.4	16.8	19.9
Total **	5,517	4.9	4.8	5.3	3,695	9.6	8.7	10.6
Bhilwara	895	6.9	3.8	10.9	548	16.6	11.4	23.3

**Total does not include Bhilwara.

Among children aged six to ten, 4.9% were not enroled in school. This number included both those who had dropped out and those who had never attended school. Some districts had higher percentages (9.2% in Udaipur, 8.5% in Sundargarh and 6.9% in Bhilwara), while both Gumla and Korba had low percentages (1.9%). Gender disparities were marked in Udaipur and Bhilwara, but not particularly apparent in any of the other districts studied. Non-enrollment of young children has serious implications because they are likely to lag behind their peers in basic skills if and when they enter school.

As might be expected on account of early dropouts and the higher opportunity cost of time, overall enrollment levels were low and gender disparities high among children aged 11 to 14. Among them,

9.6% were not in school. The gender disparity increased with age, with 8.7% of boys and 10.6% of girls not enroled. Several districts had high percentages of out-of-school children, including Bhilwara (16.6%), Udaipur (18.4%) and Hardoi (16.2%). In a few districts, notably Hardoi, Udaipur and Bhilwara, there were large differences between the out-of-school rates for younger and older children, which suggested high dropout rates at the primary and upper primary levels. This indicates that much of the remaining work towards universal enrollment will have to focus on girls and children in the age group of 11 to 14 years and in designing and implementing strategies to retain students who are now enroled in schools. RTE norms on school infrastructure and educational quality partly aim to promote retention and are examined in detail in the section on education facilities.

Table 4 examines out-of-school rates for other groups who are known to lack educational access, including scheduled castes and tribes and children living in extreme poverty.

TABLE 4: OUT-OF-SCHOOL CHILDREN BY CASTE AND LEVEL OF POVERTY				
	SC/ST, OBC		Type of house (Used as a correlate of poverty)	
	SC/ST, OBC	Not SC/ST, OBC	Kutcha and semi-pucca	Pucca
Number of children in sample	6,149	970	7,444	1,725
Out-of-school children aged 6-14 (%)	7.4	3.4	7.3	4.5

Not enough data was available to draw conclusions at the district level.

From the figures, it is clear that caste and poverty play a role in limiting school access for children of primary and upper primary age. The percentage of children from scheduled castes, scheduled tribes and other backwards classes who were not attending school (7.4%) was more than double that of children in other categories. These disparities have been confirmed in other studies such as the National Family Health Survey (NFHS). Distance to school is frequently cited as a barrier to attendance for scheduled caste children because they often live in hamlets on the outer edges of villages. The RTE attempts to address this by requiring that schools be established within reasonable distances of students' homes. The data received from this study points to the importance of improved access.

Further, children who lived in kutcha and semi-pucca houses—suggesting that they are likely to be living in extreme poverty—were more likely to be out of school than their counterparts living in pucca houses. Many in this group also belonged to the SC/ST, OBC categories, indicating that policy solutions towards addressing educational access will need to place special emphasis on these groups and address multiple forms of inequity.

Overall, several conclusions can be drawn from the above analysis of enrollment rates and out-of-school children. *Firstly,* the districts included in this study had lower enrollment rates than rural India as a whole—suggesting that much of the remaining work to be done to meet MDG 2 will be in the PAHELI 2011 districts and other districts with similar characteristics. *Secondly,* high private school enrollment rates in several districts showed that both government and private schools will play an important role in enabling the universal enrollment of primary-school aged children. *Finally,* particular attention will have to be focused on both enrollment and retention of students from vulnerable groups, including girls, SC/ST children and those from very poor families.

Learning levels in basic reading and mathematics

PAHELI 2011 moved beyond tracking progress towards MDG 2 by assessing the learning levels in basic reading and mathematics. RTE does not specify expected learning outcomes for each standard and there is no national policy that holds schools accountable for particular educational outcomes. However, an understanding of learning outcomes is essential to comprehend why children go to school and why they continue to do so or do not. PAHELI 2011 measured children's abilities to read a simple Standard I-level paragraph and to perform two-digit subtraction with borrowing in order to gauge children's achievement of basic skills. These skills provide a picture of students' acquisition of basic competencies that can be considered prerequisites for higher learning.

The reading ability attained by children is shown in Table 5. The reading tool is pictured and described in more detail in the section on methods.

TABLE 5: READING LEVELS OF CHILDREN IN STANDARDS III AND V (%)								
	Standard III				Standard V			
District	Number of students	Can read std I-level paragraph	Cannot read	No data*	Number of students	Can read std I-level paragraph	Cannot read	No data*
Gumla	179	36.3	36.3	27.4	151	56.3	18.5	25.2
Hardoi	182	18.1	71.4	10.4	187	39.6	51.9	8.6
Korba	165	43.0	50.9	6.1	121	71.9	20.7	7.4
Nalanda	166	47.0	45.8	7.2	148	81.1	17.6	1.4
Rajgarh	139	17.3	66.9	15.0	167	40.7	48.5	10.8
Sundargarh	111	15.3	7.2	77.5	110	22.7	1.8	75.5
Udaipur	149	40.3	46.3	13.4	110	66.4	26.4	7.3
Total **	1,091	31.9	48.1	20.0	994	53.5	29.0	17.5
Bhilwara	166	24.1	67.5	8.4	155	65.2	23.9	11.0

*Children were not tested either because they were not at home at the time of data collection or because they could not be tested for some other reason. **There was a large amount of missing data, making it difficult to draw conclusions. ***Total does not include Bhilwara.

Fewer than one-third of the children in Standard III were able to read a Standard I-level paragraph. This implied that most Standard III children were performing more than two years below the reading level expected. In Standard V, approximately half the children were able to read a Standard I-level paragraph, indicating that the rest had not gained the skills expected of them four years ago. There existed considerable variation in reading levels within the districts, though sample sizes within each were too small to make definitive statements.

Findings of the mathematics assessments are shown in Table 6.

	Standard III				Standard V			
District	Students tested	Can subtract	Cannot subtract	No data*	Students tested	Can subtract	Cannot subtract	No data*
Gumla	179	24.0	49.2	26.8	151	39.7	35.1	25.2
Hardoi	182	12.1	77.5	10.4	187	27.3	64.2	8.6
Korba	165	17.0	76.4	6.7	121	41.3	51.2	7.4
Nalanda	166	38.0	53.6	8.4	148	69.6	27.7	2.7
Rajgarh	139	10.1	76.3	13.7	167	23.4	64.7	12.0
Sundargarh	111	6.3	12.6	81.1	110	13.6	6.4	80.0
Udaipur	149	19.5	66.4	14.1	110	47.3	44.6	8.2
Total **	**1,091**	**18.9**	**60.8**	**20.4**	**994**	**37.2**	**44.3**	**18.5**
Bhilwara	166	13.9	77.7	8.4	138	45.2	43.9	11.0

TABLE 6: MATHEMATICS LEVELS OF CHILDREN IN STANDARDS III AND V (%)

*Children were not tested either because they were not at home at the time of data collection or because they refused to be tested. **Data for Sundargarh lacked a large enough sample to draw conclusions due to lack of responses. ***Total does not include Bhilwara.

