

MGNREGA WORKS AND THEIR IMPACTS
A Rapid Assessment in Maharashtra

Sudha Narayanan, Krushna Ranaware, Upasak Das and Ashwini Kulkarni



Indira Gandhi Institute of Development Research, Mumbai
October 2014

<http://www.igidr.ac.in/pdf/publication/WP-2014-042.pdf>

MGNREGA WORKS AND THEIR IMPACTS

A Rapid Assessment in Maharashtra

Sudha Narayanan, Krushna Ranaware, Upasak Das and Ashwini Kulkarni

Indira Gandhi Institute of Development Research (IGIDR)

General Arun Kumar Vaidya Marg

Goregaon (E), Mumbai- 400065, INDIA

[Email\(corresponding author\): sudha@igidr.ac.in](mailto:sudha@igidr.ac.in)

Abstract

This paper presents the results of a survey of over 4100 works created under the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) and over 4800 randomly selected users across 100 villages in 20 districts in Maharashtra. It has two goals: the first was to verify the existence of the assets and the second was to elicit user perceptions of the problems and benefits they associate with the work. The survey indicates that 87% of the works exist and function and over 75% of them are directly or indirectly related to agriculture. A bulk of the rest constitutes rural roads that connect habitations to farms and provides access to agricultural markets. The study also finds that 92% of the randomly selected users report that their main occupation is farming; half of them are small and marginal farmers, owning less than 1.6 hectares of land. An overwhelming 90% of respondents considered the works very useful or somewhat useful; only 8% felt the works were useless. There is some evidence that where people feel that have played a part in deciding the type of work, these are more likely to be ranked as useful and well-maintained. Likewise, works on private lands tend to score better in terms of perceived usefulness and in terms of present condition. Overall it appears that the works are supportive of agriculture and of small and marginal farmers. There is however scope to improve the design of assets and to have a more inclusive process of work selection.

Keywords: MGNREGA, India, assets, agriculture, subjective perceptions, local participation

JEL Code: H4, H5, O13, Q5

Acknowledgements:

This study was commissioned by the Department of EGS Government of Maharashtra in February 2014 with the mandate of understanding the perceptions of usefulness of assets created under the MGNREGA in Maharashtra. The project was conceived as a collaborative effort led by the Indira Gandhi Institute of Development Research (IGIDR) with Pragati Abhiyan. In the preparation of the paper we are grateful to a large number of people for extending the necessary support, inputs and advice. Mr.V.Giriraj, Mr. S Muthukrishnan and Ms.Vimala have provided valuable support in implementing the survey and ensuring that the study was truly an independent effort. We are grateful to them. A number of faculty members and students drawn mainly from various agricultural colleges participated enthusiastically in the survey and many interns were involved in the verification of the data. A task of this scale would have been impossible without them. Dipanjan Chakraborty assisted with assembling administrative data from government websites and we are thankful to him for his assistance. The Director of IGIDR, Prof. S. Mahendra Dev has been very supportive of this study right through and provided insights and inputs that are reflected in this paper. We received useful feedback from participants in an internal workshop conducted at the IGIDR in Mumbai on September 11, 2014. This paper reflects suggestions proposed during this time. The errors and omissions that remain are ours alone.

MGNREGA WORKS AND THEIR IMPACTS

A Rapid Assessment in Maharashtra

Sudha Narayanan
Krushna Ranaware
Upasak Das
Ashwini Kulkarni

1. Introduction

The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) was notified on September 5, 2005 and implemented in three phases covering all districts over time. Although the focus is on augmenting wage employment, it is ambitious in scope and aims to accomplish a number of things. Amongst other things, the Act envisaged that the works undertaken as part of the programme would strengthen natural resource management and address causes of chronic poverty like drought, deforestation and soil erosion, thereby encouraging sustainable development. While there is a fairly rich documentation of the impacts of the MGNREGA as a safety net programme on wages, income and consumption, very little is known about the nature of assets created and their impacts on peoples' lives. Indeed, the MGNREGA is frequently thought of as a poverty alleviation scheme through the creation of wage employment for unskilled labour and not much else. The fact that it is not simply a work creation programme but derives its legitimacy from being an asset creation programme is often overlooked. When it is not, there is a widespread belief that assets created under MGNREGA are of dubious usefulness.

Recently a few researchers have begun to assess the impacts of MGNREGA works especially focusing on environmental services and water resource availability (Esteves, et al, 2014; Shah and Verma, 2011, Aggarwal, et al, 2012, for example).¹ Such efforts are still relatively infrequent compared with those that focus on labor and wages, etc. One explanation for the paucity of studies focused on the impact of MGNREGA assets until now has been that it was too early for the benefits or problems of these assets to filter through. However, with seven years of the MGNREGA programme behind us, this constraint is less relevant today.² At this juncture, we propose to contribute to this emerging body of evidence through a verification exercise of the MGNREGA works, a documentation of the types of works and a survey of select users. We depart from existing studies by focusing on recording subjective assessments and perceptions of benefits and costs that users associate

¹ Other studies include Chakraborty and Das (2014), Bassi and Kumar (2010), IIS (2013), ILO and DA (2001), Tiwari et al (2011). For an annotated bibliography of other studies, see MoRD (2012).

² Another explanation that continues to frustrate research on this issue is the absence of data and the methodological challenges of assessing the durability and worth of these assets.

with these works rather than quantifying these in terms of either physiological phenomena or benefit-cost ratios, as other studies have done.

2. The study

1) Study area and scope

The focus of this study is the state of Maharashtra. As is widely acknowledged, although the MGNREGA was inspired by the pioneering initiative of Maharashtra, which had in place a successful Employment Guarantee Scheme in the state since 1972 (embodied in an Act since 1979), the state has only recently begun implementing the new scheme vigorously.

In that context, this study seeks to accomplish two things. The first goal is to verify the assets that have been created under the MGNREGS by comparing with administrative data and recording its condition and quality. This is mainly to examine the concern that many of these works are only on paper and do not in fact exist. The second goal is to record the perceptions of impacts of these works through a systematic survey of beneficiaries identified specifically for each asset through spatial delimitation criteria. This is to be able to get a perspective of the usefulness of these works to local communities.

The study covers 20 of the 33 districts in Maharashtra.³ One block in each of the 20 districts was selected for the study (Appendix Table 1; Map 1). The block was sampled purposively to represent the best (or better) performing blocks in terms of expenditures on the programme in the financial year 2012-13. Within each of the 20 blocks selected, five Gram Panchayats (GPs) were included for the survey; these five GPs were the best performers in terms of the cumulative number of assets created (and completed) under the MGNREGA over the period 2010-13.

The sampling method explicitly favours blocks and GPs that have been prolific in the creation of assets and is therefore not representative of all GPs in Maharashtra. The sample thus necessarily represents GPs that have implemented the MGNREGA reasonably well. This approach is essential because the objective is to understand the impact that assets have on people and to verify their condition, which is predicated on the assets being there in the first place. The scope of the study is therefore limited to exploring the usefulness of assets and the type of assets created rather than assessing the implementation aspects of the MGNREGA from the perspective of creation of durable assets. That said, to the extent that we cover two-thirds of all rural districts in the state, we would still be able to

³ The original intent was to cover all the districts in Maharashtra. But owing to non-availability of adequate number of survey teams, we had to restrict our study to 20 districts. We do not however believe that this undermines the representativeness of the districts since the districts covered belong to different administrative divisions, agro climatic zones, with different socio-demographic characteristics and agrarian structures.

comment on regional differences in the implementation of the MGNREGA, by comparing top five GPs across districts.

Within the selected top performing sample Gram Panchayats, the survey considered all completed works as of December 31, 2013, going back to cover works that were completed on or after January 1, 2010. The rationale for choosing a three year period for the survey was to be able to capture a combination of new and relatively old works. This would have the merit of allowing us to ascertain their durability (or non-durability, as the case may be) of works and also ensure that the works have had time to yield benefits (in the case of horticulture and afforestation), if at all.⁴ Even though the sample GPs do not represent GPs in the entire district, in terms of the MGNREGA works, the works in the survey constitute 7.53 % for all and ranging between 1% in Jalgaon and Nashik and as high as 53 % in Washim.⁵ Together, the MGNREGA works in the sample GPs accounted for 5% of all MGNREGA works in Maharashtra over the period 2010-2013 (Annex Table 2).

Sample households were identified for MGNREGA works through different approaches, depending on whether they were on private or public land. For works on private lands, the household of the owner of the land or that of the one who operates it was considered as the beneficiary household. In the case of these assets, only one beneficiary household was surveyed. For works on common property, selection of beneficiary households was based on spatial delimitation criteria, which entailed interviewing the two households that were either located closest to the asset or possessed or operated the land located closest to the asset. Overall, the survey includes interviews with 4881 beneficiary households and verification of 4266 assets spread across 100 GPs.⁶ Among the 4881 respondents, around 15% were women.⁷

The survey was conducted in February and March 2014, by 344 trained enumerators organized into twenty teams with 40 staff/faculty supervisors drawn from predominantly local agricultural colleges. The survey instruments, which were pretested and translated into Marathi, included a verification exercise, which required the teams to

⁴ The notion of durability depends on the type of work. In the context of this study, we understand durability as something that does not get washed away or damaged seasonally and has a life beyond a year.

⁵ The sample GPs account for six percent of all GPs in the sample blocks. In some sample blocks they cover around 3.6% of all GPs and in others it covers over 12% of all GPs in the block. In the case of Gadchiroli, one GP was located in a politically sensitive zone and was replaced with the GP that was next on the list of most works completed over the period 2010-2013.

⁶ It must be noted that 5265 works were completed under the MGNREGA between January 1, 2010 and December 31, 2013, in the sample GPs. Out of these, 5189 were included as assets to be surveyed for which we were able to obtain work identification and description for verification. Only 4266 were assigned to the survey teams for verification for the following reason. In all sample GPs, all assets were to be surveyed. In Thane alone only a third of all works were to be included since the number of works in Thane was thrice that of all other sample blocks. Out of these 4266 works, only 4103 were successfully verified in the sense that the enumerators were able to determine its exact status. The rest remain unverified on account of a number of reasons that are discussed in a subsequent section. For the rest of the study, we confine our discussions to only those assets that have been surveyed/ verified.

⁷ There was no explicit effort to select respondents based on gender and this aspect is left out of the purview of the work.

physically verify the asset. Teams were then required to identify beneficiary households for the interviews through a set of predetermined spatial selection criteria aimed at preventing an arbitrary choice of respondents (Appendix 1). The questionnaires were constructed to elicit the benefits as well as problems that users might associate with a particular MGNREGA work. A community questionnaire covering various aspects of the GPs was also administered to understand the local contexts that were being studied.⁸

For the purpose of the survey, works created under the MGNREGA were categorized and aggregated into a few broad groups with the aim of unambiguously separating out works on public lands and private lands, while ensuring that distinct types of works are captured through different questionnaires.⁹ The categorization used in the study does not necessarily map on to the government classification (See

Table 1 for a mapping).

For each of the works covered by the survey, we record a customized set of benefits and problems (or costs) households associate with the work. For example, watersheds, contour trenching, earthen and stone bunds, farm ponds, compartment bunding and afforestation serve to conserve soil and water. Land development, horticulture and wells potentially support agriculture-based livelihoods and food security while possibly stemming migration. Roads help the overall activity in the villages and through increased access to markets, schools and health services, potentially reducing the costs of human capital investments. Many works could also generate conflicts over user rights and have negative ramifications. In the case of roads, even if they are small rural pathways leading to the field, these might pass through private lands leading to loss of lands or inconvenience the owners of these lands. Water structures similarly involve a tradeoff wherein the benefits of water harvesting, storage and conservation entail potentially a loss from putting the land to alternate uses. Horticultural works might end up being so costly to maintain as to outweigh the benefits. To ensure that we capture user perspectives of the full range of issues that could arise from having a new work in place, we try to elicit not simply the perceptions of benefits but the costs as well. These were developed through field visits and pilot surveys and are presented as a separate companion document. For the purpose of this study, apart from the survey of households and enumerator verification, we also draw on administrative data on the works.

⁸ In this version of the report, we have not made use of data on the GPs since this data set is as yet incomplete.

⁹ This was not always possible since works sometimes straddle private and public lands. Nevertheless, we use this nomenclature for the rest of the report. This also ensures that should there be any errors in the coding of asset type in the Management Information System (MIS), we are able to assign the correct asset type rather than carry over these errors into the analysis. For example, a water conservation work on public land might be erroneously classified as other work. In the survey we classify it as a water conservation work on public land rather than as other work.

	Official			Study	
	Code	Category	Number of assets	Classification under the Study	Number of Assets
1	DP	Drought Prevention and Proofin	364	Afforestation/ Horticulture/ WC-WH on common land	241
2	IF	Irrigation Facility	529	Afforestation/ WC-WH on common land/ Land development on private land	511
3	LD	Land Development	314	WC-WH on common land/ Land development on private land	148
4	RC	Rural Connectivity	291	Roads	258
5	WC	Water Conservation	1747	WC-WH on common land/ Land development on private land	1157
6	WH	Water Harvesting	1185	WC-WH on common land/ Land development on private land	799
7	RS	Rural Sanitation	753	Other works	662
8	SK	Sahayata Kendra	2	Other works	1
9	Not		4	Unknown	326

Table 1: Types of works: Official version and in the study

Note: WC refers to water conservation, WH to water harvesting. The 4013 works refers to those whose status was documented by the survey tams.

	specified				
	TOTAL		5189	TOTAL	4103

2) Assessing the impacts of MGNREGA works

Apart from verifying if the MGNREGA works do exist and in what condition they are, an overarching aim is to ascertain if the intended beneficiaries in fact value these MGNREGA projects and if so, in what ways and how much. This study did not seek to quantify the benefits and costs of MGNREGA works, which would be a complex and challenging task, particularly for a large sample of very diverse works and given the constraints on time and budget. Typically, valuation of infrastructural and public works involves the computation of net benefits or social returns on these assets by measuring the difference in economic benefits to the beneficiaries relative to the costs incurred on creating and maintaining this asset and depreciation. This involves a number of assumptions regarding which prices are appropriate to value these, the life span of an asset, and so on.

Rather than use this approach, this survey was designed as a rapid appraisal that relied on *subjective perceptions* of the usefulness of assets. The use(s) of these MGNREGA works to the local community and their own perceptions and perspectives represent one way of measuring value of an asset. Subjective measures entail challenges and limitations of their own, but from the perspective of the goals of this project, seemed an appropriate approach.

Although the assessment of MGNREGA works is a technical subject, beneficiaries can nevertheless hold considered judgments on the quality and usefulness. The central premise of documenting subjective perceptions of potential users of these works is that it is possible to get some catchall measure of the quality and usefulness of the works created under the MGNREGA. Perceptions of benefits and costs or of quality are necessarily subjective in nature and therefore have specific interpretative value. They are best viewed as indicators that complement benefit-cost studies and account for an important dimension of these works from the users' perspective.