Less than one in five children (18.9%) in Standard III were able to demonstrate their ability to perform two-digit subtraction with borrowing. In Standard V, the figure rose to 37.2% of the children. This implied that most of the children in Standard V lacked the ability to perform basic numerical operations and were therefore not ready to move on to more advanced topics.

Given that the PAHELI 2011 assessment tool is adapted from the ASER tool, it is enlightening to compare district-wide achievement in reading and mathematics with the state-level results from ASER 2011.

Table 7 shows this comparison.

		Standard III				Standard V			
State	**District**	Can read std I paragraph		Can perform two-digit subtraction		Can read std I paragraph		Can perform two-digit subtraction	
		PAHELI 2011 (district)	ASER 2011 (state)	PAHELI 2011 (district)	ASER 2011 (state)	PAHELI 2011 (district)	ASER 2011 (state)	PAHELI 2011 (district)	ASER 2011 (state)
Jharkhand	Gumla	36.3	30.5	24	23.3	56.3	65.9	39.7	58.1
UP	Hardoi	18.1	33.4	12.1	21.9	39.6	62.5	27.3	47.7
Chhattisgarh	Korba	43	30	17	19.4	71.9	72.2	41.3	57
Bihar	Nalanda	47	31.9	38	29.6	81.1	71.1	69.6	67.1
MP	Rajgarh	17.3	27.1	10.1	15.1	40.7	59.8	23.4	44.6
Odisha	Sundargarh	15.3	40.3	6.3	28	22.7	69.4	13.6	55.9
Rajasthan	Udaipur	40.3	31.8	19.5	21.6	66.4	69.7	47.3	56.9
	Bhilwara	24.1		13.9		65.2		45.2	

TABLE 7: COMPARISON OF DISTRICT AND STATE LEARNING LEVELS

In most cases, individual districts showed lower learning levels than their state-wide averages, using ASER 2011 as a basis for comparison. This implied that the districts studied in PAHELI 2011 had schools that provided basic competencies at an even lower level than their state averages. While both PAHELI 2011 and ASER provide a snapshot of low learning levels in rural schools, ASER compared data over several years and found reading and mathematics levels to be largely stagnant. In fact, between 2009 and 2010, mathematics levels declined slightly. Although school enrollment is now high in most of the country, high enrollment alone cannot guarantee educational success unless it is accompanied by the attainment of skills in basic mathematics and literacy. PAHELI 2011 districts will require effective policies and strategies to bring the learning outcomes of students up to acceptable levels.

Adult female education and literacy

Apart from educating children, promoting adult literacy, particularly among women, is an ongoing challenge in India. Adult female literacy is essential in accomplishing the MDG 3 of gender equality. Female literacy rates have been found to correlate to measures of women's political participation, health, reproductive choice and economic growth. India's 2011 census[62] reports an adult female literacy rate of 65.46% and a male literacy rate of 82.14%. In 2002, UNESCO reported an adult female literacy rate of 48% in India and a male literacy rate of 73%. Worldwide, UNESCO has reported an average female literacy rate of 77%. It is notable that female literacy across the country has been increasing more rapidly than male literacy. All the states included in PAHELI 2011 were reported by Census 2011 to have female literacy rates below the national average of 65.46% (Rajasthan 52.66%, Bihar 53.33%, Jharkhand 56.21%, UP 59.26%, MP 60.02%, Chhattisgarh 60.59% and Odisha 64.36%). Moreover, while the NLM's total literacy campaigns (TLMs) have succeeded in decreasing illiteracy in many states, they have encountered special challenges in several of the states studied in PAHELI 2011—Bihar, Jharkhand and UP.

PAHELI 2011 collected data on adult female education through questions on enrollment and an assessment of the ability to read a short Standard I-level paragraph. School attendance, broken down by district and age, is tabulated in Table 8.

TABLE 8: SCHOOL ATTENDANCE OF ADULT FEMALES								
	Age 25 and Under		Age 26-40		Age 41 and Over		All Women	
District	Number of women	Attended School (%)	Number of women	Attended School (%)	Number of women	Attended School (%)	Number of women	Attended School (%)
Gumla	183	52.5	494	42.5	199	23.6	1,008	40.3
Hardoi	165	52.1	621	35.9	346	22.3	1,198	33.7
Korba	154	67.5	549	43.2	149	18.1	910	43.4
Nalanda	175	43.4	502	42.0	128	18.8	902	38.1
Rajgarh	166	39.8	488	25.4	147	8.8	943	24.0
Sundargarh							1,031	57.3
Udaipur	179	35.8	508	21.3	130	6.9	884	22.9
Total **	1,023	48.2	3,185	35.5	1110	18.4	6,876	37.3
Bhilwara	216	28.7	670	15.7	273	8.1	1,192	16.7

*Age data was incomplete for Sundargarh, so data is not displayed by women's age range. **Total does not include Bhilwara.

[62]http://censusindia.gov.in/2011-prov-results/data_files/india/Table-2(3)_literacy.pdf

Overall, 37% of the women in the seven districts under survey had attended school. In all the districts, younger women were more likely to have attended school, indicating that educational opportunities for women have been improving over time. Between the youngest age category (25 and under) and the oldest (above 40), the disparity was so high that younger women were more than two-and-a-half times as likely to have attended school. Yet, the fact remained that less than half the women in even the younger group (48%) had attended school. Sundargarh was the only district in which a majority of the women had attended school, and in three out of the eight districts studied, less than one in four had attended school.

Table 10 displays the literacy levels of the same sample of adult women. The test for reading ability was the same as that used for children.

TABLE 10: READING ABILITY OF ADULT FEMALES				
District	Number of women	Percentage of women		
		Can read std I-level paragraph	Cannot read	No data
Gumla	1,008	29.3	60.0	10.7
Hardoi	1,198	21.4	72.2	6.4
Korba	910	34.1	47.7	18.2
Nalanda	902	28.8	54.5	16.6
Rajgarh	943	14.2	68.7	17.1
Sundargarh	1,031	39.4	25.9	34.7
Udaipur	884	16.1	69.8	14.1
Total **	**6,876**	**26.2**	**57.1**	**16.7**
Bhilwara	1,192	13.9	74.5	11.6

**Total does not include Bhilwara.

The literacy level among women in the seven districts was low, with only 26.2% of them able to read a Standard I-level paragraph in their local language. This was lower than the adult female literacy rate of 65.5% reported by Census 2011, indicating that women in poor rural areas were less likely to be literate than their better-off urban counterparts[63]. When the percentages were adjusted to include only the women for whom data was available, Sundargarh was the only district in which more than half (60%) were literate. Other studies have shown that rates of literacy are higher than school attendance rates in some districts, pointing to the success of out-of-school literacy initiatives. Sundargarh was the only district surveyed that showed this pattern. Bhilwara was the worst in terms of adult female literacy with only 13.9% of women able to read a paragraph.

[63]Any comparison between literacy rates should also take into account the definition of literacy used by the survey and census.

Table 11 shows the percentage of women who were able to read in relation to whether or not they had attended school.

District	Attended school				Did not attend school			
	Number of women	Can Read std I-level paragraph	Cannot read	No data	Number of women	Can Read std I-level paragraph	Cannot read	No data
Gumla	406	68.7	21.9	9.4	592	2.7	86.7	10.6
Hardoi	404	59.7	34.2	6.2	772	1.8	93.7	4.5
Korba	395	71.4	16.2	12.4	510	5.3	72.4	22.4
Nalanda	344	70.6	20.1	9.3	541	2.2	78.0	19.8
Rajgarh	226	50.4	43.4	6.2	705	2.6	77.4	20.0
Sundargarh	591	66.2	14.9	19.0	414	2.7	42.0	55.3
Udaipur	202	63.9	22.3	13.9	678	1.8	84.1	14.2
Total **	**2,568**	**65.4**	**23.0**	**11.6**	**4,212**	**2.6**	**78.8**	**18.6**
Bhilwara	199	72.4	20.1	7.5	987	2.2	85.8	12.0

TABLE 11: READING ABILITY OF ADULT FEMALES AND SCHOOL ATTENDANCE (%)

**Total does not include Bhilwara.

As one might expect, the ability to read was correlated with school attendance among adult women. Among those who had attended school, approximately two-thirds were able to read a Standard I-level paragraph. This was higher than the percentage of Standard V students who were able to demonstrate the same reading level. Among those who had not attended school, almost none could read a Standard I-level paragraph. Korba was an outlier in terms of the number of women who had not attended school but were able to read. However, even in Korba only 5.3% of the women who had not attended school were literate.

When compared with the rate for current school enrollment of girls, the findings of this study on adult female schooling and literacy show that progress has been made towards gender equity in education over the last several decades. However, they also point to the need to improve adult female literacy. MDG 3's objective is to "promote gender equality and empower women" and numerous studies point to the importance of literacy in women's equality and empowerment. These findings highlight the need for effective implementation of literacy initiatives in the states and districts that have not received adequate attention.

Pre-school education

PAHELI 2011 went beyond studying the enrollment of children in the target age group of MDG 2 and RTE by collecting data on the enrollment of pre-school-age children (aged three to four) in anganwadis, balwadis and kindergartens as an indicator of school readiness. Several studies point to low levels of school readiness among young children in India. Low levels of learning in the primary grades were recorded by this study, as has been done by other studies such as ASER[64] and NCERT[65]. A greater

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[64]http://www.asercentre.org/
[65]http://www.educationforallinindia.com/Achievement_survey.pdf

progress towards school readiness can be gained by looking at the age at which children start school and the preparation they receive before this.

Table 12 shows the enrollment status of children aged three to four in the households sampled.

District	No. of children	Percentage of children aged 3-4 by preschool enrollment				
		Anganwadi/Balwadi	LKG/UKG/Nursery	Not enrolled	No data	Total
Gumla	360	53.9	7.8	18.9	19.4	100.0
Hardoi	300	27.0	5.0	62.0	6.0	100.0
Korba	249	71.5	7.6	12.9	8.0	100.0
Nalanda	343	45.2	2.9	37.6	14.3	100.0
Rajgarh	272	48.2	5.1	26.5	20.2	100.0
Sundargarh	175	67.4	6.3	7.4	18.9	100.0
Udaipur	301	28.2	11.3	32.9	27.6	100.0
Total **	**2,000**	**47.1**	**6.6**	**29.9**	**16.4**	**100.0**
Bhilwara	262	47.7	5.7	32.1	14.5	100.0

TABLE 12: PRE–SCHOOL ENROLLMENT OF CHILDREN AGED 3-4

**Total does not include Bhilwara.

Overall, 53.7 % of the children aged three to four were enroled in some pre-school programme, while 29.9% were not enroled in any. The ASER 2010 national average showed a lower percentage of children who were not enroled in pre-school (29.7% for three-year olds and 19.0% for four-year olds) than the districts in this study. Most enroled children attended anganwadi/balwadi programmes. More information can be found on the districts' anganwadi programmes in the water and sanitation and health sections. There was large variation in enrollment among districts—with as many as 62% of the children not enroled in any programme in Hardoi and as few as 7% in Sundargarh. Significant gender disparities were not noted in pre-school enrollment of children aged three to four and gender-specific data is not therefore displayed in Table 12.

Table 13 shows the enrollment in both pre-school and school of children aged five to six, broken down by district and gender.

TABLE 13: PRE–SCHOOL AND SCHOOL ENROLLMENT OF CHILDREN AGED 5-6										
District	Gender	Number of children	Percentage of children aged 5-6							
			Preschool		School			Not enrolled anywhere	No data	Total
			Balwadi/ Anganwadi	LKG/UKG	Government	Private	Other			
Gumla	All	356	23.0	3.4	50.6	12.9	0.0	6.7	3.4	100
	Boys	190	22.1	3.7	50.5	13.7	0.0	6.3	3.7	100
	Girls	149	24.8	2.7	50.3	12.1	0.0	7.4	2.7	100
Hardoi	All	397	15.4	2.8	36.0	14.1	0.5	28.7	2.5	100
	Boys	223	15.7	3.1	33.2	14.8	0.4	30.9	1.8	100
	Girls	165	15.8	2.4	39.4	13.3	0.6	25.5	3.0	100
Korba	All	259	28.6	4.6	50.2	8.1	0.0	4.2	4.2	100
	Boys	122	27.0	3.3	52.5	7.4	0.0	4.9	4.9	100
	Girls	124	29.0	5.6	49.2	9.7	0.0	4.0	2.4	100
Nalanda	All	414	29.0	2.4	41.8	8.0	1.2	14.5	3.1	100
	Boys	213	25.8	2.8	39.0	10.8	2.3	15.0	4.2	100
	Girls	184	34.2	2.2	42.4	5.4	0.0	13.6	2.2	100
Rajgarh	All	305	12.8	4.6	46.6	18.4	1.3	11.8	4.6	100
	Boys	152	17.8	6.6	35.5	21.1	2.0	12.5	4.6	100
	Girls	132	8.3	2.3	59.8	12.1	0.8	12.1	4.5	100
Sundargarh	All	205	22.4	2.4	52.7	9.3	0.0	4.9	8.3	100
	Boys	110	24.5	1.8	51.8	11.8	0.0	1.8	8.2	100
	Girls	91	18.7	3.3	54.9	6.6	0.0	8.8	7.7	100
Udaipur	All	358	8.4	3.1	50.0	19.3	0.0	18.7	0.6	100
	Boys	198	8.6	4.0	47.0	20.7	0.0	18.7	1.0	100
	Girls	152	7.9	2.0	53.3	17.8	0.0	19.1	0.0	100
Total**	All	2,294	19.7	3.3	46.0	13.1	0.5	14.0	3.4	100
	Boys	1,208	19.5	3.6	43.1	14.7	0.7	14.7	3.6	100
	Girls	997	20.3	2.8	49.0	11.1	0.2	13.6	2.9	100
Bhilwara	All	323	21.4	0.6	52.6	13.0	0.3	11.8	0.3	100
	Boys	164	16.5	0.6	53.7	17.7	0.6	11.0	0.0	100
	Girls	145	28.3	0.0	49.0	9.0	0.0	13.1	0.7	100

*Total does not include Bhilwara.

In the five to six age group, 14.0% of the children were not enroled in school or pre-school. Of those who were enroled in an educational programme, most had begun their formal schooling in government schools. Gender disparities existed in the percentage of children who were enroled in private versus public schools, with young boys more likely to attend private schools. The same was the case among older children. However, gender disparities did not appear to exist in pre-school (anganwadi, LKG, etc.) enrollment and the percentage of children who were not enroled in any programme was nearly the same in both genders.