This study focuses exclusively on the usefulness of MGNREGA works as perceived by the users themselves and does not venture to judge whether these works conform to programme norms. Likewise, user assessments of quality of works have little bearing on whether the works undertaken follow technical specifications for the works. Neither can they shed light on whether these works should be judged differently because they form part of a cluster of similar infrastructure, for example, as part of a watershed project. The perceptions of quality in the context of this study are inevitably linked to perceptions of usefulness. This may further vary widely depending on the larger context of living conditions. For example, a road of a certain quality in an inaccessible GP might be perceived to be of high quality and usefulness relative to a road of comparable quality in a

well-connected GP. So too, perceptions of usefulness of public works could differ systematically from those for works on private lands. These must be borne in mind in interpreting the findings of this study.

3) Plan of the study

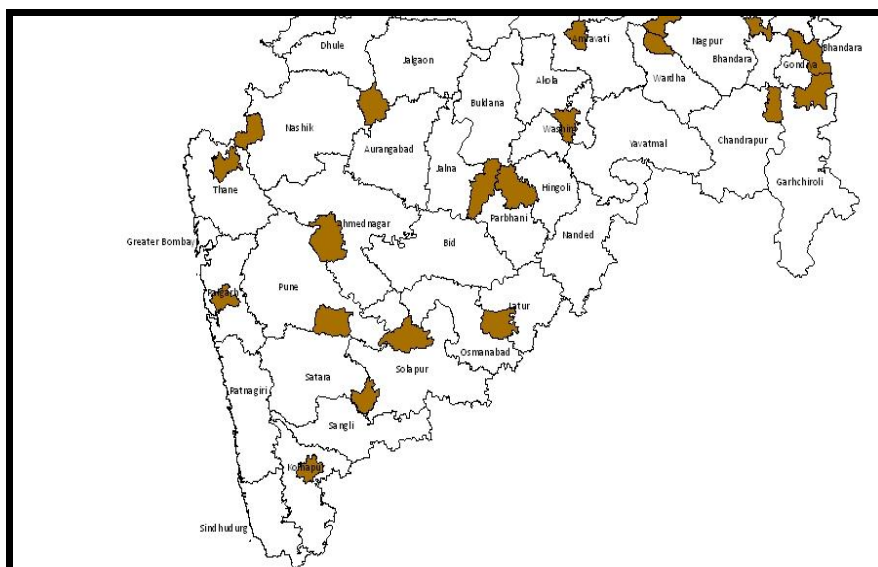
Following this background, we introduce the study area and foreground the sample blocks against the larger context and performance of the MGNREGA in Maharashtra (Section 3). Following this are three sections: the first focuses on the assets themselves and their usefulness (Section 4); the second part focuses on the local processes to understand the extent to which communities are able to play a role in acquiring and maintaining these assets and the extent to which these works reflect the aspirations of the beneficiaries (Section 5). Throughout we comment on regional differences and variations across the type of assets. The final section provides a summary and concluding remarks (Section 6).

3. The MGNREGA in the study area

1) Introducing the study area

The study area comprises twenty blocks, one from each of twenty different districts (Figure 1). Although all the districts are not represented in the sample, the sample districts come from the all six administrative divisions in Maharashtra. They also reflect the diversity of rural Maharashtra in terms of socio-demographic and geographic characteristics. The sample blocks, for example, straddle most of the nine National Agriculture Research Project (NARP) agro-climatic zones or geographies. Among the sample blocks, the average decadal rainfall (1995-2005) ranges from as little as around 400 mm (Parner, Ahmadnagar) to 3500 mm (Jawahar, Thane). Some of the blocks get assured rainfall and others face high uncertainties in rainfall. The sample blocks also represent different socio-demographic composition (Annex Table 1). For example, there are blocks that are predominantly tribal, such as Kurkheda (Gadchiroli) and Peth (Nashik), where 69% and 98% of the population belong to the Scheduled Tribes. There are others where the presence of tribal communities is virtually absent, like Atapadi (Sangli), Madha (Solapur), Karvir (Kolhapur) and Baramati (Pune). Likewise, there are blocks that have a very low proportion of Scheduled castes in their population (Roha, Raigad) and others with a very large share of people belonging to the Scheduled Castes (as in Balapur, Akola).

Figure 1: Sample Blocks



Overall, however, the sample GPs tend to have a larger representation of SC and a substantially larger share of ST population than rural Maharashtra as a whole (

Table 1). This could be because the sampling design ensured that districts that are predominantly tribal were represented in the survey even though they might comprise only a small proportion of the total population. The average size of land owned by the respondent households is however slightly larger than for rural Maharashtra as a whole.¹⁰ (Table 2) Similar differences exist in the occupational profile as well. The sample captures a more than proportionate share of those who practice farming and less than proportionate share of agricultural workers, as represented by the main occupation of the household. Farmers in the sample also have, on average, slightly larger landholdings than the average for the state.

The study districts account for 60% of the MGNREGA expenditures, 66% of the assets generated in Maharashtra as a whole. Within the study districts the sample GPs account for 5 % of the works completed in Maharashtra for the period 2010-13. The sample GPs account for more than proportionate MGNREGA activity in the sample blocks/districts. Even within the sample GPs, however, the extent of MGNREGA implementation varies widely across indicators. (Annex Table 2)

Table 2: The sample area in perspective

¹⁰ The comparisons made in this section are inexact due to the differences in definitions used in the survey vis-à-vis the secondary sources cited here. For example, the figure for Maharashtra from the Agricultural Census is for land possessed and not land owned. They have been placed side by side, just to get a broad sense of the context surveyed in this study.

Household characteristics	Survey households	Sample GPs	Rural Maharashtra
Average size of land owned (acres)	4.95	N.A.	3.63
Proportion whose main occupation is agriculture*	76.44	41.9	42.1
Proportion of households that are agricultural workers*	16.21	38	39.4
Proportion who are ST (%)	22.72	18.82	14.6
Proportion who are SC (%)	33.08	23.92	12.2
Average household size*	6.87	4.71	4.66

Notes and Sources:

*There is a difference in the definitions and therefore strictly not comparable.

The average landholding size for Maharashtra is from the 2010-11 Agricultural Census data that has a different definition from that used in the survey. Demographic characteristics are drawn from the Primary Census Abstract, Census of India, 2011.

2) MGNREGA works and work types in the study area

Of the 4266 completed works in the sample GPs assigned for verification, the survey teams verified that close to 87% existed and were in use. Of these, 43% are largely public assets while 57% are largely private assets.¹¹ Of those that remained unverified, the teams were unable to reach some of them (accounting for 0.06% of surveyed works) owing to paucity of time or to difficulties in reaching the location of the work. It is hard to estimate how many of these in fact exist.¹² Only 5.2% of the MGNREGA works, the enumerators were able to confirm that they did not exist at the time of the survey. This includes both works that had not existed at all and those that existed at some point of time but were damaged either in floods or destroyed, providing evidence that many assets, though by no means a majority, are non-durable. Furthermore, in the case of nurseries, they are not meant to be durable and face a natural process of maturation. Nurseries that have fulfilled the project goals and cease to exist are also included in this category. Another example is the bori-bandh, which are low cost, temporary sandbags to for seasonal water storage. This is discussed in greater detail in a later section.

A few works, the enumerators discovered, had been identified as two separate works in the government records with two different identifiers (3.8%). This is typically on account of two reasons. First, these could be coding errors during the data entry process. In other cases, a single large work, constructed in parts, was counted as multiple works, such

¹¹ Largely public assets include the following work types- afforestation, roads, and water conservation and water harvesting on common lands while largely private assets include- horticulture, land development on private lands and rural sanitation.

¹² On the one hand it is possible that these exist since the survey teams were able to pinpoint or ascertain a location for these works. On the other hand, it might be the case that these works did not exist and the survey teams just told that it was too far away. In reality it is probably a mixture of these two contrasting situations.

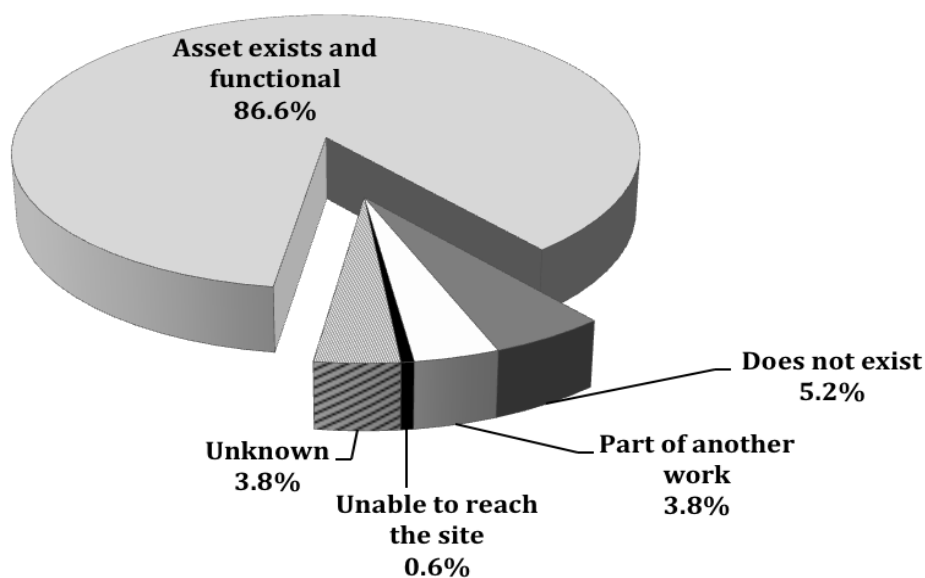
that each part counting as one work. Yet another possibility could be that the entry was part of a strategy for siphoning out funds. It is impossible to disentangle these three possibilities.

For a further 3.8% of the works, the status is unknown, all of them on account of errors in coding, missing data and unclear entries. It is difficult therefore to say with any degree of certainty how many of the surveyed works are in fact “missing”. It is clear however that in the context of the sample GPs most of the MGNREGA works do exist and are functional. This suggests that the data on works is not only credible but also perhaps that the problem of missing entries is not pervasive or widespread. That said, the survey did identify missing works, for instance, in Chandrapur district where some toilets built under the programme could not be found. For the rest of the analysis we focus only on those MGNREGA works that have been successfully verified, i.e., for 88% of the original proposed sample works.

Of the works verified to exist, an overwhelming proportion support farming activities, directly or indirectly (Figure 3). Over a third are land development on private lands that include land leveling, irrigation facilities, water harvesting and conservation structures, etc. A comparable share of the works pertains to water conservation and harvesting on common lands. A majority of the water works on common lands comprised check dams, followed by bunds and dykes. A major proportion of the works involved renovating existing works for example desilting open wells and water storage structures. As for works on private lands, the various works include land levelling (10%) wells (77%) farmponds (9%), bunding (12%), irrigation channels (5%) and trenches (5%). Horticulture constitutes a small 4%, but along with the categories mentioned above constituted close to 70% of all works. Among the others, afforestation works, roads and other works (predominantly individual household toilets) account for the rest.¹³

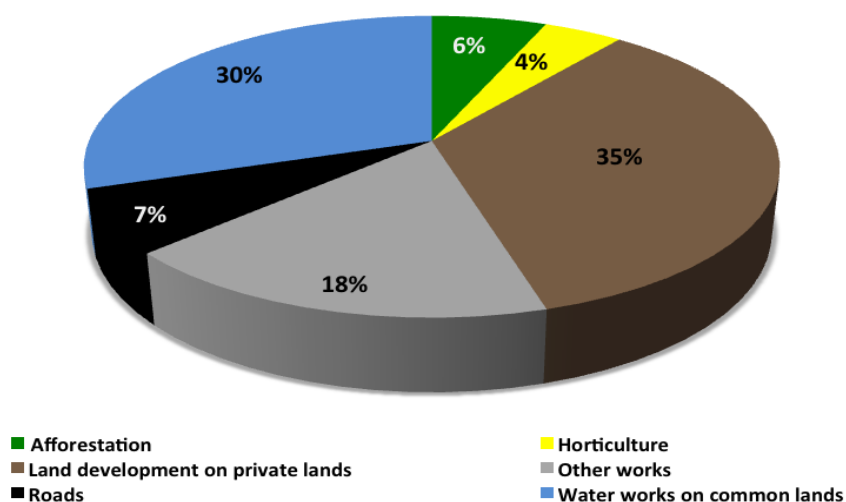
Figure 2 Asset verification: Status of the MGNREGA works

¹³ Rural sanitation works were included in the permissible list of works much later than the others. It is therefore surprising that there have been many of these in the time span 2010-13.



Note: The data have been rounded off to whole numbers.

Figure 3: Asset types surveyed



The distribution of works across the districts is reflective of the diversity of the districts themselves suggesting perhaps that the prioritization of works by the government or the stakeholders is different in different districts.¹⁴ Table 3 shows which sample blocks

¹⁴ This is not self-evident. In many states, there is often a top-down approach that prioritizes on work over all others, for example, wells in Jharkhand or work on SC/ST lands for a while in Andhra Pradesh.

(districts) account for the largest share in each work type and also within a district which work types dominate all others.

Clear patterns emerge. For example, Bhandara's sample GPs account for a lion's share of all afforestation works in the sample. Within Bhandara, more than half of all works relate to afforestation. Land development works on private lands show a clear regional pattern with Solapur, Sangli, Pune, Ahmednagar and Kolhapur accounting for 61% of the total number of such works. Virtually all of these works are wells on individual lands. It appears that in the sample GPs from this district, these wells are the most common type of work undertaken as part of the MGNREGA. Interestingly, this area is predominantly non-tribal and known for commercially oriented and enterprising farmers. Likewise, Vidarbha's sample districts, especially, Wardha and Nagpur dominate the "other works" category; most of these are individual household toilets. Like in the previous case, it appears that most MGNREGA works in this area comprise toilets. That the individual benefit schemes are more likely to be in non-tribal areas (or works on common lands in tribal areas) is not too surprising. The tribal regions have traditionally been participating in large numbers on EGS worksites and hence common works that can cater to the demand for work becomes necessary.

With the other three work types, there is no discernable pattern. Rural connectivity or road works are fairly well distributed across the sample districts (and administrative divisions), as are water works on public lands and horticulture. In all, there does not seem to be any predominant factor affecting regional variations in terms of the selection of type of works. The five districts that show highest number of households who reported water conservation and water harvesting works are from Vidarbha's tribal region and from Marathwada. This is the high rainfall region and rain shadow region of the State, respectively. Similarly, consider the case of horticulture, tribal Vidarbha and Uttar Maharashtra show higher shares than others. There does not seem to be clear evidence that it is determined primarily by villagers' aspirations, official's initiative or priorities of agro-climatic conditions. In reality, it is likely a combination of all of these factors

Table 3: Ranking district by work types

	<i>Districts accounting for the largest shares of such works in the surveyed assets (%age share of such works in the survey)</i>					
Sr. No	WC/WH	Afforestation	Land Dev on pvt land	Horticulture	Rural connectivity	Other Works
1	Thane (30)	Bhandara (68)	Sangli (23)	Gondia (16)	Gondia (18)	Wardha (43)
2	Latur (18)	Thane (10)	Solapur (21)	Solapur (12)	Ahmednagar (16)	Nagpur (31)
3	Gadchiroli	Jalgaon (5)	Pune (15)	Jalgaon (10)	Solapur (13)	Bhandara (16)

	(11)					
4	Gondia (8)	Ahmednagar (4)	Ahmednagar (8)	Thane (9)	Bhandara (11)	Chandrapur (5)
5	Parbhani (7)	Wardha (3)	Kolhapur (5)	Gadchiroli (8)	Chandrapur (9)	Sangli (5)
<i>Districts where the share of this work type dominates all works (% of all works in the district)</i>						
Sr. No	WC/WH	Afforestation	Land Dev on pvt land	Horticulture	Rural connectivity	Other Works
1	Latur (91)	Bhandara (52)	Pune (84)	Jalgaon (35)	Gondia (24)	Wardha (91)
2	Gadchiroli (78)	Jalgaon (26)	Solapur (83)	Nashik (31)	Ahmednagar (22)	Nagpur (82)
3	Thane (75)	Raigad (6)	Kolhapur (80)	Gondia (14)	Chandrapur (21)	Bhandara (33)
4	Parbhani (64)	Thane (5)	Akola (80)	Akola (13)	Jalgaon (17)	Chandrapur (29)
5	Gondia (48)	Ahmednagar (5)	Sangli (78)	Kolhapur (9)	Solapur (10)	Sangli (9)

Source: Survey

4. MGNREGA works and their uses

1) Extent of benefits

In order to get a sense of the reach of MGNREGA assets, we attempted to identify that the number of households using or benefitting from these assets and the area of land that is impacted by the work created under the MGNREGA, depending on the asset type. The former would be a relevant metric to assess public works such as roads or community water resources and water conservation efforts, whereas the latter would be relevant for minor irrigation, land leveling and afforestation projects, for example.