PAHELI 2011 findings on pre-school enrollment show that many children entered school directly at the age of five without attending pre-school, which may affect school readiness and later learning levels. However, many families had taken advantage of the pre-school programmes offered at anganwadis and a smaller number had sent children to kindergartens.

Facilities

RTE norms include those on school access and infrastructure and the SSA grant funds to schools to improve their existing infrastructure. This section describes the results of observations in which data was collected on the observable indicators of compliance with RTE norms. ASER 2011 reported that only 3.7% of schools met all the seven RTE infrastructure norms that were observed in the study.

Sample description of facilities

Table 14 provides a description of the schools that were visited. It gives the total number of schools visited in each of the seven districts, with their break-up into primary, upper primary and other schools.

TABLE 14: SAMPLE DESCRIPTION OF SCHOOLS OBSERVED					
District	Number of schools visited	Percentage of schools by standards offered			
		Std I-VII/VIII	Std I-IV/V	Others	Total
Gumla	57	51.6	36.8	10.5	100.0
Hardoi	56	3.6	94.6	1.8	100.0
Korba	59	13.6	81.4	5.1	100.0
Nalanda	54	66.7	22.2	11.1	100.0
Rajgarh	58	36.2	56.9	6.9	100.0
Sundargarh	52	46.2	28.9	25.0	100.0
Udaipur	56	55.4	30.4	14.3	100.0
Total **	392	38.8	50.8	10.5	100.0
Bhilwara	65	46.2	47.7	6.2	100.0

**Total does not include Bhilwara.

A total of 392 schools were visited in the seven districts and 65 in Bhilwara district. Most of them served students up to Standard IV/V and about 40% served students up to Standard VII/VIII. Table 15 gives the size of schools that were visited.

TABLE 15: SIZE OF SCHOOLS							
District	Number of schools visited	Breakdown by student enrollment (%)					
		1-60 Students	61-90 Students	91-120 Students	121+ Students	Unknown	Total
Gumla	57	19.3	17.5	10.5	49.1	3.5	100.0
Hardoi	56	0.0	8.9	16.1	75.0	0.0	100.0
Korba	59	30.5	25.4	27.1	15.3	1.7	100.0
Nalanda	54	0.0	0.0	1.9	96.3	1.9	100.0
Rajgarh	58	15.5	10.3	19.0	48.3	6.9	100.0
Sundargarh	52	26.9	13.5	11.5	48.1	0.0	100.0
Udaipur	56	10.7	8.9	16.1	60.7	3.6	100.0
Total **	392	14.8	12.2	14.8	55.6	2.6	100.0
Bhilwara	65	30.8	15.4	24.6	26.2	3.1	100.0

**Total does not include Bhilwara.

Most of the schools visited were relatively large (more than 120 students). However, districts such as Korba, Sundargarh and Bhilwara had a notable number of small schools.

RTE infrastructure norms

Table 16 shows the percentage of schools that met specified RTE infrastructure norms, including an office, store, playground, boundary wall, kitchen and library.

TABLE 16: AVAILABILITY OF INFRASTRUCTURE MANDATED BY RTE									
District	No. of schools	Percentage of schools meeting RTE norms				Library access and usage			
		Office/ Store/ Office-cum-store	Play-ground	Boundary wall	Kitchen for cooking mid-day meals	No library	No books used on day of visit	Books used on day of visit	No data
Gumla	57	82.5	45.6	7.0	66.7	28.1	22.8	45.6	3.5
Hardoi	56	78.6	83.9	51.8	91.1	39.3	44.6	10.7	5.4
Korba	59	69.5	59.3	40.7	66.1	42.4	27.1	27.1	3.4
Nalanda	54	66.7	40.7	46.3	85.2	33.3	31.5	25.9	9.3
Rajgarh	58	65.5	65.5	24.1	69.0	39.7	20.7	34.5	5.2
Sundargarh	52	65.4	28.9	38.5	86.5	13.5	44.2	34.6	7.7
Udaipur	56	76.8	57.1	71.4	53.6	53.6	32.1	14.3	0.0
Total **	392	72.2	54.9	39.8	73.7	36.0	31.6	27.6	4.9
Bhilwara	65	83.1	58.5	58.5	87.7	38.5	27.7	27.7	6.2

**Total does not include Bhilwara.

An office, store or office-cum-store and kitchen for cooking mid-day meals were the RTE-required infrastructure most commonly seen in the village schools. More than half of them also had playgrounds and slightly less than 40% had boundary walls. Almost two out of three schools had libraries, with a nearly even split between those that were used on the day of the visit and those that were not.

Table 17 shows the availability and usability of toilets in schools, including the availability of separate toilets for girls. The lack of hygienic toilet facilities is often a barrier to girls attending schools.

TABLE 17: AVAILABILITY AND USABILITY OF SCHOOL TOILETS											
District	No. of schools	General toilet					Separate girls' toilet				
		No facility	Not useable	Useable	No data	Total	No facility	Not usable	Usable	No data	Total
Gumla	57	14.0	28.1	43.9	14.0	100	22.8	22.8	42.1	12.3	100
Hardoi	56	26.8	57.1	12.5	3.6	100	44.6	46.4	7.1	1.2	100
Korba	59	39.0	37.3	15.3	8.5	100	64.4	17.0	8.5	10.2	100
Nalanda	54	9.3	20.4	63.0	7.4	100	40.7	14.8	33.3	11.1	100
Rajgarh	58	25.9	39.7	22.4	12.1	100	50.0	15.5	22.4	12.1	100
Sundargarh	52	5.8	15.4	67.3	11.5	100	26.9	17.3	38.5	17.3	100
Udaipur	56	5.4	28.6	51.8	14.3	100	16.1	12.5	62.5	8.9	100
Total **	392	18.4	32.7	38.8	10.2	100	28.3	20.9	30.4	10.5	100
Bhilwara	65	4.6	20.0	66.2	9.2	100	26.2	12.3	43.1	18.5	100

**Total does not include Bhilwara.

Nearly one in five schools had no toilet facilities and among those that had toilets, about half were useable. Separate toilets for girls were less widely available than general purpose ones. Only 30.4% of schools had useable girls' toilets, compared to 38.8% that had useable general purpose toilets. Some districts lagged well behind the average. 64% schools in Korba and 50% schools in Rajgarh had no toilets for girls. More extensive comparisons of access to toilet facilities in schools are available in the water and sanitation section.

Table 18 describes the availability of drinking water in schools, which is also an RTE requirement.

District	Number of schools	Percentage of schools				
		No facility	Facility exists but no water available	Drinking water available	No data	Total
Gumla	57	3.5	0.0	82.5	14.0	100
Hardoi	56	0.0	12.5	85.7	1.8	100
Korba	59	1.7	10.2	79.7	8.5	100
Nalanda	54	3.7	7.4	77.8	11.1	100
Rajgarh	58	13.8	12.1	65.5	8.6	100
Sundargarh	52	0.0	1.9	82.7	15.4	100
Udaipur	56	8.9	3.6	85.7	1.8	100
Total **	**392**	**4.6**	**6.9**	**79.7**	**8.7**	**100**
Bhilwara	65	4.6	3.1	80.8	12.3	100

**Total does not include Bhilwara.

Drinking water was available in 80% of the schools. A few schools (4.6%) had no facilities for drinking water and a slightly higher percentage (6.9%) had a hand pump or some other facility but no water was available on the day of observation. Water quality is a cause for concern and an issue that warrants immediate attention. It has been discussed in further detail in the water section of the report.

Besides assessing the availability of RTE-mandated school infrastructure, observations of basic classroom amenities were carried out in Standard II and Standard IV classrooms. The findings are shown in Table 19.

TABLE 19: AVAILABILITY OF AMENITIES IN CLASSROOMS							
		Percentage of standard II classrooms			Percentage of standard IV classrooms		
District	No. of children	Children seated with those of other standards	Blackboard available	Supplementary materials available	Children seated with those of other standards	Blackboard available	Supplementary materials available
Gumla	57	80.7	93.0	73.3	71.9	77.2	56.1
Hardoi	56	76.8	91.1	60.7	67.9	80.4	57.1
Korba	59	86.4	98.3	76.3	69.5	81.4	64.4
Nalanda	54	75.9	88.9	63.0	70.4	66.7	44.4
Rajgarh	58	91.4	91.4	58.6	84.5	79.3	48.3
Sundargarh	52	65.4	76.9	73.1	59.6	55.8	44.2
Udaipur	56	67.9	89.3	53.6	60.7	87.5	53.6
Total **	392	78.1	90.1	65.6	69.4	75.8	52.8
Bhilwara	65	87.7	89.2	60.0	81.5	80.0	47.7

*Total does not include Bhilwara.

Across districts, most children in Standard II (78%) and Standard IV (69%) sat with students from other classes. Most classrooms (90%) were equipped with blackboards and supplementary materials beyond textbooks were available in approximately half of the classrooms.

Pupil-to-teacher ratio

RTE specifies the pupil-to-teacher ratio, with no more than 30 children per teacher in schools with less than 200 students and no more than 40 pupils per teacher in schools with more than 200 students. Table 20 shows the compliance with pupil-teacher ratio norms, calculated as a ratio of the number of children enroled to the number of teachers listed on the register.

TABLE 20: COMPLIANCE WITH PUPIL TO TEACHER RATIO NORMS											
	Schools with less than 200 students				Schools with more than 200 students				All schools			
District	No. of schools	Meet norm	Do not meet norm	No data	No. of schools	Meet norm	Do Not meet norm	No Data	Number of schools	Meet norm	Do Not meet norm	No data
Gumla	35	34.3	57.1	8.6	20	4.6	77.3	18.18	57	22.8	64.9	12.3
Hardoi	35	8.6	88.6	2.9	21	0.0	100.0	0.0	56	5.4	92.9	1.8
Korba	56	32.1	64.3	3.6	2	0.0	66.7	33.3	59	30.5	64.4	5.1
Nalanda	4	25.0	75.0	0.0	49	6.0	92.0	2.0	54	7.4	90.7	1.9
Rajgarh	41	36.6	63.4	0.0	13	23.5	52.9	23.5	58	32.8	60.3	6.9
Sundargarh	42	50.0	47.6	2.4	10	50.0	50.0	0.0	52	50.0	48.1	1.9
Udaipur	43	46.5	46.5	7.0	11	46.2	38.5	15.4	56	46.4	44.6	8.9
Total **	256	35.2	60.9	3.9	126	14.0	77.2	8.8	392	27.8	66.6	5.6
Bhilwara	58	29.3	50.0	20.4	5	28.6	42.9	28.6	65	29.2	49.2	21.5

*Total does not include Bhilwara.

Few schools (28%) met the pupil-teacher norms specified in RTE, which would appear to be an outcome of the lack of trained teachers available for employment. Generally, larger schools struggled to meet the norms with only 14% of those with more than 200 students meeting the requirement. Some districts, notably Hardoi and Nalanda, had very few schools meeting the requirements, while the best-performing district on this indicator, Sundargarh, had half its schools meeting pupil-teacher ratio norms. It follows that many more teachers need to be trained and hired in all the districts to ensure compliance with the RTE norms on pupil-to-teacher ratio.

Attendance rates

Table 21 shows the attendance rates of students and teachers, calculated as a ratio of the observed number of students (or teachers) in attendance to the number of students (or teachers) listed on enrollment (or employment) registers.

TABLE 21: STUDENT AND TEACHER ATTENDANCE (%)			
District	Number of schools	Average observed student attendance Rate	Average observed teacher attendance rate
Gumla	57	54.2	80.1
Hardoi	56	36.1	76.8
Korba	59	78.0	70.8
Nalanda	54	49.7	82.3
Rajgarh	58	62.9	76.1
Sundargarh	52	69.6	96.7
Udaipur	56	76.6	88.6
Total **	392	61.0	81.4
Bhilwara	65	74.7	90.4

**Total does not include Bhilwara.

The student attendance rate across 7 districts was 61%. This could be an underestimate given that some children might be enroled in both government and private schools. ASER 2011 estimated the student attendance rate at 71.9%, suggesting that all the districts surveyed in PAHELI 2011 lag behind the national average for school attendance.

Teacher attendance averaged 81%, with a high of 97% in Sundargarh and a low of 71% in Korba. ASER 2011 found the average teacher attendance rate to be 86.7%, indicating that the villages sampled in PAHELI 2011 had slightly lower teacher attendance rates than the average for rural India.

Mid-day meal scheme

The Mid-Day Meal scheme is the Government of India's child nutrition programme, which provides meals to about 120 million children on all working days. Providing mid-day meals has the purpose of improving child nutrition as well as children's school attendance, retention and ability to learn. Table 22 shows the number of children served mid-day meals and the availability of facilities to support the programme.

TABLE 22: MID-DAY MEAL COMPLIANCE								
District	Number of schools	Average number of students served	Percentage of Schools where Norms are Met					
			Have kitchen	Serve food as per menu	Have a cook	Have utensils for cooking and serving	Have containers for storage	Gap between MDM register and students in attendance
Gumla	57	97.0	66.7	66.7	93.0	89.5	61.4	35.1
Hardoi	56	68.7	91.1	82.1	94.6	87.5	55.4	44.6
Korba	59	61.5	66.1	54.2	64.4	69.5	47.5	32.2
Nalanda	54	193.6	85.2	68.5	81.5	85.2	51.9	50.0
Rajgarh	58	95.4	69.0	36.2	72.4	77.6	63.8	43.1
Sundargarh	52	88.4	86.5	76.9	96.2	82.7	75.0	38.5
Udaipur	56	98.0	53.6	75.0	58.9	87.5	69.6	30.4
Total **	392	99.4	73.7	65.3	79.9	82.7	60.5	39.0
Bhilwara	65	72.6	87.7	81.5	95.4	95.4	86.2	27.7

**Total does not include Bhilwara.*

Most schools had the basic facilities of kitchens, cooks, utensils and containers for serving mid-day meals. Udaipur lacked facilities relative to the other districts. Only 54% schools there had a kitchen and 59% had a cook. Schools served an average of 100 students a day though there were variations depending on school size. Nearly half the schools had discrepancies between the number of students served and the number listed on the MDM register.