For land development works on private lands, water works on common lands and horticultural works, each respondent was asked how much of their land was “impacted” by the work.¹⁵ They were also asked how much land belonging to other households were impacted by the work, to account for spillovers even in the case of works on private land. Finally they were asked how many households benefitted overall from the work. For works such as roads, afforestation, and other works (rural sanitation) only the last question was posed. In all of these we have chosen to ignore the benefits accruing to households exclusively through employment on these works. For works on private lands we have only the owner responding to these questions. In the case of public works however we have a response from each of the households sampled for the particular public work. We have chosen the more conservative approach of choosing the minimum value for the particular asset when there is more than one respondent. These are presented in Table 4 : Perception of the extent of benefits of assets.

¹⁵ The question was framed in value-neutral terms, but farmers only responded with numbers if there was a discernable extent of land that benefitted from the work.

Water works on public lands impact more land and households than do works on private land presumably because the public works are larger scale works. Roads have the broadest impact as one would expect, with 53 households benefitting on average from all the rural connectivity works in the survey. For horticultural works, typically the land devoted to such works was fairly small at about three-quarters of an acre, but the estimated annual net earnings is close to Rs.58000 in 2013-14 prices. Interestingly even for works on private lands there is a perception that for each acre of the beneficiary's own land that is impacted, another acre of someone else's land too benefits, underscoring the perceived positive spillover impacts of these works. This ratio is more than two in the case of water works on common lands (Table 4).

Table 4 : Perception of the extent of benefits of assets

	Own land impacted (average per work)	Other lands impacted (average per work)	Households impacted (average per work)	Estimated annual earnings (Rs.)
Afforestation	-	-	-	-
Horticulture	0.75	-	-	57981
Land Development on private	3.58	3.94	5	-
Water works on common lands	7.12	15.06	15	-
Other works	-	-	2.3	-
Roads	-	-	53	-

Note: For common works, where more than one user was interviewed the lower value of the various responses is averaged over the work and reported.

Together the MGNREGA works pertaining to land development, horticulture and water works on common lands are perceived by respondents to have had an impact on a gross area equal to 31461 acres (at an average of 12 acres per work), while the land development works, water works on common lands and roads are estimated as impacting 36368 households. This gives some sense of the impact via assets. From the perspective of employment generation the works surveyed employed over 2 lakh persons for over 13.1 lakh person-days. In most cases the beneficiaries of works themselves worked on these assets and these are therefore overlapping categories, not necessarily unique.

2) Who benefits?

From the perspective of equitable distribution of benefits from MGNREGA works, it is resoundingly clear that the MGNREGA in Maharashtra is reaching small and marginal farmers in keeping with the intent of the Act (Table 5).¹⁶ The average size of the land owned of the sample households is two hectares. Given that the sampling approach was based on spatial proximity and not explicitly pro-poor, this is suggestive that the household most likely to benefit from an MGNREGA work are farmers with either small or marginal landholding sizes. Half of the respondent households own less than 1.6 hectares. This is true also for when one focuses exclusively on MGNREGA works on private lands, it is evident that 75% of these are on lands that belong to small (53%) and marginal farmers (22%). Given that operational holdings of small and marginal farmers account for 78% of all operational holdings in rural Maharashtra, as per the Agricultural Census of 2010-11, it seems logical to infer that the MGNREGA works clearly are focused on the small and marginal farmer.¹⁷

Within this category, small farmer beneficiaries outnumber the beneficiaries who are marginal farmers, suggesting that the better endowed among this group is more likely to benefit from the MGNREGA works. This pattern is reinforced by the finding that while 21% of the beneficiaries surveyed were assessed by the investigators to be part of the bottom 40% of the poor in the village, whereas a much larger proportion (59%) were deemed to be from the middle 20% of the poor in the village. This is consistent with the notion that small farmers might likely be more willing and able to devote a part of their land to land development works such as farm ponds, wells, etc. whereas the marginal farmers are perhaps able to opt for fewer types of land development works such as leveling, bunds and so on. It could also reflect that small farmers are perhaps more aware of the possibilities of leveraging government programmes to make investments on their private lands. This suggests that fears of elite capture of MGNREGA works or large farmers benefitting disproportionately from having MGNREGA works on their lands is perhaps misplaced. Similarly, the fact that 96% of those who have MGNREGA works on private lands depend on agriculture as their main household occupation suggests not only that in terms of creation of assets, the MGNREGA is pro-farmer, capture of benefits by non-agriculturists or absentee landlords is quite minimal. That said, the fact that 25% of the works are on lands of medium and large farmers raises questions on whether the selection criteria for works has been faithfully applied.

How does the composition of beneficiaries vary across work types? Overall, it is evident from Figure 4, that for works that are typically on private property such as horticulture, land development and water conservation and harvesting and other works (which mainly comprise household toilets), a majority of the beneficiaries own very little

¹⁶ Here, the “intent of the Act” refers loosely to the idea that resource poor households are the desired beneficiaries rather than any specific criterion.

¹⁷ Strictly speaking, the share in operational holdings is not comparable with the survey figures which document the proportion of households whose land owned size is less than or equal to 2 hectares. This is just to provide a benchmark.

land. Of these, the category other works include mainly household toilets and it is clear that the main beneficiaries of this work type are the very poorly endowed households (as measured by land owned). As discussed earlier, for works on private lands, although distinctly in favour of small and marginal farmers, tends to benefit more small farmers relative to marginal farmers. It appears that horticulture on private lands shows more complex patterns (Figure 4). While a significant proportion of beneficiaries are marginal farmers, there are also some medium and large farmers who are beneficiaries. This could reflect the fact that larger farmers are more likely to seek horticultural investments both relative to marginal and small farmers and relative to other land improvement works.

In contrast to the works on private lands, for works on public lands, including roads, afforestation and water conservation and harvesting structures, etc. as one would expect, the beneficiaries belong to different size classes of rural households. While a significant number of the beneficiaries selected for the interview are smallholders, the sample also has a sizable representation of medium and large farmers. It is not possible for us to make comparable interpretations for public works and who benefits since our sampling method necessarily represents a small proportion of all the beneficiaries. Indeed for public works such as roads, one would expect that the benefits are virtually universal, as discussed already (Table 5).

A disquieting pattern is the relatively low representation of SC and ST beneficiaries for work on private lands, at 7 and 6% respectively (Table 6). It is apparent that even including Other Backward Castes, the three account for only 37% of the beneficiaries. This could partly reflect the distribution of works on private lands across districts where non-tribal blocks such as those in Pune, Sangli and Solapur account for a majority of works on private lands (See Table 3). That does not however explain the large proportion of beneficiaries from privileged communities benefitting from works on private lands. This pattern does not carry over to horticulture, which benefits a relatively larger proportion of Scheduled Tribe households. Given however that the land development works are large in number this is a cause for concern.

This too raises important questions on the implementation of eligibility criteria. Indeed, when households that have horticulture works on private lands were asked if there were specific eligibility criteria, only a very small fraction seemed to think that there were any criteria at all. Specifically a majority, typically over three quarters, felt that there were no selection criteria based on either caste, landholding size or others such as IAY beneficiaries or BPL households. For horticultural works, the general understanding appears to be that irrigation facility is a requirement; over 43% mentioned this as a relevant criterion. In many areas surveyed, it appeared that households that wanted to undertake works were urged to use the MGNREGA by the village functionaries, rather than people proactively demanding these works with a clear awareness that MGNREGA allows request of such works.

Table 5: MGNREGA works: Who benefits?

Characteristic	Data	Number of valid responses
(1)	(2)	(3)
Size of land owned by households that have <u>any</u> MGNREGA work		4265
Mean (hectares)	2	
Median (hectares)	1.62	
Percentage of households with MGNREGA works on private lands who depend on agriculture (as farmer or worker) as a main occupation **	96	
Percentage of MGNREGA works on private lands that are wells	77	
Percentage of households with MGNREGA horticultural works who depend on agriculture (as farmer or worker) as a main occupation **	82	

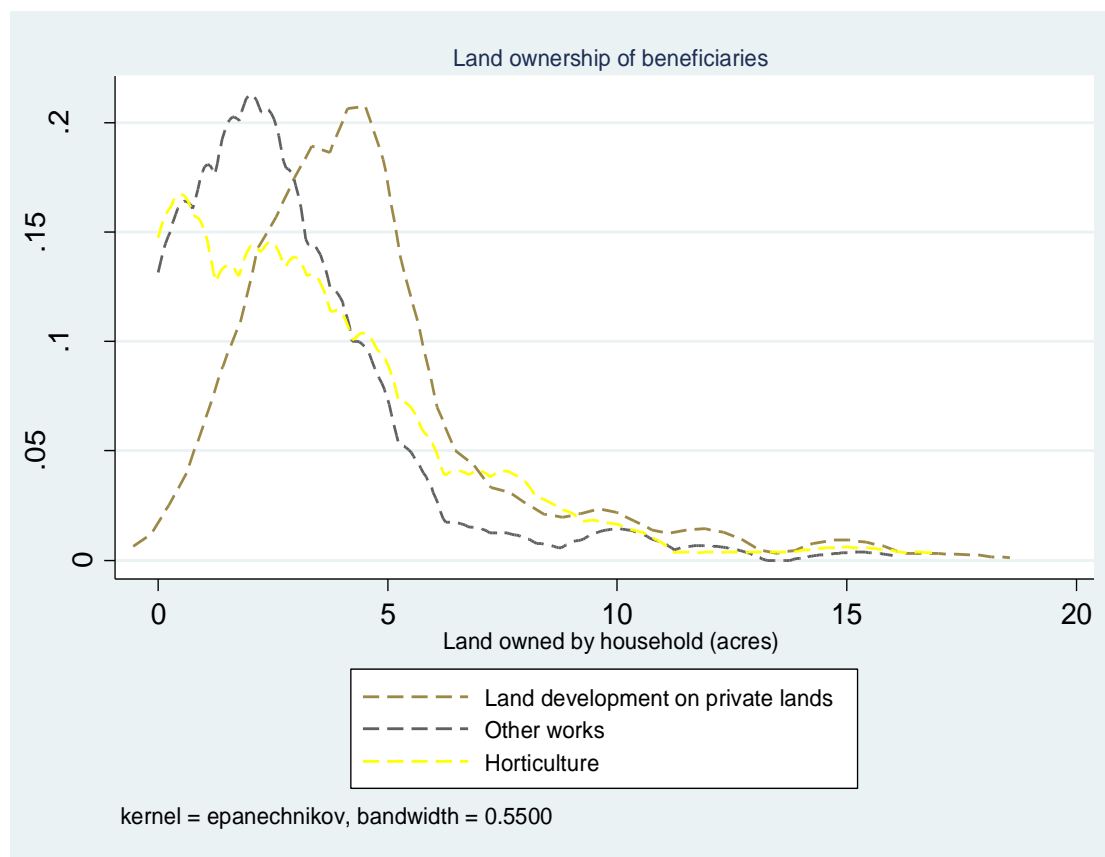
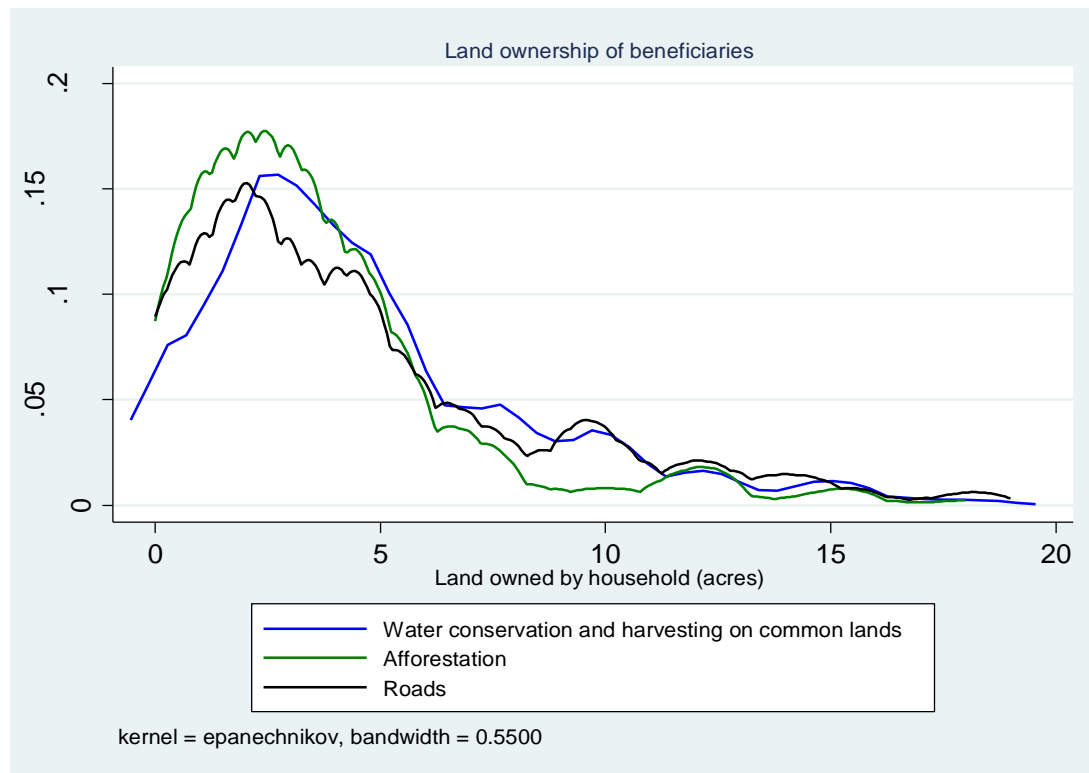
Notes ** Data has been computed only for observations where the data is complete.