Tables 23 and 24 have information on the MDM grants received by schools.

TABLE 23: SCHOOLS RECEIVING MDM GRANTS*			
Type of grant	Receiving grants (%)	Receiving grants in FY 2010-2011 (%)	Receiving grants from april 2010 to date of survey (%)
Number of schools	271	149	203
Kitchen	27.3	17.4	18.7
Kitchen utensils	21.0	13.4	12.8
Money to cook meal	50.6	56.4	55.2
Cook and helper salary	38.0	33.6	37.9

TABLE 24: NUMBER OF MDM GRANTS RECEIVED*						
	No MDM grants	1 MDM grants	2 MDM grants	3 MDM grants	4 MDM grants	Total
No. of schools	52	116	59	39	5	271
Percentage of schools	19.2	42.8	21.8	14.4	1.9	100

Includes Bhilwara.

Most schools received at least one MDM grant in the past year. Grants provided money for kitchen sheds, utensils, salaries and meals.

Concluding thoughts : Education and Literacy

The PAHELI 2011 findings on education can be summarised as follows:

School enrollment was fairly high in all the districts, with only 6.8% of children between the ages of 6 and 14 out of school. However, the number of out-of-school children was higher than the national rural average. Disparities existed in the enrollment of girls, children from poor families and those from scheduled castes, scheduled tribes and other backwards classes. Gender disparities also existed in private school enrollment.

The learning levels of children were low, with more than half of them performing several years behind grade levels in reading and mathematics. Adult female literacy was also low with only 26% of adult women able to read a paragraph. Less than 3% who did not attend school were able to read a paragraph.

Fifty-four percent of three to four-year olds attended pre-school and most children began formal schooling by the age of five, indicating a possible lack of school readiness among young children.

Compliance with RTE-required infrastructure indicators was high in mid-day meal facilities, drinking water and basic amenities such as offices. But it was low with regard to the availability of hygienic toilets and most other facilities. The pupil-to-teacher ratio did not meet the specified norm in two-thirds of the schools. Many more teachers need to be trained and hired in all the districts to ensure compliance with the RTE norms on pupil-to-teacher ratio.

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ANNEXURE

Names of PAHELI 2011 Partners and Team Members

National partners

Government of India - United Nations Joint Progamme on Convergence (GoI-UNJPC)

Planning Commission

UNICEF

UNFPA

UNDP

Knowledge partners

Accountability Initiative
Arghyam

Local partners

Sahyog Sansthan

Shiv Arogya Sansthan

Gram Jan Prabandh Evam Vikas Sansthan

Pratham Rajasthan

Prerna Development Foundation

YAVARD(Youth Association for Voluntary Action and Rural Development)

MP Paryavaran Sudhar Sangathan Rajgarh

SROUT

Lohardagga Gram Swarajya Sansthan

Sarvjanik Gramin Vikas Sansthan

PAHELI 2011 implementation team

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Sunil Yadav
Sushmita Das
Swagata Sen Pillai
Vajinder Thakur
Vikash Kumar
Wilima Wadhwa

MDG Indicators

Official list of MDG indicators	
All indicators should be disaggregated by sex and urban/rural as far as possible.	
Millennium Development Goals (MDGs)	
Goals and Targets (from the Millennium Declaration)	Indicators for monitoring progress
Goal 1: Eradicate extreme poverty and hunger	
Target 1.A: Halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day	1.1 Proportion of population below $1 (PPP) per day 1.2 Poverty gap ratio 1.3 Share of poorest quintile in national consumption
Target 1.B: Achieve full and productive employment and decent work for all, including women and young people	1.4 Growth rate of GDP per person employed 1.5 Employment-to-population ratio 1.6 Proportion of employed people living below $1 (PPP) per day 1.7 Proportion of own-account and contributing family workers in total employment
Target 1.C: Halve, between 1990 and 2015, the proportion of people who suffer from hunger	1.8 Prevalence of underweight children under-five years of age 1.9 Proportion of population below minimum level of dietary energy consumption
Goal 2: Achieve universal primary education	
Target 2.A: Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling	2.1 Net enrolment ratio in primary education 2.2 Proportion of pupils starting grade 1 who reach last grade of primary 2.3 Literacy rate of 15-24 year-olds, women and men
Goal 3: Promote gender equality and empower women	
Target 3.A: Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015	3.1 Ratio of girls to boys in primary, secondary and tertiary education 3.2 Share of women in wage employment in the non-agricultural sector 3.3 Proportion of seats held by women in national parliament

Goal 4: Reduce child mortality

Target 4.A: Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate	4.1 Under-five mortality rate 4.2 Infant mortality rate 4.3 Proportion of 1 year-old children immunised against measles

Goal 5: Improve maternal health

Target 5.A: Reduce by three quarters, between 1990 and 2015, the maternal mortality ratio	5.1 Maternal mortality ratio 5.2 Proportion of births attended by skilled health personnel
Target 5.B: Achieve, by 2015, universal access to reproductive health	5.3 Contraceptive prevalence rate 5.4 Adolescent birth rate 5.5 Antenatal care coverage (at least one visit and at most four visits) 5.6 Unmet need for family planning

Goal 6: Combat HIV/AIDS, malaria and other diseases

Target 6.A: Have halted by 2015 and begun to reverse the spread of HIV/AIDS	6.1 HIV prevalence among population aged 15-24 years 6.2 Condom use at last high-risk sex 6.3 Proportion of population aged 15-24 years with comprehensive correct knowledge of HIV/AIDS 6.4 Ratio of school attendance of orphans to school attendance of non-orphans aged 10-14 years
Target 6.B: Achieve, by 2010, universal access to treatment for HIV/AIDS for all those who need it	6.5 Proportion of population with advanced HIV infection with access to antiretroviral drugs
Target 6.C: Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases	6.6 Incidence and death rates associated with malaria 6.7 Proportion of children under 5 sleeping under insecticide-treated bednets 6.8 Proportion of children under 5 with fever who are treated with appropriate anti-malarial drugs 6.9 Incidence, prevalence and death rates associated with tuberculosis 6.10 Proportion of tuberculosis cases detected and cured under directly observed treatment short course

Goal 7: Ensure environmental sustainability

Target 7.A: Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources Target 7.B: Reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss	7.1 Proportion of land area covered by forest 7.2 CO_2 emissions, total, per capita and per $1 GDP (PPP) 7.3 Consumption of ozone-depleting substances 7.4 Proportion of fish stocks within safe biological limits 7.5 Proportion of total water resources used 7.6 Proportion of terrestrial and marine areas protected 7.7 Proportion of species threatened with extinction
Target 7.C: Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation	7.8 Proportion of population using an improved drinking water source 7.9 Proportion of population using an improved sanitation facility
Target 7.D: By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers	7.10 Proportion of urban population living in slums[b]

Goal 8: Develop a global partnership for development

Target 8.A: Develop further an open, rule-based, predictable, nondiscriminatory trading and financial system Includes a commitment to good governance, development and poverty reduction – both nationally and internationally Target 8.B: Address the special needs of the least developed countries Includes: tariff and quota free access for the least developed countries' exports; enhanced programme of debt relief for heavily indebted poor countries (HIPC) and cancellation of official bilateral debt; and more generous ODA for countries committed to poverty reduction	Some of the indicators listed below are monitored separately for the least developed countries (LDCs), Africa, landlocked developing countries and small island developing States. Official Development Assistance (ODA) 8.1 Net ODA, total and to the least developed countries, as percentage of OECD/DAC donors' gross national income 8.2 Proportion of total bilateral, sector-allocable ODA of OECD/DAC donors to basic social services (basic education, primary health care, nutrition, safe water and sanitation)

[a] For monitoring country poverty trends, indicators based on national poverty lines should be used, where available.