Table 6: Profile of beneficiaries of land development and horticulture works

Characteristic	Land development (on private lands)		Horticulture (largely on private lands)	
	Data	Number of valid responses	Data	Number of valid responses
Number of works	1346		299	
Percentage of MGNREGA works				
- that belong to small farmers (<=2 hectare)	53	1307	13	299
- that belong to marginal farmers (< =1 hectare)	22		28	
- that belong to Scheduled Caste households	7	1299	11	289
- that belong to Scheduled Tribe households	6		28	
- that belong to Other Backward Castes household:	24		34	
- that belong to the bottom 40% of the poor*	21	1280	39	278
- that belong to the top 40% of the wealth category*	17		10	
- that belong to the middle 20% *	61		51	

Notes* this is the categorizing as per the investigator's perspective. Wells constitute 77% of works under Land Development.

Figure 4 Distribution of size of land owned by sample users by work type



3) How useful are the assets?

A major goal of this study was to record the impacts of assets through a systematic survey of beneficiaries, to document their perceptions of the usefulness of these assets. The study captures two interrelated aspects – usefulness to the respondent and the asset's role in making a difference to their lives. Perceived usefulness can capture a general sense of whether or not people use it or can reflect their intention to use assets created under the Act. In contrast, perceptions on whether the asset in question has made a difference to their lives or has left them worse off pushes them to reflect in a different way the value they attach to these assets in the specific context of their lives.

Overall, beneficiary perceptions of MGNREGA works surveyed is largely positive with more than half the respondents finding the assets created “very useful”. Around 40% found that that these assets were “somewhat useful”. Remarkably only 8% of all respondents felt that it was useless or actually had negative repercussions. This fraction also includes those respondents who said they did not care.

Table 7 presents a picture of beneficiary opinion on the usefulness of assets, classified as private and public assets on the basis of ownership. Works largely on private lands have a much higher proportion reporting that the assets were very useful (63%) as compared to respondents for works on public lands (40%). This is as one would expect – where respondents might have much more stake in works constructed on their own land and invest in maintaining the asset and putting it to good use. It is also possible that households have requested works to be built under the MGNREGA that would be most useful to them in the first place. In the case of public works in general, worries about maintenance costs and perhaps a missing sense of ownership is indicated by the result that 50 per cent of respondents find these works to be somewhat useful. This is taken up in detail in a later section.

Despite the general pattern, there is much variation based on the type of works Figure 5. In the case of roads, though not strictly a “private work”, virtually half the number of respondent found them to be very useful as the benefits from roads are generated immediately and are experienced, apparently, irrespective of class or caste differences in most cases, unlike benefits associated with works like water harvesting that have a longer maturity periods. Land development and other works are found to be of “very useful” by 63 per cent and 79 per cent of respondents, suggesting an ostensibly relative ease of accruing benefits from these kind of works and greater incentives for maintaining private works (Table 7). An exception under private assets is horticultural works where 52 per cent of the respondents have found them to be “somewhat useful” against 30 per cent that find them to be “very useful”. Maintenance costs and labour demands incurred on these works can be quite high and this perhaps drives the lower proportion of those who view these works as very useful. Another possible reason is that horticulture works under the new version of

the MGNREGA (as compared with the old) have been implemented only in the past three years and it is possible that there is still some teething issues.

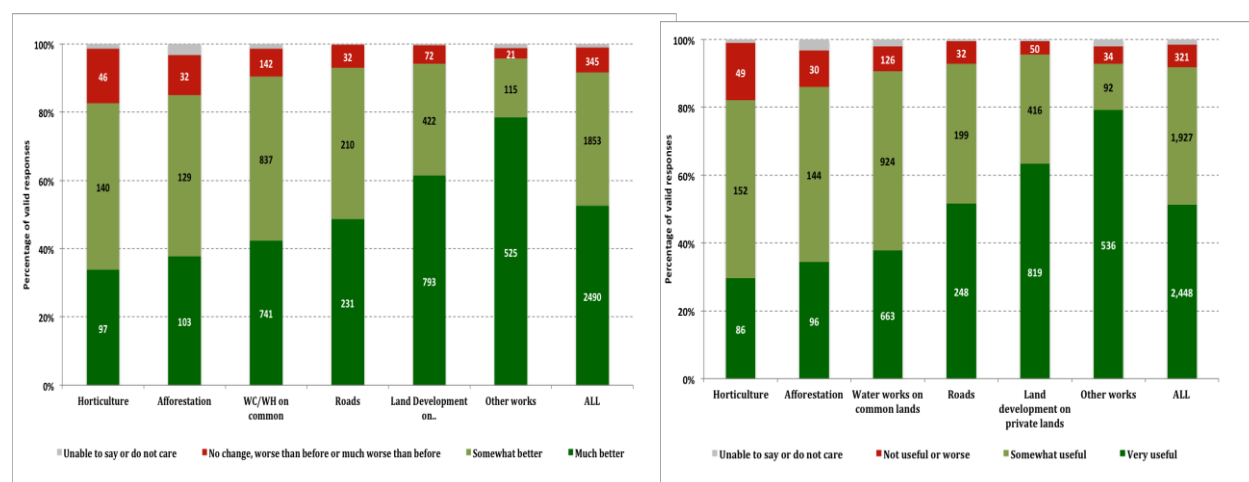
Table 7: How useful are the assets?

Percentage of households surveyed that said asset (is)	in %	Number of responses
All assets		
Very useful	51	4767
Somewhat useful	40	4767
Not useful and others*	8	4767
Private assets*		
Very useful	64	2257
Somewhat useful	29	2257
Not useful and others**	7	2257
Public assets*		
Very useful	40	2510
Somewhat useful	50	2510
Not useful and others**	9	2510

Notes: * Private assets includes the following work types- Land development on private lands, Horticulture, and Other works while public assets includes Water conservation and water harvesting works on common lands, afforestation, and roads. MGNREGA works on private lands is largely wells (77%)

** The category others includes the following responses- “Has made things worse for me”, “Has been the worst thing that could happen to me”, “Unable to say”, and “I do not care if it is useful to me or not”.

Figure 5 The Usefulness of MGNREGA assets



4) On the nature of benefits

The survey provides clear evidence that many of the works created under the MGNREGA represent new and substantive additions to the resource base and infrastructure. While some works involve new constructions, others represent extensions or additions, aimed at improving the functionality of existing works. An example of the latter is provided in Box 1.

For water conservation harvesting and drought proofing, people cite a wide range of uses and problems reflecting the similarly wide range and types of structures that constitute this work category (Figure 6)

Box 1 Filling wells in Baramati



Murti, Sonawadi-supe, Karkhel, Naroli, and Dandwadi are the five sample Gram Panchayats from Pune district's Baramati block. These GPs, clustered in the eastern half of the block, lie in the rain-shadow area of this prosperous region and have aptly come to be a part of our sample. In our discussions with them, village officials and citizens identified the deficiency of water for farming, and a more severe shortage of drinking water, as their primary source of distress. Based on these concerns, locals have directed MGNREGA work towards replenishing and desilting old wells and the construction of farm bunds and new wells. Much of this work occurs on private land, and aims to meet the substantial irrigation needs of this rain-starved region.

We were told by one respondent that, while replenishing wells might sound like an elaborate task, it is in fact a simple process: quadrangular ditches half a metre deep are dug close to the well and loosely lined with stone, with a small strip of land separating one trench from the next. A piece of pipe is laid to connect the ditches and a second piece opens into well from the ditch closest to the well allowing water to flow from one trench into another and finally into the well.

The team of enumerators and their supervisors kicked off the survey in Murti, a large GP with 12 hamlets and the largest number of works to be verified. The Gram Rozgar Sevak of this village told us that even within the GP, MGNREGA works are unevenly distributed, which meant that some hamlets had much better water-related situation than others. While the reasons for this are not clear, there is general improvement in the state of affairs, with a majority of beneficiaries endorsing the view that MGNREGA works have led to timely and increased availability of water for agriculture, drinking, and other purposes. We found this to be the case for all five sample GPs, as they all have a similar pattern of work distribution.

Although these outcomes seem reassuring, there are still causes for concern. The magnitude of works involving wells illustrates a detrimental dependence on groundwater and raises concerns about unfettered use and depletion of water reserves and the suitability of works of this nature for this agro-climatic area characterized by low rainfall. Also, the virtual absence of community works and concentration of works in certain parts of a village risks further marginalizing those communities who are left out in case of an elite capture of MGNREGA works.

An overwhelming majority of respondents suggests that they have been able to expand area under cultivation, irrigate hitherto unirrigated plots or get an extra crop where they previously left it fallow. Others felt that it provides more control over water and provides timely availability of water. All of these represent various ways in which MGNREGA works support agricultural activities. This apparent increase in water access has perhaps been an enabling factor with many users to claiming that they have been able to diversify into horticultural crops improving both cash income and enabling access to more diverse diets.

Many works, especially on common lands and in particular those involved in impounding water, have assisted in making water available for longer durations during the year and in an overwhelming number of cases made water availability more proximate to the community. The chief manifestations of these benefits are the increased availability of drinking water and water to maintain livestock, both for washing animals and providing them drinking water. Several also claim that the availability of water enables them to raise fish – this is especially for farm ponds on private lands. Often the users have been able to leverage MGNREGA works on their fields as stepping stones to expand the scope of their farming activities like pisciculture and diversifying crop production, into horticulture, for example (Box 2) A large majority of the respondents cited a saving on fertilizers and pesticides on account of reduced run off and land leveling. Many similarly cite that water logging is prevented due to better drainage for works such as channels and drains.

Overall fewer people claim groundwater recharge has improved relative to those who suggest overall water availability has improved. From the users' perspective, the MGNREGA works have not had visible or tangible impacts on the level of water in the wells or improvements in soil fertility and quality or for that matter an increase in yields. A cautionary note is that a few people report that things that were in fact in a better state before the MGNREGA work was implemented, often because they are either incomplete or their design was flawed. Even if small, these point to areas deserving of policy attention. A related concern is that the construction of wells needs to be rationalized in areas where groundwater recharge is threatened beyond thresholds of sustainability. The chief burden of the additional resources created by the MGNREGA works appears to be the maintenance involved and increased labour time in the field presumably because improved water availability generates greater farm-based activities.

The extent to which households appear to associate benefits are considerably more muted with afforestation and horticultural works (

Figure 7). Most believe that the village is greener and more beautiful. In terms of functionality or instrumentality, close to three quarters see a connection between planting of trees and soil erosion. Relatively few report benefiting from the sale of fruits and vegetables or Non timber forest produce (NTFP). It is possible that it is too early for the benefits to materialize, but it is also possible that these works are very hard to maintain. There are stories of afforestation works that are perceived to be very useful as in the case

of medicinal herbs in Gadchiroli (see Box 3) or forest department-led agroforestry initiatives in Raigad but it appears that the afforestation works in the sample GPs are not as systematically planned or maintained as the counterpart under the MGNREGA in other states, in Chhattisgarh, for instance. As per the survey, users estimate that on average only 6 out of 10 plants tend to survive.

Box 2: MGNREGA as a stepping stone



In Triambak- Nashik, many of the farming practices are rainfed. Farmers primarily cultivate paddy and finger millets along with oilseeds and pulses like niger, urad, and gram in winter, relying almost entirely on soil moisture for germination due to limited access to irrigation facilities. The region, despite being in a high rainfall zone, faces a water scarcity problem. In the monsoons, rain water runs off the vast, rolling terrain, carrying off the top soil, thus allowing very little water percolation while exposing boulders in the fields. Given these conditions, farmers like Ramesh Pawar and Sanjay Triambak undertook water harvesting and conservation works on their farmlands under the MGNREGA, which helped them cultivate mustard, millets, and vegetables last winter, while Nitin Choudhary started an ambitious aquaculture project alongside his regular agricultural activities.

Ramesh Pawar constructed a farm pond on his land, and despite not being able to get it down to its planned depth (they hit a rock while drilling, rendering the work technically incomplete), this enabled him to bring an additional 3 acres under cultivation, which were previously inaccessible as they were located uphill and at a great distance from any source of water. 36 labourers including himself worked on this asset for a week. With the help of the pond, he has been able to cultivate paddy on all 9 acres of his land, revive a dying cashew and mango orchard, and plant a vegetable patch on which he grows brinjal and other leafy vegetables. He says the pond has reduced his dependency on the monsoon for sowing paddy and has also helped increase yields. He plans to try his hand at cultivating wheat next season as the pond allows him to draw water till January. Apart from his land, around 4-5 acres belonging to 2 other farmers have benefitted from this pond.

Sanjay relocated to Triambak around 15 years ago, when he lost his land to a big river valley project in Gujarat. Since then, he has managed to not only buy 3 acres of land but also convert a barren piece of land into a productive farm, which was his mainstay. His efforts to make a living, he asserts, were aided by the roll out of the MGNREGA. Over the last four years, he has improved agricultural productivity by taking advantage of the opportunities to create assets- a well and embankments and land levelling on his fields- created under the Act. He uses the water from the well to cultivate rice, finger millets and onion, and has recently included brinjal to his list of produce. He also shares well water with his neighbours for non-farming purposes. He says that the well, along with other water conservation work, has allowed him to more than double his rice yields over the last 3 years. He also has a nursery set up under the Act next to his house.

In another part of Triambak, a young farmer Nitin built a farmpond under the MGNREGA sacrificing a portion of his productive land to do so. He had seen his acquaintance in a neighbouring village farm fish and was inspired to do the same. At the time of our visit, he was into his first season of pisciculture and the entire village was waiting to see if he would succeed. If he does, “more of us will do the same”, exclaimed a villager. The farmer explained to us that this time he had chosen not to buy expensive commercial fish feed because he was still experimenting and learning, but the next time he would. The main problem, he said, that it was hard to get a loan to run a commercial fish farm, even if the MGNREGA had provided them a stepping stone.

Box 3: Afforestation in Gadchiroli

In Gadchiroli's Kurkheda block, afforestation consisted of medicinal herbs and plants. Many of the villagers here depend on medicinal plants for curing petty diseases. An ayurvedic doctor makes the medicine and distributes it free of cost. The doctor had demanded plants like *Anjan* and others, whose roots can help curing pain in bones to be planted under MGNREGA. The villagers reported that they have immensely benefitted from the doctor and have put a word forward to the GP offices and in the Gram Sabha meetings to plant these trees so that it help them in near future.

Indeed close to half suggest that the maintenance costs and labour requirements are too high and an even greater proportion (64.3%) indicate that the water requirements are too high. Overall this seems consistent with the fairly low proportion of households who claim these works have been transformative in any way.

Rural connectivity is another important type of MGNREGA works. Roads built ranged from a few hundred feet (250 to 300) to as long as 3 kms and comprise pathways to the fields, to anganwadis or cremation grounds or to larger roads that connect hamlets and villages. The roads serviced communities of an average size of 53 households, benefitting at times just a single household and at other times the entire village of over 3000 households, suggesting that the nature of these works is fairly heterogeneous. Different agencies were involved in building these roads, the gram panchayat, Block Development Office, the Public Works Department, to name a few.

Of the 481 households sampled for perspectives on road works under the MGNREGA, we obtained 437 valid responses on the type of these roads. A third of households stated that the roadwork under the MGNREGA was a kaccha road, the rest claimed that it was either a gravel, cemented or tarred road. There is a perception in some sections of the public that many of these roads get washed away or are of poor quality. More than two-thirds of households indicate that the road constructed as part of the MGNREGA is an all-weather road and that there was no time in the year when the road was unusable. Of those who claimed that it is unusable, a greater proportion was referring to unmetalled roads (56%) as compared to surfaced roads (23%). A few said the road got washed away (11 respondents), but a majority claimed that roads became waterlogged during the rains and became unusable. The survey finds that a handful of people said, that even if the roads were usable through the year they were unable to use it owing to caste issues and other disputes.

Despite these statements on the problems with these roads, the roads seem to represent a distinct contribution to village infrastructure. Over 56% of respondents said that the kachha roads had come where there was none, or simply scrub or tiny footpaths; compared to 38% who said it replaced other kaccha roads. About 96% of the metalled roads replaced kaccha or gravel roads with a third of these replacing footpaths and scrub trails. These are clear indications that the road works under the MGNREGA constitute an improvement in rural connectivity. Close to 85% of the respondents claimed that they were

now able to use a different mode of transportation; this is true irrespective of the current surface of the road. For example, this is equally true where gravel and kaccha roads came in place of footpaths and trails as it is for metalled roads. Roads appear to have resounding benefits and are used regularly. Virtually 87% of the respondents report using these roads every day, with 11 % using it 3-4 times a week or less frequently with 2% claiming they never use the road because of waterlogging issues. In some communities, the MGNREGA roads had become virtually a lifeline (Box 4).

Box 4: Roads

In the Brahmapuri block of Chandrapur district, a bridge over a water body had collapsed a year back. The bridge connects the village to other villages as well as the school and market place. After this collapse, time taken to reach these places has increased manifold. Two villagers said that during monsoon season, it takes about two hours to reach the schools and market place in a bicycle through another road. Under MGNREGA, the bridge is being constructed with convergence with the Public Works Department. Also a road is being constructed which would lead to this bridge. The workers overwhelmingly reported of the various benefits that this road can have. Apart from a substantial reduction in travel time, the road would also decrease the transportation cost of the agricultural products to the market place. Notably, during the Gram Sabha meetings, the villagers raised the issues regarding the collapse of the bridge and it was decided that this road would be constructed under the programme.

So too in Nashik, where a hamlet was rendered virtually inaccessible from all directions but one by a steep slope that led to the river, that was their sole source of water. The path to the water was treacherous and often dangerous. The villagers had converted the trail to a path using the MGNREGA. A farmer had come forward to offer his private land and the path from the hamlet cut right through his plot. This was not all. The villagers explained that this was a first step. The plan was to eventually extend the path over the next couple of years, using the MGNREGA to cut through to the location where the community could access public transport. This would cut short their travel time by half an hour relative to the existing route.

In Raigad, things were different. Most of the Gram Panchayats in Roha block are well connected. At the same time, villagers still faced challenges getting from one place to another within the village. In Sarsoli, for example, under the MGNREGA, the community had secured a kaccha road that skirted a temple that was recently renovated and led to the river, which was the main source of water. In another part of the village, the MGNREGA road, also kaccha, ensured that there was now easy and safe access to the cremation ground.

Like roads, toilets too appear to generate overwhelmingly positive responses. Among those interviewed as users, over 90% state that women have safer access to sanitation and that the village has become cleaner and open defecation has reduced. Around 88% suggested that before the toilets were constructed there was no structure as such for defecation.

Figure 6: Benefits and problems of land development works on private lands and water works on common lands

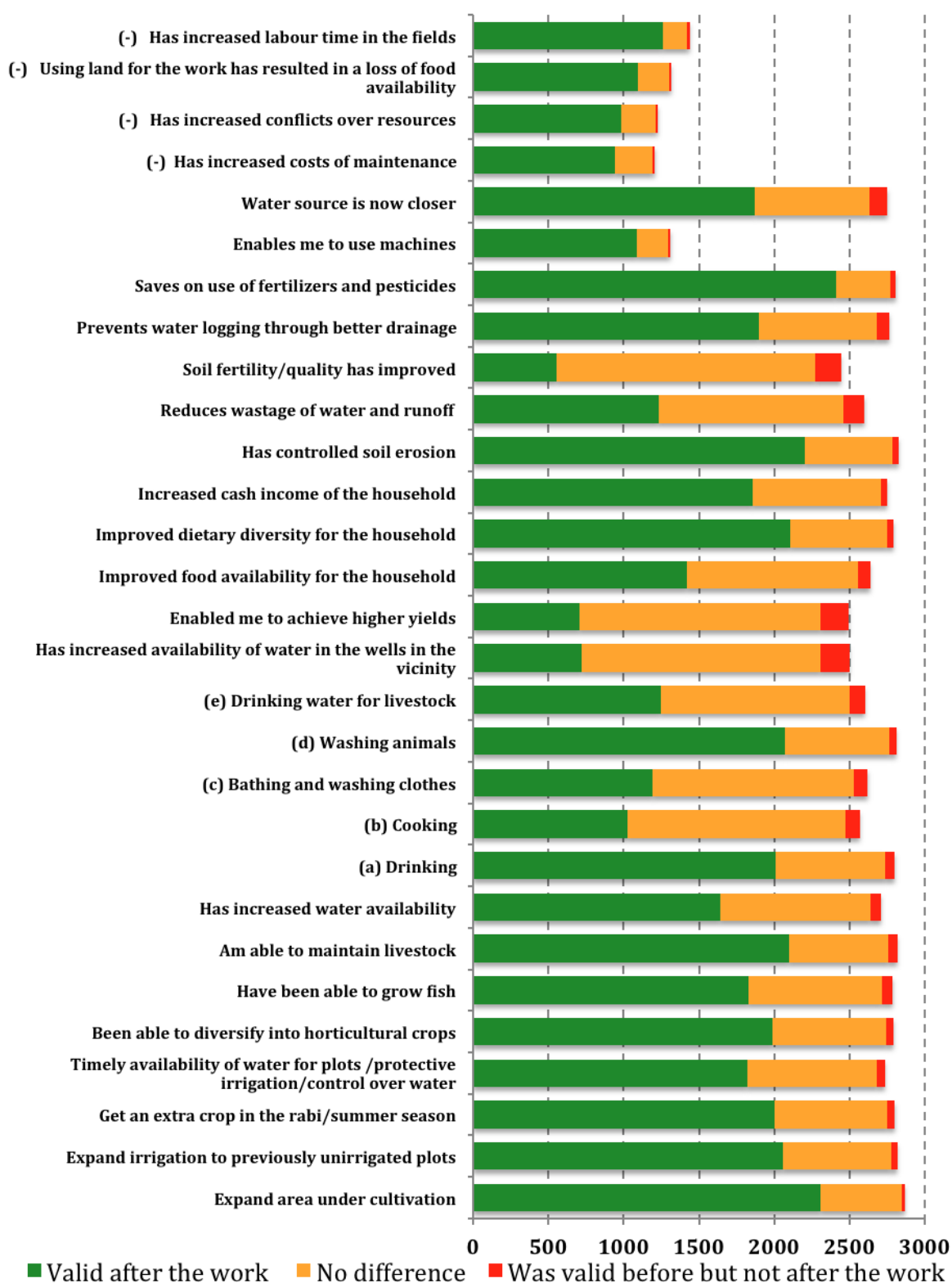
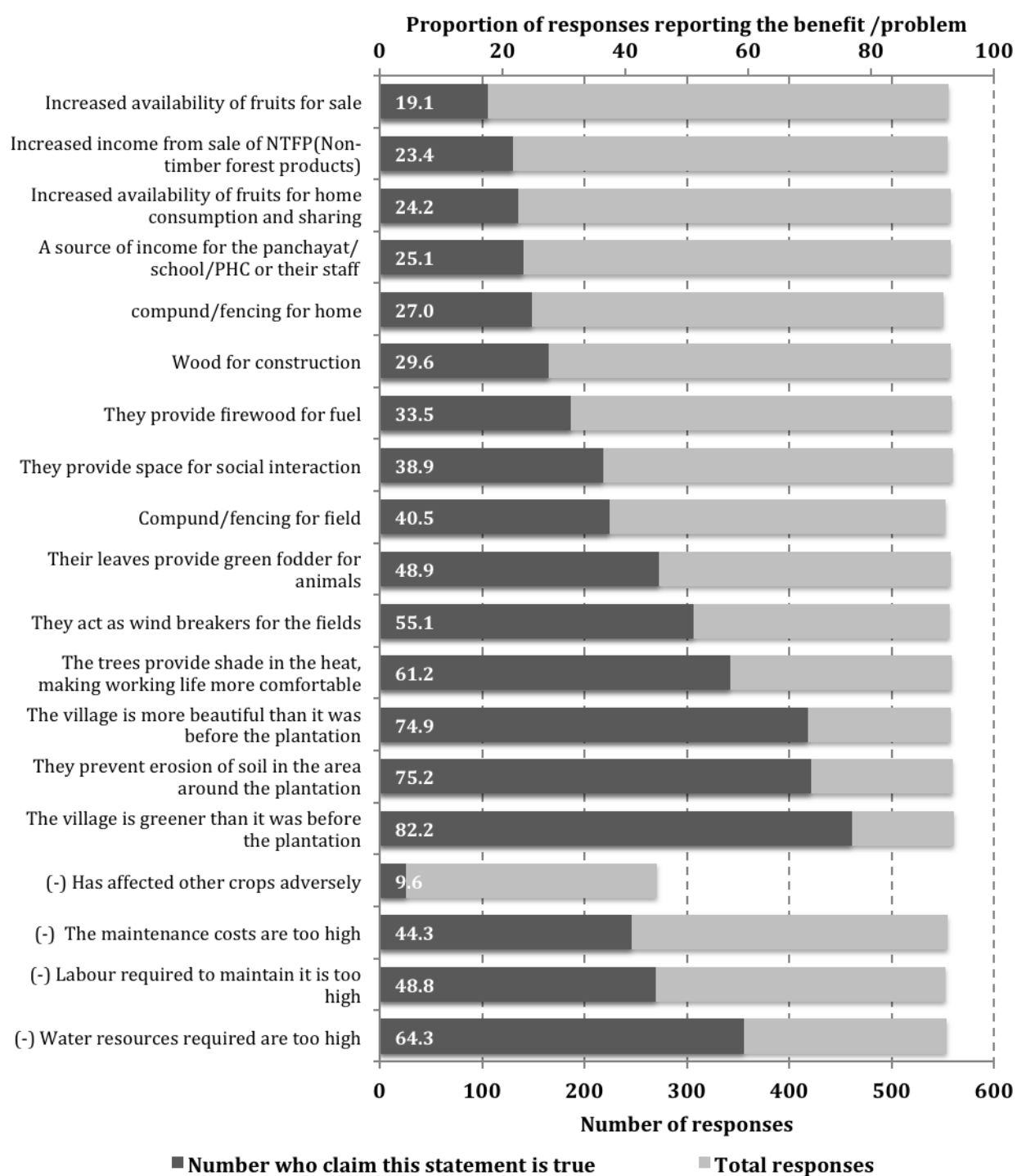


Figure 7: Afforestation and horticultural works: Benefits and concerns



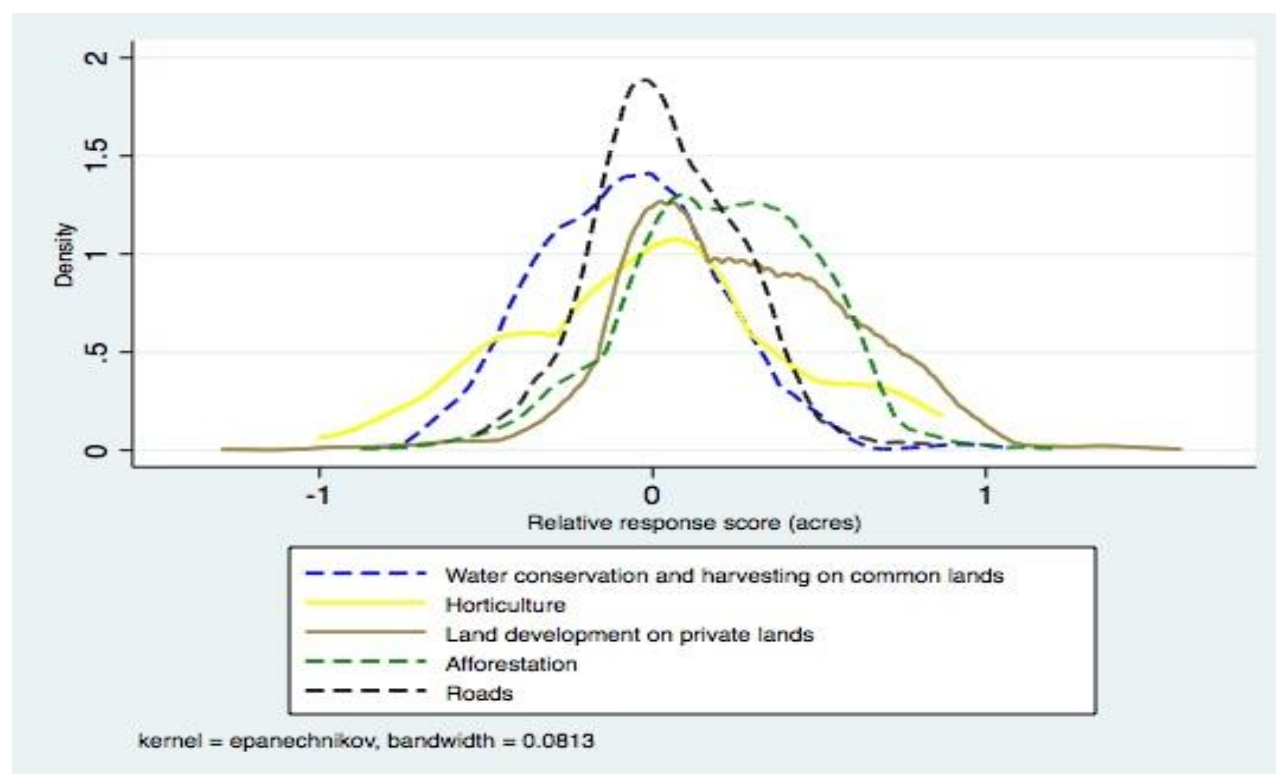
4) Scoring responses on benefits

Given the different types of impacts, positive and negative, associated with different works, it is difficult to make comparisons across work types. In order to overcome this issue, we present a simple metric that scores net benefits by work type. The score is computed as the fraction of positive impacts that the respondent says is valid minus the fraction of negative impacts that the respondent mentions as relevant. By construction this indicator lies between -1 and +1. This is a very coarse measure because it values each benefit and problem equally, whereas in reality, people might value each attribute or impact differently and these could differ widely across respondents. A score over 0 suggests that the respondent has mentioned a larger proportion of positive impacts relative to negative impacts, whereas a score below 0 implies that the respondent faces a greater fraction of negative impacts. A score below 0 does not however mean that the work impacts the respondent negatively. It merely suggests that respondents could find both positive and negative impacts on account of these works and that they perceive the presence of tradeoffs with respect to the MGNREGA works. This score is sensitive to the number of options provided in each asset type and for negative and positive impacts and is only for making comparisons of responses across work types (Figure 8).

For land development on private works, users consistently mention a far greater proportion of positive impacts; this pattern is true for roads and afforestation as well. This is understandable since these works are unlikely to be associated with strong negative impacts and at worst are usefulness. For horticulture there is a distinct pattern suggesting that some tend to associate these works with more of the negative impacts than with the positive, and some others with the reverse, with most others in the middle. It is mainly with water works on common lands that people mention a greater proportion of negative impacts than the proportion of positive impacts. Many of these works involve tradeoffs and hence entail some negative impact even in the presence of positive impacts. Overall, these patterns are intuitive.