Target 8.C: Address the special needs of landlocked developing countries and small island developing States (through the Programme of Action for the Sustainable Development of Small Island Developing States and the outcome of the twenty-second special session of the General Assembly) Target 8.D: Deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long term	8.3 Proportion of bilateral official development assistance of OECD/DAC donors that is untied 8.4 ODA received in landlocked developing countries as a proportion of their gross national incomes 8.5 ODA received in small island developing States as a proportion of their gross national income Market access 8.6 Proportion of total developed country imports (by value and excluding arms) from developing countries and least developed countries, admitted free of duty 8.7 Average tariffs imposed by developed countries on agricultural products and textiles and clothing from developing countries 8.8 Agricultural support estimate for OECD countries as a percentage of their gross domestic product 8.9 Proportion of ODA provided to help build trade capacity, debt sustainability 8.10 Total number of countries that have reached their HIPC decision points and number that have reached their HIPC completion points (cumulative) 8.11 Debt relief committed under HIPC and MDRI Initiatives 8.12 Debt service as a percentage of exports of goods and services
Target 8.E: In co-operation with pharmaceutical companies, provide access to affordable essential drugs in developing countries	8.13 Proportion of population with access to affordable essential drugs on a sustainable basis
Target 8.F: In co-operation with the private sector, make available the benefits of new technologies, especially information and communications	8.14 Fixed telephone lines per 100 inhabitants 8.15 Mobile cellular subscriptions per 100 inhabitants 8.16 Internet users per 100 inhabitants

[b] The actual proportion of people living in slums is measured by a proxy, represented by the urban population living in households with at least one of the four characteristics: (a) lack of access to improved water supply; (b) lack of access to improved sanitation; (c) overcrowding (3 or more persons per room); and (d) dwellings made of non-durable material.

PAHELI 2011 Indicators v/s MDG Goals

PAHELI 2011 SECTION	PAHELI 2011 INDICATORS		MDG GOAL NO	RELATED TO MDG GOAL	PAHELI 2011 FINDINGS (7 districts)
	HOUSEHOLD LEVEL	COMMUNITY AND FACILITY LEVEL			
	House type		Goal 1	Eradicate Extreme Hunger and Poverty	Majority live in Kutcha House, with Gumla and Sundargarh being the highest and Nalanda the least. Only 18.2% in the 7 PAHELI 2011 districts live in Pucca House
Life and Livelihood	Land ownership[1]		Goal 1	Eradicate Extreme Hunger and Poverty	Most reported owning some land barring Nalanda, where almost 41% reported owning no land
	Household possession		Goal 1	Eradicate Extreme Hunger and Poverty	Barring Gumla (53.2 %), almost all said they own cots, followed by clocks/watch. **Cell phone penetration is high; almost 58% own them, with Hardoi and Rajgarh reporting 70%.**[2] Almost 20% reported owning TVs
	Livestock possession		Goal 1	Eradicate Extreme Hunger and Poverty	Cows and Buffaloes most favoured livestock possession, almost 68% reported owning them

[1] Given the nature of the PAHELI 2011 effort, measurement of land ownership is a complex exercise. Very crude indicator was used for land ownership

[2] Also Goal 8: Develop a Global Partnership for Development

PAHELI 2011 SECTION	PAHELI 2011 INDICATORS		MDG GOAL NO	RELATED TO MDG GOAL	PAHELI 2011 FINDINGS (7 districts)
	HOUSEHOLD LEVEL	COMMUNITY AND FACILITY LEVEL			
	Transportation		Goal 1	Eradicate Extreme Hunger and Poverty	64% use bicycles and only 16.3% use motorcycle
	Cooking fuel		Goal 1	Eradicate Extreme Hunger and Poverty	All most all were seen using sticks and firewood; majority reported to be using one type of cooking fuel. **Usage by the population of solid fuels was reported to be negligible**[3]
Life and Livelihood	Food (Women)		Goal 1	Eradicate Extreme Hunger and Poverty	Majority consume energy giving food followed by protective food, but very little consumption of body building food was reported[4].
	Primary work activity		Goal 1	Eradicate Extreme Hunger and Poverty	39% of men engaged in cultivating own land and 63.3% of women perform household chores. **Share of women in wage employment in non-agricultural sector was found to be non-existent**[5].

[3] Also Goal 7: Ensure Environmental Sustainability
[4] Also Goal 5: Improve Maternal Health
[5] Also Goal 3: Promote Gender Equality and Empower Women

| PAHELI 2011 SECTION | PAHELI 2011 INDICATORS | | MDG GOAL NO | RELATED TO MDG GOAL | PAHELI 2011 FINDINGS (7 districts) |
	HOUSEHOLD LEVEL	COMMUNITY AND FACILITY LEVEL			
Life and Livelihood	PDS (access to scheme by household)		Goal 1	Eradicate Extreme Hunger and Poverty	67% reported having ration card; 12.6% did not. Fairly high percentage of card holders reported getting entitled quantity of grains and sugar. But, there was a problem in Gumla, Hardoi and Nalanda in receiving entitled amount of rice.
	MGNREGS (access to schem by household)		Goal 1	Eradicate Extreme Hunger and Poverty	Awareness of the scheme and its provisions was found to be low. 38% applied for work orally and 24.5% in writing. Majority of the applicants were STs (50.7%) followed by OBCs (22.2%) and the SCs (13.1%)

PAHELI 2011 SECTION	PAHELI 2011 INDICATORS		MDG GOAL NO	RELATED TO MDG GOAL	PAHELI 2011 FINDINGS (7 districts)
	HOUSEHOLD LEVEL	COMMUNITY AND FACILITY LEVEL			
Water and Sanitation	Quality - Bacterial contamination in drinking water		Goal 7	Ensure Environmental Sustainability	High incidence of bacterial contamination detected, with the 7 district average being 71.6%
	Satisfaction level		Goal 7	Ensure Environmental Sustainability	Majority fully satisfied with the quality of drinking water - 67.4%
	Purification of drinking water		Goal 7	Ensure Environmental Sustainability	54.8% do not purify water
	Ease of Access / Location		Goal 7	Ensure Environmental Sustainability	Hand Pumps (56.7) most common source of water, followed by wells (22.8%) and Taps Inside Home (14.5%). Almost 82% of the sources inside or within 250 m. 40.7% villages visited had Government supply
	Reliability		Goal 7	Ensure Environmental Sustainability	87.3% reported availability all the time. 41.3% faced no problem throughout the year. 17.6% said to face problem for more than a month