One interesting pattern is that there is virtually no correlation between the asset level benefit scores and either the cost incurred on constructing the asset, the labour-material ratio or the person days generated per work. This is strongly indicative that it is possible to generate similar outcomes from the users' perspective from very different scales of work and expenditure composition.

Figure 8: Relative benefit response score by work type



5) A comment on quality: In what condition are these assets and who maintains them?

One shared and oft-voiced concern pertains to the quality of MGNREGA assets and their maintenance, which derives from a perception that the assets are of very poor quality and that they are not durable. Judgments of quality in a technical sense can be made on the basis of design specifications and quality of materials, etc. In this study, we capture the perceptions of the users with regard to quality and their own perceptions of what they consider unacceptable or poor quality. Apart from this we also draw on enumerator assessments from the asset verification exercise to determine whether the asset really exists. Combining these two methods, it is apparent that 5.2% of the assets assigned for the exercise did not exist at the time of the visit, many of which appeared to have been damaged or washed away. For this set of works, quality and the related attribute of durability is an issue.

Of those that exist, the household survey reveals that an overwhelming proportion of the households view the quality of the asset in a positive light. An approximately equal share of responses (44%) indicates that the works are either quite good or excellent or of acceptable quality. Predictably the proportion of households who rate the asset for which they were selected for the survey as excellent is somewhat low (8%). Likewise, only 8% of the responses deem the asset to be of bad quality.

Considering that the assets were created over the years 2010-13, the very low proportion of responses stating the asset is of poor quality implicitly suggests that many of these assets might be somewhat durable (Box 5). Around 15 percent of respondents claim that the asset in question was repaired and of these around half suggest that it was repaired once, with the rest claiming that it was repaired more than once. Only 6% of the respondents claimed explicitly that the assets remained neglected and were not maintained. As one would expect public works tend to be maintained by the Gram Panchayat while the owner typically maintains private works. A few of the common works seem to be maintained collectively by users, which perhaps indicated that these households see themselves as stakeholders and are willing to invest the effort to maintain these assets.

Despite the apparent positive views on asset condition, there are problems with these assets. Among those who declared that the assets were not particularly useful or even that it had left them worse off, more than a quarter of them (27%) believe that the design was faulty. Almost two-fifths perceive these assets to be too small or too big, not complete in the sense that they had imagined it and in poor condition. A quarter however claimed merely that it was too early to tell. Even among those who found the assets useful close to a tenth qualified their response by saying it was too early to tell while a comparable proportion pointed out that the design was faulty or that it was of a size or state of completion that was not ideal. These responses suggest a vast scope for improvement in design if not in execution of these works (see Box 5)

As for the regional pattern of the perceived quality or condition of the assets, there seems to be no distinct regional patterns aside from indications that the condition of the asset has probably more to do with ownership and stakeholder participation, discussed in a subsequent section. It does not seem, on the face of it, that technical departments of different regions do not seem to influence this outcome significantly in the sense that they seem to be equally good, bad and average across the regions.

Table 8: Asset quality, condition and maintenance

	in %	Number of responses
Quality of the asset		
- of "acceptable /adequate quality"	44	4767
- "quite good"	37	4767
- "excellent"	8	4767
- "quite bad"	5	4767
- " extremely bad"	3	4767
The problems with assets		
Proportion of households who say the work is "incomplete"	16	4757
Among those who think the asset is of acceptable quality or better		
- proportion who think the asset has faulty design	7.7	1185
-too early to tell	9.5	1186
- other reasons	8.8	1188
Among those who think the asset is of bad quality		
- proportion who think the asset has faulty design	27.5	178
- too early to tell	26.1	180
- other reasons	39.2	181
Who maintains the asset?		
Owner of the work	36	4015
Panchayat	42	4015
Collectively by users	6	4015
Unsure or Not aware	10	4015
No maintenance is required	1	4015
Not maintained by anyone	6	4015
Repairs		
Percentage of households who report that the asset was repaired / replaced or renovated	16	4446
- Of these, the median number of times the asset has been repaired	1	

Note: All percentages are computed on the number of valid responses.

5. Decision making in the village

The guidelines for the implementation of the MGNREGA lays considerable emphasis on strengthening the process of decentralisation by giving a significant role to the Panchayati Raj Institutions (PRIs) in planning and implementing the works. Through this step, it is expected that the villagers would have more influence over the assets created and it would meet the primary requirements of the respective villages. Accordingly we incorporated questions on the local processes and asked about the primary decision maker as well as the perceived role of the beneficiary in creating the asset.

Table 9 presents the self-declared involvement of users in the creation of the asset and who they consider to be the primary movers or decision maker for the MGNREGA works. Among the valid responses, twice as many felt that they had played a role in the decision making process as those who felt they had not. Among the former, a majority indicate that they were proactive in securing the work where 70% of them are decided in GS meetings or people around the work. However, for those in which the respondents felt that they had no role, the officials like the Gram Rozgar Sewak or engineers decided at the GP level or most of them.

In terms of the work types, we find that most of the works are decided through the GS meetings except the 'Other works' type. Toilets, which have been built predominantly under the 'Other works' asset type are mostly decided by the GP (63.1%). This is expected in the context of the Total Sanitation Campaign (TSC), a rural sanitation programme started in 1999, which allows for construction of household latrines, toilet units in schools and anganwadis under MGNREGA administered by the Ministry of Drinking Water and Sanitation (Government of India, 2011). In terms of execution of these types of works, the concerned GP is the implementing agency. Our findings corroborate this fact. Annex Table 6 presents the table on decision making through the asset types. In terms of role of the respondent, it is found that they played a huge role in deciding land development works in private land and rural road works, both of which are expected. This evidence seems to suggest that decisions in terms of asset creation are majorly being made through a decentralised planning through people's participation.

The role of the beneficiaries in deciding the type of work also has important implications for the condition and quality of the asset and therefore for the usefulness of the asset. One would expect the three to be positively correlated, so that the greater the role of a beneficiary household in deciding the work, the greater the interest the household will have in ensuring that the asset is maintained in good condition and more useful the work from the perspective of the household.

Box 5 : Considerations of Quality: The case of Raigad and Nashik

Raigad, in coastal Maharashtra, recorded a significant number of assets that did not exist. Many of these were reportedly damaged or washed away. One type of work that was common in Roha block is the bori bandh, small dams constructed by piling sandbags. Many of these, villagers complained, lasted for just one season and invariably got washed away if there were heavy rains. Some mentioned that while they were in place, they were very useful in holding water for washing animals or washing clothes. This has been the experience elsewhere as well. For example in Gujarat a field survey showed that over 85% of the bori bandhs built in 2009 did not last beyond a few years.

Elsewhere, in Nashik in Peth block (surveyed as part of the pilot), many farmers who had requested MGNREGA works on their land indicated that the designs for these were flawed. For Kashinath Pawar in Boripada village, when the farm pond on his land was completed, he realized that the soil was too porous to hold water for an extended period. This led to greater availability of groundwater but did not provide surface water availability that he had hoped it would. He had decided to line his farm pond with plastic to redress this problem. Another farmer in a neighbouring village elaborated on his experience with levelling his fields located on a slope and constructing a loose boulder structure that would prevent rain water from draining into the river. It would have helped cultivate the land that was hitherto hard to manage. Things did not however turn out quite the way he had hoped. He explained that ideally that boulder structure ought to have been longer, but on account of budgetary limits, it now flanked only a part of his field. He emphasized that the anticipated benefits of the work were reduced on account of this. While his field was now level, it did not retain water, which continued as before to drain into the river. He was planning to request that the structure be extended under the MGNREGA as a new work that would enable him to farm his fields effectively.

All three instances, three of perhaps many more, point to the significant potential returns in focusing more on design issues. In the latter two cases, farmers were proactively finding ways to redress these design flaws – through the MGNREGA or independently. This is not the case in Raigad, where bori bandhs seem routine.

Table 9 Local decision process and role of the respondents

Characteristic	Percentage	Number of valid responses
(1)	(2)	(3)
Respondents reporting that they played a big role in deciding the types of works undertake :		1892
- Of these, those who said that these works are decided through people's mandate*	70	
- Of these, who said that the works are decided at the GP level	22.6	1892
- Of these, who said that the works are decided by the officials	5.9	1892
Proportion of the respondents reporting that they played no role in deciding the types of works undertaken		937
- Of these, who said that these works are decided through people's mandate	41.9	937
- Of these, who said that the works are decided at the GP level	30.6	937
- Of these, who said that the works are decided by the officials**	9.8	937

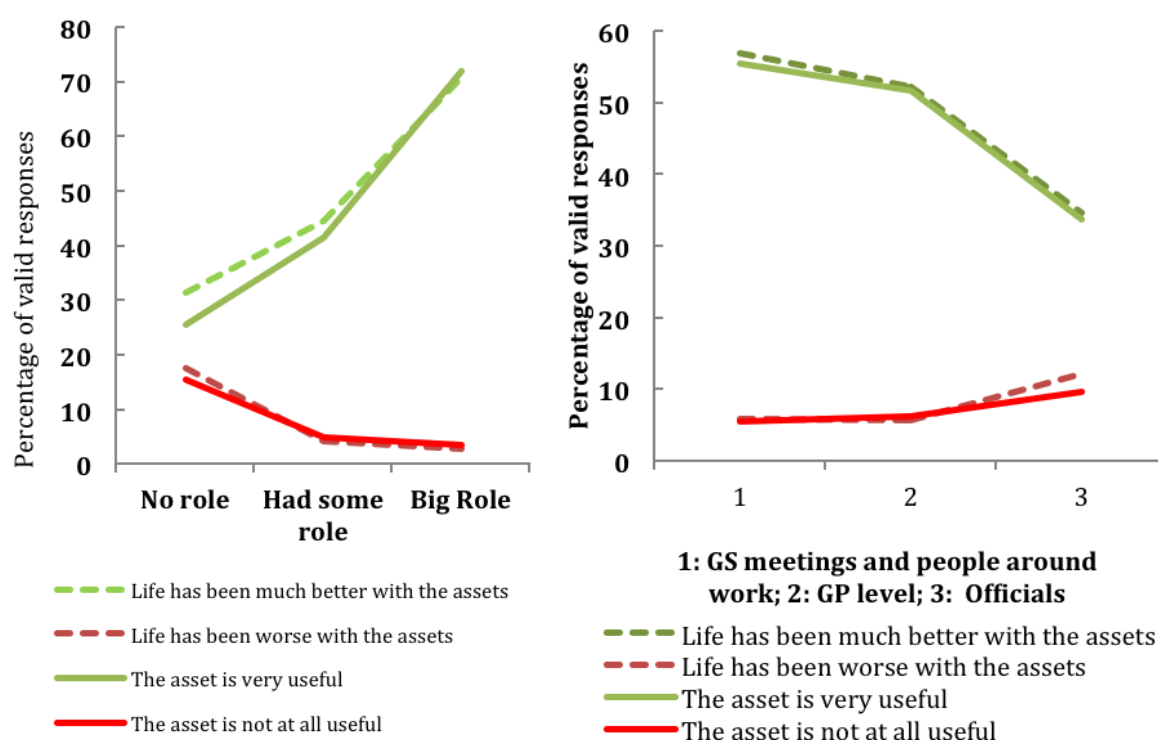
*Notes * Works decided through the GS meetings and people around the work are assumed to be the ones coming through people's mandate*

*** Officials include block/district officials, Gram Rozgar Sewak and Engineers.*

Data has been computed only for observations where the data is complete. The number of responses column provides this.

Figure 9 plots the proportion of beneficiaries who reported that the asset has been very useful along with the proportion who reported that they have not been at all useful vis-a-vis their role in deciding the asset created under MGNREGA. Interestingly, we find a positive relation in the sense that as the role increases, the perceived usefulness of the asset also increases. The beneficiaries who reported of having played a big role in deciding the type of assets to be created found lesser proportion of these assets to be useless in comparison to those who reported of having played no such role (3.5% and 15.5% respectively). It is also found that higher proportion of respondents with more influence over creation of the assets acknowledge that their life has changed after the said asset was constructed.

Figure 9: Relationship between beneficiaries' role, local decisions and usefulness



Note: Since people mandate in work decision can be mostly represented through GS meetings and people around the work, we have taken this group as 1. People mandate is most likely to be not represented in works undertaken through the officials and hence taken in group 3. Group 2 represents those respondents who reported that the corresponding work is determined through the GP.

Similar findings are observed through Figure 9, which seem to suggest that creation of assets through people mandate (GS meetings and people around the work) are found to be most useful to the beneficiaries. These are followed by those decided at the GP level. Further, we find that higher proportion of respondents reported that their life has changed

for the better through the MGNREGA asset, when decisions on their construction were taken at GS meetings and through the GP. The findings echo the fact that when decision-making process is decentralised, the assets tend to be more useful to the villagers.

In terms of regional variations, districts where there is higher number of works on individual beneficiary lands, like land development, households have stated that they played a significant part in the decision making process. This fraction drops when works such as afforestation predominate the district's work type composition. For most of the works on individual lands, decisions are taken in the gram sabha meetings or the panchayat. In contrast, villagers think that government officials directly take decisions about the common works like rural connectivity and afforestation. The correlation is systematic – when households have a personal stake, they actively participate in the decision making process. It is possible that the community may not be aware of the ways in which they can voice their suggestions in the case of common works.

The survey found that communities are able to clearly articulate their preference for work types that would be most useful to them and those they feel will be most useful to the poorest in their village. Water works on common lands and rural connectivity emerge as the chief priorities for the respondents (Table 10). At the same time it is interesting that a considerably larger proportion of respondents believe land development on private lands and afforestation would benefit the poorest in their village relative to those who believe that it benefits them most.

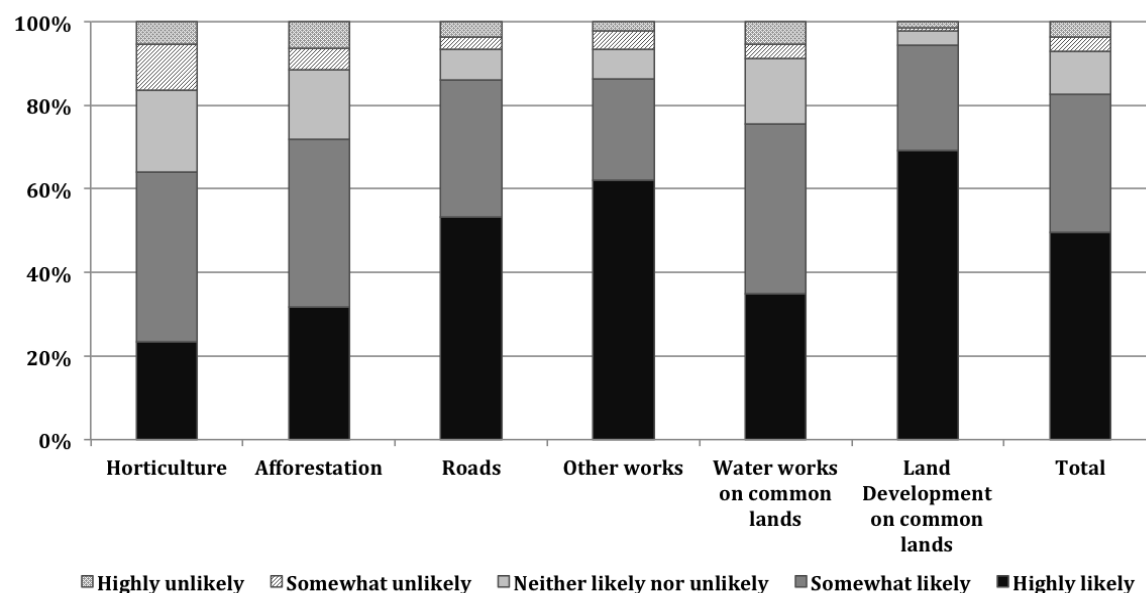
Table 10: Stated preference for work types

	What works ought to be undertaken in your village?		Which works have been the most useful to you?		Which works are most useful to the poorest in your village?	
	Number of Valid Responses	Percent	Number of Valid Responses	Percent	Number of Valid Responses	Percent
Land levelling	4680	33	4661	34	2666	64
WC/WH	4678	68	4660	68	3039	87
Rural connectivity	4689	64	4665	61	2888	73
Afforestation	4661	44	4648	42	2551	61
Horticulture	4643	18	4611	17	2461	38
Others	428	11	312	10	242	12

One of the more resonant findings from the survey is the role that the works created under the MGNREGA can potentially play in serving as stepping stones for better lives. The earlier part of the report alluded to examples of these. The survey required enumerators to provide their perception on the likelihood that the respondent would leverage MGNREGA

works to further improve their livelihoods. An overwhelming majority were perceived to be very or somewhat likely to do so with land development works topping the table, and roads, other works and water works on common lands just behind (Figure 10). Collectively this is strongly suggestive that MGNREGA assets are playing an important role in the lives of the beneficiaries.

Figure 10: Building on the MGNREGA assets



6. Summary and concluding remarks

This study sought to accomplish two things. The first was to verify the existence of assets supposed to have been constructed as part of the MGNREGA. The second was to elicit user perception on a range of issues regarding the usefulness of these assets and the kinds of impacts users associate with different types of works, positive and negative.

It is apparent that of all the assets purportedly created under the MGNREGA, 88% were verified as existent and in use. For the remaining 12%, the enumerators were either unable to reach the worksite, or the work did not exist anymore (or at all) and still others were those for which the same structure was assigned multiple identification numbers. In fact, it is only for 5% of the works that the latter two were valid. A majority of the works undertaken, around 75%, explicitly supports agricultural activities, via land levelling, horticulture and water conservation and harvesting works on public lands. The remaining works include roads and afforestation, some of which implicitly support agriculture as well. In the context of critiques of the MGNREGA, it is apparent that Maharashtra's MGNREGA is supportive of agriculture.

Of the beneficiaries surveyed, 92% of them stated that their main occupation was in fact agriculture, either as cultivators or workers, with half of the beneficiaries stating that they owned less than 1.62 ha. This strongly suggests that the MGNREGA works are more likely than not used by small and marginal farmers. Importantly, development of private agricultural lands seems targeted to small and marginal farmers, accounting for 75% of beneficiaries of this type of work. Horticultural works seem to favour the better endowed farmers, with only 41% owning 2 hectares or less land. While private land development seems more inclusive of small farmers than horticultural works, the pattern is reversed when it comes to the proportion of beneficiaries from marginalized communities. It appears that private land development is far less likely to benefit households belonging to SC/ST/OBC than does a horticultural work. About 37% of beneficiaries in the former are from SC/ST/OBC to 73% for the latter. Both for horticulture and land development works there appears to be very poor awareness of the eligibility criteria. The beneficiaries for works such as roads and afforestation were more diverse as one would expect; they also have a larger reach in terms of the extent of benefits.

A key finding of the survey is that the works surveyed represent substantive additions to the existing resource base and infrastructure in the survey areas. Roads have been built where there were none, forests have replaced scrub vegetation, water conservation and harvesting structures have emerged where water has never come easy. Given the often dismal state of rural infrastructure, this aspect of the MGNREGA cannot be overemphasized. Indeed the overwhelmingly positive views from users could well reflect the poor condition of infrastructure that makes the contribution of the MGNREGA that much more valuable.

The assets are associated with a very wide range of impacts. Overall, a resounding 91% of all respondents claim that the work was either “somewhat useful” or “very useful”. A similar proportion also suggests that their lives had improved on account of the MGNREGA asset. That only half of all respondents claimed that the work was “very useful” is suggestive of the scope that exists for improvements. Works largely on private lands have a much higher proportion reporting that the assets were very useful (63%) as compared to respondents for works on public lands (40%). Oddly enough, horticultural works that were implemented with acclaim in the earlier version of the EGS in Maharashtra appears to do less well in the new context, with people citing high maintenance and labour costs, despite the possibility of enhanced earnings. In contrast land development and rural connectivity seem to score more in terms of the perceived usefulness and transformative potential. Further, it is evident that a majority of the respondents are judged (by our survey teams) to be likely to varying degrees to leverage the MGNREGA and build on these to enhance their livelihood opportunities. This is one of the more resonating findings of the survey.

There is no evidence that MGNREGA works face neglect and fall into disrepair. As many as 16% of the users suggest that the work has been repaired once and most report

that the assets created are of acceptable condition or better (90% of all respondents). It is telling however that this is evenly divided between those who feel assets are good quality or excellent and those who only find it of sufficient quality. The need for repairs is indicative at the same time of interest in maintaining the functionality of the asset as it is indicative of perhaps inadequate attention to matters of quality and durability. Those who felt the assets were not useful mostly claimed that the design was faulty. However even among those who felt that the assets were useful felt sometimes that the design was faulty, at other times of a size that was too large or too small, and still others who simply felt that the work was incomplete. This is an area where there is considerable scope for improvement (see Appendix 4).

An interesting, but perhaps unsurprising finding of the survey is the strong correlation between the perceived usefulness of the work and the extent to which respondents believe they played a role in the decision making process and the mode by which decisions were taken (in gram sabhas, by the panchayat or government functionaries). It is apparent that where the decision making process rests with the community themselves and where respondents feel they played a role, these assets are rated not only as more useful but as being instrumental in improving their lives than otherwise. One crosscutting pattern is that works on private lands are rated as being in relatively better condition and more useful relative to those on common lands. Works on private lands have natural custodians who have a stake in ensuring the maintenance of the asset. It is also the case that the choice of the asset would have been such that they are the most useful among possible assets for the household in question. The maintenance of the public assets created under the MGNREGA ought to be an area of concern.

Overall, there are many common preconceptions of the MGNREGA in Maharashtra that this study speaks to. It provides evidence for some of these but controverts others. Whereas the MGNREGA is perceived to be anti-farmer because it employs workers in large numbers, the survey suggests a more complex tradeoff and that it could simultaneously benefit farmers, especially the small and marginal. The widespread perception that the MGNREGA does not create anything productive or that many works are on paper appears to be seriously misplaced in the context of the sample villages. Perhaps this concern is more valid in areas where the implementation is weaker or where the GPs have not performed as well. It is evident however that this is not the case in the prolific GPs. Each work on a private land impact 3.5 acres with an equal extent benefitting from spillover effects. Each water work on common lands impacts on average 7 acres of private land and for every acre so impacted, there are two acres of other peoples' land that also benefit. There is also a clear perception that water availability has increased. So too with roads, which have improved access to facilities and farms but also enhanced connectivity. Another perception, that MGNREGA assets are non-durable, is not entirely true either. But there is merit in the argument that greater attention to design and maintenance can go a long way in ensuring that while the best works are good, the ones that are not get better.

REFERENCES

Aggarwal, Ankita, Aashish Gupta, Ankit Kumar. (2012) "Evaluation of NREGA Wells in Jharkhand", *Economic and Political Weekly*, Volume xlvii, No.3, September 1, 2012.

Verma, S., and Tushaar Shah. (2012)"Beyond digging and filling holes: lessons from case studies of best-performing MGNREGA [Mahatma Gandhi National Rural Employment Program] water assets." (2012).

Esteves, Tashina, K. V. Rao, Bhaskar Sinha, S. S. Roy, Bhaskar Rao, Shashidharkumar Jha, Ajay Bhan Singh et al. (2013) "Agricultural and Livelihood Vulnerability Reduction through the MGNREGA." *Economic & Political Weekly* 48, no. 52 (2013): 95.

Chakraborty, Banhi, and Sutapa Das (2014). "MGNREGA and Water Management: Sustainability Issues of Built Forms of Rural India." http://web.usm.my/jcdc/vol19_2_2014/jcdc-oa-07130047%20Preview.pdf

Bassi, Nitin and M Dinesh Kumar (2010): "NREGA and Rural Water Management in India: Improving the Welfare Effects", Institute for Resource Analysis and Policy, Occasional Paper No 3-0910, Institute for Resource Analysis and Policy, Hyderabad; available at: http://www.indiawaterportal.org/sites/indiawaterportal.org/files/NREGA_rural_water_management_India_Improving_welfare_effects_Occasional_paper_Dinesh_Kumar_et_al_IRAP_2010.pdf

IIS (2013): Synthesis Report on "Environmental Benefits and Vulnerability Reduction through Mahatma Gandhi National Rural Employment Guarantee Scheme", Indian Institute of Science, Bangalore, available at: http://nrega.nic.in/Netnrega/WriteReaddata/Circulars/Report_Env_Benefits_Vulnerability_Reduction.pdf

ILO and Development Alternative (2009): "NREGA – A Review of Decent Work and Green Jobs in Kaimur District at Bihar", International Labour Organisation and Development Alternative, http://www.ilo.org/wcmsp5/groups/public/-asia/-ro-bangkok/-sro-new_delhi/documents/genericdocument/wcms_142539.pdf

MoRD (2012): "MGNREGA Sameeksha: An Anthology of Research Studies on the Mahatma Gandhi National Rural Employment Guarantee Act, 2005, Government of India", Ministry of Rural Development, Government of India.

Tiwari, Rakesh, H I Somashekhar, V R Ramakrishna Parama, Indu K Murthy, M S Mohan Kumar, B K Mohan Kumar, Harshad Parate, Murari Varma, Sumedha Malaviya, Ananya S Rao, Asmita Sengupta, Ruth Kattumuri, N H Ravindranath (2011): "MGNREGA for Environmental Service Enhancement and Vulnerability Reduction: Rapid Appraisal in Chitradurga District, Karnataka", *Economic & Political Weekly*, xlv (20): 39-44.

Appendix 1: Sampling Methods

Identification of Beneficiaries

For work done on private lands, wells, etc. *one* beneficiary of the work was interviewed- the owner/ user of the land on which the work is located. If there are spillover benefits, we incorporate this in the interview with the respondent rather than including all the beneficiaries. For those that are common pool resources, we interviewed *two* beneficiary households. Apart from data on their perceptions of benefits, we will also elicited some understanding of the total number of households and people who benefit from the work. This was to give us a sense of the reach of the benefits. For common pool resources, including connecting roads or plantations, we used a spatial delimitation based on some thumb rules after verification of the asset.

For work on ***private lands*** who owns and/or operates the land on which the asset is created was interviewed. If the owner also operates the land, then there was no problem. But if the owner is different, and the one who operates the land is a different person the latter was interviewed, since (s)he is more likely to have opinions on the usefulness of the assets.

For other works on ***commons or public lands***, survey enumerators followed the instructions as given below.

Instructions to Enumerators

- (1) Rural Connectivity: Please note on the asset verification sheet the extent of the road. From, say, A, to say, B. Please interview two households – the one located closest to A and one, closest to B. Sometimes A and B might refer to people’s houses or farms belonging to people, in which case they can be identified easily. In other cases, A and B might only indicate that it is from where an internal road ends to the river, for example. In this case, enquiries need to be made in advance to determine who lives closest to these points or whose plots lie closest to these points. If a work was done in parts but belong to the same work, for example, the stretch from A to B is one work ID and B to C is another and so on, then the beneficiaries to be interviewed will be the household at A, B and C or those who own the plots at A, B and C. B can be associated with either work.
- (2) Water harvest/conservation structures: Interview the owners of *two* plots that are located closest to the structure.
- (3) Water storage on public lands. Document the primary use of the asset. Based on this, for example, if it is used for cattle, survey two households that are closest to the

water body that also have cattle. If there is no specific use for the water body, please interview the two households/ owners of plots located closest to the water body.

(4) Afforestation /Plantation: Typically afforestation works under MGNREGA involve planting trees in multiple locations. It is important that these locations are identified in the conversation with the GS/GRS and choose randomly two different hamlets where afforestation work.

- If the afforestation work is on private land, choose *two* beneficiaries on whose land the work is on, one each in a *different hamlet*.
- If the afforestation work is on public land, e.g. school, panchayat bhavan, PHC, etc. please interview a teacher or headmaster, the panchayat sipahi or other functionary. If there is more than one such work, choose *two* locations (even if in the same hamlet).
- For afforestation works in the forests outside the village, please interview *two* households that are located closest to the forested area or two households whose plots are near the forested area.

SELECTION OF RESPONDENTS /BENEFICIARIES

If **PRIVATE**, interview one person who owns and/or operates the land on which the asset is created. If the owner is different from one who operates the land interview the one who operates the land.

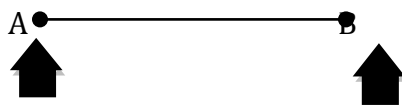


If **PUBLIC**, interview two for each work ID. Guidelines are provided below.

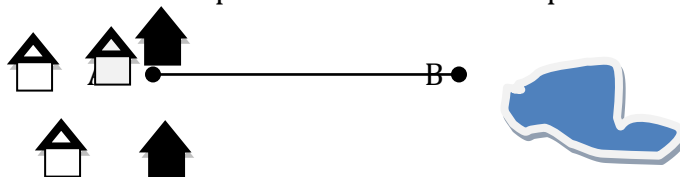
(5) Rural Connectivity:

Please note on the asset verification sheet the extent of the road. From, say, A, to say, B.

Please interview two households – the one located closest to A and one, closest to B.

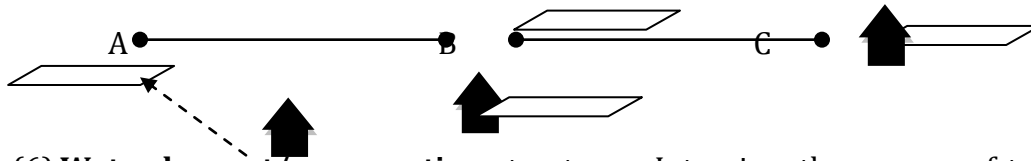


If road is to a river or tank/pond or a main road choose two who live closest to these points or whose plots lie closest to these points.



If two work IDs are next to each other, i.e., from A to B is one work ID and B to C is another and so on, then the beneficiaries to be interviewed will be the household at A, B and C or those who own the plots at A, B and C, with two at B and one each at A and C.