PAHELI 2011 SECTION	PAHELI 2011 INDICATORS		MDG GOAL NO	RELATED TO MDG GOAL	PAHELI 2011 FINDINGS (7 districts)
	HOUSEHOLD LEVEL	COMMUNITY AND FACILITY LEVEL			
Water and Sanitation	Quantity		Goal 7	Ensure Environmental Sustainability	Average per capita consumption per day 60 litres (LPCD). With washing and bathing taking 47.2 litres and 1.6 litres for drinking
		Quality – Fluoride	Goal 7	Ensure Environmental Sustainability	All most all community sources were found to have permissible limits of fluoride 92.5%
		Primary school water quality - Bacterial contamination	Goal 7	Ensure Environmental Sustainability	50% had bacterially contaminated drinking water
		Anganwadi water quality - Bacterial contamination	Goal 7	Ensure Environmental Sustainability	45.6% of the drinking water was bacterially contaminated
		Primary school water availability	Goal 7	Ensure Environmental Sustainability	79.7% of them had functional drinking water facility

PAHELI 2011 SECTION	PAHELI 2011 INDICATORS		MDG GOAL NO	RELATED TO MDG GOAL	PAHELI 2011 FINDINGS (7 districts)
	HOUSEHOLD LEVEL	COMMUNITY AND FACILITY LEVEL			
	Toilet - Usable or not		Goal 7	Ensure Environmental Sustainability	18.1% had toilets but only about half of them are used.
	Place of defecation		Goal 7	Ensure Environmental Sustainability	85.8% practice open defecation
	If a toilet exists whether it was built under government scheme		Goal 7	Ensure Environmental Sustainability	About 49% built under government scheme
Water and Sanitation	Perceptions related to causes of Diarrhoea		Goal 7	Ensure Environmental Sustainability	Only 44.6% knew Diarrhoea was a water borne disease[6]
		Methods of waste water disposal	Goal 7	Ensure Environmental Sustainability	27.8% drainage, 14.9% fields, 10.2% soak pits
		Usable toilets in primary schools	Goal 7	Ensure Environmental Sustainability	38.8% reported usable

[6] Also Goal 4: Reduce Child Mortality

PAHELI 2011 SECTION	PAHELI 2011 INDICATORS		MDG GOAL NO	RELATED TO MDG GOAL	PAHELI 2011 FINDINGS (7 districts)
	HOUSEHOLD LEVEL	COMMUNITY AND FACILITY LEVEL			
Water and Sanitation		Usable toilets in Anganwadis	Goal 7	Ensure Environmental Sustainability	14.4% functional and clean
		Usable toilets for girls in primary Schools	Goal 7	Ensure Environmental Sustainability	Only 30.4% of the primary schools had separate and functional toilets (**One of the causes of girl children not going to school or dropping out**)[7]
		Observation of children washing hands with soap before eating	Goal 7	Ensure Environmental Sustainability	In only 31.4% of the cases the children were seen to be washing hands with soap before eating

[6] Also Goal 3 : Promote Gender Equality and Empower Women

PAHELI 2011 SECTION	PAHELI 2011 INDICATORS		MDG GOAL NO	RELATED TO MDG GOAL	PAHELI 2011 FINDINGS (7 districts)
	HOUSEHOLD LEVEL	COMMUNITY AND FACILITY LEVEL			
	Antenatal and post-natal care		Goal 5	Improve Maternal Health	87.4% received at least one TT injection, 69% had at least one antenatal check up and 65.3% consumed IFA tablets during pregnancy
	Institutional delivery		Goal 5	Improve Maternal Health	57.9%, highest in Rajgarh, Sundargarh and Nalanda. Lowest Korba
	Visit of health workers post delivery - Institution		Goal 5	Improve Maternal Health	47.30%
Mother and Child Heath	Visit of health workers post delivery - Home		Goal 5	Improve Maternal Health	18.10%
	Difficulties in receiving government incentives		Goal 5	Improve Maternal Health	82.4% received money under JSY out of which 75.9% had no problem receiving the benefits
	Iodine content in edible salt		Goal 5	Improve Maternal Health	Sub-optimally iodised salt detected in 32.25 % of the households. Most in Hardoi (58%), Nalanda (56.3%) and Rajgarh (39.4%)
	Initiation of breastfeeding		Goal 4	Reduce Child Mortality	All most all women breastfed. 60.2% started within half hour, and 29.9% within 24 hours

PAHELI 2011 SECTION	PAHELI 2011 INDICATORS		MDG GOAL NO	RELATED TO MDG GOAL	PAHELI 2011 FINDINGS (7 districts)
	HOUSEHOLD LEVEL	COMMUNITY AND FACILITY LEVEL			
	Immunisation		Goal 4	Reduce Child Mortality	Only 11.3% reported full immunisation of children.
	Practices in feeding young children		Goal 4	Reduce Child Mortality	In 75.4% of the cases semi-solid food was started after 6 months
Mother and Child Heath	Awareness of mothers about Anganwadi and services offered		Goals 5	Improve Maternal Health	96% of the mothers new about Anganwadis. Few amongst them knew about the services offered at the anganwadis, with **food for children** (60.5%) being the most followed by **food for pregnant mothers** (37.4%), immunisation (35.6%), **antenatal care** (27.9%), **growth monitoring and referral** (23%), **dietary advice to mothers** (12%) and **non-formal education** (9.2%)[a]

[a] Also Goal 4 and 2: Reduce Child Mortality and Achieve Universal Primary Education

PAHELI 2011 SECTION	PAHELI 2011 INDICATORS		MDG GOAL NO	RELATED TO MDG GOAL	PAHELI 2011 FINDINGS (7 districts)
	HOUSEHOLD LEVEL	COMMUNITY AND FACILITY LEVEL			
Education and Literacy	School enrollment (6-14)		Goal 2	Achieve Universal Primary Education	6.8% not enroled in school. Most enroled in Government - 69% and 15.9% in Private
	Out-of-school (6-10)		Goal 2	Achieve Universal Primary Education and Promote Gender Equality and Empower Women	4.9% out of school. 4.8% Boys and 5.3% Girls
	Out-of-school (11-14)		Goal 2 and Goal 3	Achieve Universal Primary Education and Promote Gender Equality and Empower Women	9.6% out of school. 8.7% boys and 10.6% girls
	Out-of-school children of vulnerable groups (6-14)		Goal 2	Achieve Universal Primary Education	ST, SC and OBC 7.4%
	Learning Level of Children Std III		Goal 2	Achieve Universal Primary Education	Only 31.9% could read a Level I paragraph and 18.9% could subtract
	Learning Level of Children Std V		Goal 2	Achieve Universal Primary Education	Only 53.5% could read a Level I paragraph and 37.2% could subtract

PAHELI 2011 SECTION	PAHELI 2011 INDICATORS		MDG GOAL NO	RELATED TO MDG GOAL	PAHELI 2011 FINDINGS (7 districts)
	HOUSEHOLD LEVEL	COMMUNITY AND FACILITY LEVEL			
Education and Literacy	Schooling status of adult women		Goal 3	Promote Gender Equality and Empower Women	Out of all adult women covered only 37.3% went to school. More younger adults went to school than the older. 25 years and below (48.2%), 26-40 (35.5%) and 41 and above (6.9%)
	Literacy level of adult women		Goal 3	Promote Gender Equality and Empower Women	26.2% of adult women could read a Level I paragraph. 65.4% of adults who went to school and 2.6% adults who never went to school could read this paragraph

PAHELI REPORT

2010