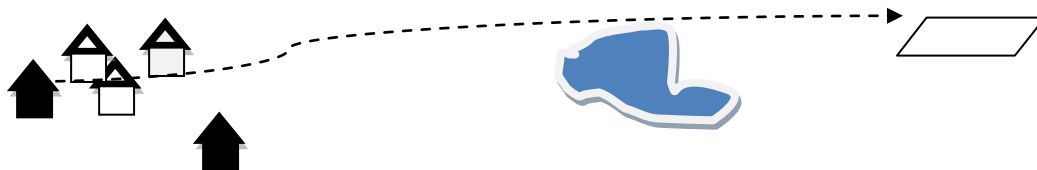


(6) **Water harvest/conservation** structures: Interview the owners of two plots that are located closest to the structure. As far as possible, the plots should not be adjacent to each other.

(7) **Water storage** on public lands.

On asset verification sheet note primary use – e.g. water for cattle, storage, etc.

Survey two households that are closest to the water body or owners/operators of two plots closest to the water body.



(8) **Afforestation /Plantation:**

Choose two different hamlets where the work (with same work ID) is spread.

If the afforestation work is on private land, choose *two* beneficiaries on whose land the work is on, one each in a *different hamlet*.

If the afforestation work is on public land, e.g. school, panchayat bhavan, PHC, etc. please interview a teacher or headmaster, the panchayat ward member or other functionary. If there is more than one such work, choose *two* locations (even if in the same hamlet).

For afforestation works in the forests outside the village, please interview *two* households that are located closest to the forested area or two households whose plots about the forested area.

Appendix 2: Survey Instruments

Household questionnaires have captured household characteristics, the assets and their use of by the households as well as the perceived benefits. A GP questionnaire will elicit information about the village characteristics and document the profile of the village functionaries.

The paper-based survey had the following components for each GP selected for the survey

(1) GP Questionnaire

This is to obtain some basic characteristics of the gram panchayat and some basic information on how works are selected. This can be combined with data from Census 2011 if necessary on the census village corresponding to the particular gram panchayat.

(2) Asset Verification Schedule and Sampling Sheet

This comprised a list of works completed between January 1, 2010 and December 31, 2013, organized by type of work. The schedule required investigators to verify that the work exists and record the location, dimensions and their observations on the condition of the work at the time of their visit.

Beneficiary Questionnaire (by type of work)

- a. Private Land Development
- b. Rural Connectivity
- c. Water Conservation/Harvest Structures on Public Lands
- d. Afforestation
- e. Nurseries, plantation, horticulture
- f. Other built structures (toilets, anganwadis, panchayat bhavan, Rajiv Gandhi kendras)

The Beneficiary Questionnaire was designed for each specific work type for ease of administering.

For the set of questionnaires, please see the companion document with this report.

Appendix 3: Suggestions for Policy

In the light of the findings of the study, there are several areas that merit attention from a policy perspective. Broadly there are two aspects to planning for effective, durable, productive asset building under NREGA that is Social and Technical. As part of the social process, there can be systematic participation of villagers (not just the workers or potential workers) in getting their suggestions on type of works, the beneficiaries for individual benefit schemes; location of the asset and time of implementation depending on the general agri-work calendar of that community or village. The Gram Rozgar Sevak and Gram Panchayat members might need to facilitate this process and get this discussed in the Gram Sabha. For the technical part, once the Gram Sabha has given their preferences, they have to prepare location specific design and estimate. It is important that water and soil conservation works are part of larger design plan based on watershed principle. If these efforts are accompanied by a cadre of technical assistants from the local villagers who can be trained so as to contribute in planning. This cadre can be the bridge between the social and technical processes.

Every marginal effort in better design and more participation of villagers can lead to multiplier effect on the impact of assets in terms of usefulness and durability. An addition in the technical design and estimate document can be a section on expected impact of this work on – improving land productivity; increase in land under cultivation; water availability/security; connecting villages and such parameters. This can support mapping of possible outcome of each Works to the 'labour person days' investment and expense investment.

So a better designed and built asset may not need frequent repairs. Nevertheless, it is advisable to consider a separate 'maintenance expense' for each GP or each work. An appropriate set of pre-conditions/ operational mechanism has to be put in place so that using this expense account does not become incentive for low quality construction of assets in the first place.

Appendix 4: About the Partners

This study was undertaken as a collaborative effort of the Indira Gandhi Institute of Development Research (IGIDR), Mumbai and Pragati Abhiyan.

The Indira Gandhi Institute of Development Research (IGIDR) is an advanced research institute established and fully funded by the Reserve Bank of India for carrying out research on development issues from a multi-disciplinary point of view. IGIDR was responsible of designing the survey, devising the survey instruments, testing them. IGIDR arranged for professional data entry firms to undertake data entry at the end of the survey. IGIDR also had the responsibility of analyzing the data and writing a report in consultation with Pragati Abhiyan. At IGIDR, Sudha Narayanan had the primary responsibility for the project. Krushna Ranaware, and Upasak Das were research collaborators.

Pragati Abhiyan is a civil society organization based in Nashik, focused on rural poverty. For this project Pragati Abhiya contributed in preparing the questionnaire and translation, planned, designed and undertook training of enumerators along with IGIDR and contributed to data interpretation. At Pragati Abhiyan, Ashwini Kulkarni oversaw the research study.

Others involved are as follows:

Data Entry Agencies

1. DATALINK Services, Mumbai
2. TRIPS, Mumbai

List of Interns

1. Priyanka Dhage
2. Sarah Imtiaz Ashraf
3. Rohan Jadiye
4. Saurabh Shirsath
5. Rajasi Aroskar
6. Pooja Chavan
7. Govind Pednekar
8. Sandeep Pawar
9. Arvind Kumar
10. Abhishek Kumar
11. Komal Wakulkar
12. Dipanjan Chakraborty

List of Agricultural Colleges and others involved in the study.

District	Block	College
Ahmednagar	Parner	Krusha Tantra Niketan
Akola	Balapur	Smt. S A College of Agriculture
Bhandara	Mohadi	Shri. Sewakbhau Waghaye Patil College of Agriculture, Kesalwada/Wagh
Chandrapur	Brahmapuri	Anand Niketan College of Agriculture
Gadchiroli	Kurkheda	
Gondia	Sadak Arjuni	MB Patel Agriculture college
Jalgaon	Jalgaon	Krusha Tantra Niketan
Jalna	Mantha	Private organisation
Kolhapur	Karvir	Agriculture College
Latur	Ausa	Krusha Tantra Niketan
Nagpur	Narkhed	Agriculture school
Nashik	Peth	K. K. Wagh Agri College
Parbhani	Jintur	Agriculture College
Pune	Baramati	Agriculture College
Raigad	Roha	Krusha Tantra Vidyalaya
Sangli	Atpadi	Agriculture College
Solapur	Madha	Agriculture College
Thane	Jawahar	Agriculture College
Wardha	Karanja	College of Agri, Rohna
Washim	Mangrulpir	Late AP Desh Agri Pol College

Annex Table 1: Some Characteristics of the Sample Blocks

SN o	Sample Blocks	District & Administrative Division		Mean Decadal Rainfall (1995-2005) in mm	Proportio n of SCs	Proportio n of STs	Househol d Size
1	Parner	Ahmadnagar	Nashik (North Maharashtra)	409.4	6.4	5.1	4.8
2	Balapur	Akola	Amravati (Vidrabha)	656.2	34.1	2.7	4.2
3	Kannad	Aurangabad	Aurangabad (Marathwada)	N.A.	9.3	9.8	5.0
4	Mohadi	Bhandara	Nagpur (Vidarbha)	1216.78	7.8	7.3	4.5
5	Brahmapuri	Chandrapur	Nagpur (Vidarbha)	1262.4	15.3	14.3	3.9
6	Kurkheda	Gadchiroli	Nagpur (Vidarbha)	1392.7	6.7	69.0	4.3
7	Sadak Arjuni	Gondia	Nagpur (Vidarbha)	1400.92	12.2	26.0	4.3
8	Chalisingaon	Jalgaon	Nashik (North Maharashtra)	660.6	9.8	16.5	4.8
9	Mantha	Jalna	Aurangabad (Marathwada)	651.7	16.3	2.5	4.8
10	Karvir	Kolhapur	Pune (western Maharashtra)	796.9	14.1	0.3	4.9
11	Ausa	Latur	Aurangabad (Marathwada)	728.7	16.9	2.2	4.7
12	Narkhed	Nagpur	Nagpur (Vidarbha)	885.32	18.0	16.5	4.2
13	Peth	Nashik	Nashik (North Maharashtra)	2194	0.2	98.9	4.9
14	Jintur	Parbhani	Aurangabad (Marathwada)	753.1	11.7	7.1	4.9
15	Baramati	Pune	Pune (western Maharashtra)	352.7	11.4	0.9	4.8
16	Roha	Raigad	Mumbai (Konkan)	3164.2	3.4	17.7	4.3
17	Atpadi	Sangli	Pune (western Maharashtra)	227	9.3	0.3	4.9
18	Madha	Solapur	Pune (western Maharashtra)	465.6	12.0	0.8	4.9
19	Jawahar	Thane	Mumbai (Konkan)	3522	3.3	3.6	4.9
20	Karanja	Wardha	Nagpur (Vidarbha)	864.72	8.1	20.7	4.1
21	Mangrulpir	Washim	Amravati (Vidrabha)	778.9	22.9	12.0	4.4

Annex Table 2 : MGNREGA in the Survey Region: Some Statistics

SNo	District	Number of GPs in the sample block	Percentage of GPs in the sample block selected for survey	Numb er of respo ndent s	Share of the district in total respond ents (%)	Assets list from the Governm ent records	Share of the district in total assets surveyed (%)	Number of assets surveye d per sample GP	Total MGNREGA works in the district (2010-13)
1	Ahmadnagar	114	4.4	272	5.57	229	5.05	38.2	2107
2	Akola	66	7.6	68	1.39	63	1.56	11.8	404
4	Bhandara	75	6.7	367	7.52	327	8.35	63.2	7381
5	Chandrapur	45	11.1	173	3.54	126	2.93	22.2	4125
6	Gadchiroli	63	7.9	349	7.15	217	4.41	33.4	2200
7	Gondia	39	12.8	365	7.48	204	5.21	39.4	1421
8	Jalgaon	93	5.4	76	1.56	58	1.14	8.6	5060
9	Jalna	117	4.3	114	2.34	131	2.67	20.2	4346
10	Kolhapur	108	4.6	102	2.09	81	2.17	16.4	2092
11	Latur	72	6.9	232	4.75	250	5.81	44.0	609
12	Nagpur	128	3.9	273	5.59	264	6.71	50.8	2890
13	Nashik	74	6.8	44	0.9	32	0.69	5.2	2948
14	Parbhani	139	3.6	194	3.97	117	3.09	23.4	1245
15	Pune	101	5.0	288	5.9	247	6.37	48.2	2124
16	Raigad	64	7.8	114	2.34	287	2.56	19.4	3859
17	Sangli	57	8.8	421	8.63	394	10.17	77.0	4775
18	Solapur	109	4.6	385	7.89	354	8.8	66.6	4562
19	Thane	50	10.0	626	12.83	1386	11.97	90.6	8754
20	Wardha	60	8.3	332	6.8	403	8.3	62.8	8834
21	Washim	82	6.1	86	1.76	95	2.03	15.4	179
		1656		4881	100	5265	100		69915

Annex Table 3: Assets Surveyed by District and Type

District	Afforestation	Horticulture	Land development on private lands	Other works	Roads	Water works on common lands	Total
AHMEDNAGAR	9	0	102	0	42	37	190
	4.74	0	53.68	0	22.11	19.47	100
	3.78	0	7.75	0	16.15	3.27	5.03
AKOLA	3	8	47	0	1	0	59
	5.08	13.56	79.66	0	1.69	0	100
	1.26	4.88	3.57	0	0.38	0	1.56
BHANDARA	163	4	3	105	26	15	316
	51.58	1.27	0.95	33.23	8.23	4.75	100
	68.49	2.44	0.23	15.77	10	1.32	8.37
CHANDRAPUR	3	7	2	32	23	43	110
	2.73	6.36	1.82	29.09	20.91	39.09	100
	1.26	4.27	0.15	4.8	8.85	3.8	2.91
GADCHIROLI	0	13	18	0	5	130	166
	0	7.83	10.84	0	3.01	78.31	100
	0	7.93	1.37	0	1.92	11.47	4.4
GONDIA	1	27	27	0	48	94	197
	0.51	13.71	13.71	0	24.37	47.72	100
	0.42	16.46	2.05	0	18.46	8.3	5.22
JALGAON	11	13	5	0	8	6	43
	25.58	30.23	11.63	0	18.6	13.95	100
	4.62	7.93	0.38	0	3.08	0.53	1.14
JALNA	0	7	59	0	0	35	101
	0	6.93	58.42	0	0	34.65	100
	0	4.27	4.48	0	0	3.09	2.67
KOLHAPUR	1	7	66	0	6	2	82
	1.22	8.54	80.49	0	7.32	2.44	100
	0.42	4.27	5.02	0	2.31	0.18	2.17
LATUR	0	6	1	0	13	199	219
	0	2.74	0.46	0	5.94	90.87	100
	0	3.66	0.08	0	5	17.56	5.8
NAGPUR	2	7	33	208	1	3	254
	0.79	2.76	12.99	81.89	0.39	1.18	100
	0.84	4.27	2.51	31.23	0.38	0.26	6.72
NASHIK	0	8	8	0	2	8	26
	0	30.77	30.77	0	7.69	30.77	100
	0	4.88	0.61	0	0.77	0.71	0.69
PARBHANI	3	5	30	0	4	74	116
	2.59	4.31	25.86	0	3.45	63.79	100

	1.26	3.05	2.28	0	1.54	6.53	3.07
PUNE	0	5	202	0	4	30	241
	0	2.07	83.82	0	1.66	12.45	100
	0	3.05	15.35	0	1.54	2.65	6.38
RAIGAD	6	7	38	0	9	36	96
	6.25	7.29	39.58	0	9.38	37.5	100
	2.52	4.27	2.89	0	3.46	3.18	2.54
SANGALI	3	4	301	33	12	32	385
	0.78	1.04	78.18	8.57	3.12	8.31	100
	1.26	2.44	22.87	4.95	4.62	2.82	10.19
SOLAPUR	0	21	278	0	34	0	333
	0	6.31	83.48	0	10.21	0	100
	0	12.8	21.12	0	13.08	0	8.82
THANE	23	15	58	0	15	341	452
	5.09	3.32	12.83	0	3.32	75.44	100
	9.66	9.15	4.41	0	5.77	30.1	11.97
WARDHA	10	0	0	288	2	14	314
	3.18	0	0	91.72	0.64	4.46	100
	4.2	0	0	43.24	0.77	1.24	8.31
WASHIM	0	0	38	0	5	34	77
	0	0	49.35	0	6.49	44.16	100
	0	0	2.89	0	1.92	3	2.04
Total	238	164	1,316	666	260	1,133	3,777
	6.3	4.34	34.84	17.63	6.88	30	100
	100	100	100	100	100	100	100

Annex Table 4: Districtwise Perceptions on the usefulness of Assets

District	How useful is the work to you?					How would you say your life has changed?		
	Very useful	Somewhat useful	Not useful or worse	Unable to say, do not care	Total	Much better than before	Somewhat better than before	No change or worse
AHMEDNAGAR	115	111	20	5	251	109	111	
	45.82	44.22	7.97	1.99	100	44.31	45.12	
AKOLA	25	31	11	1	68	27	27	
	36.76	45.59	16.18	1.47	100	39.71	39.71	
BHANDARA	193	144	25	5	367	190	148	
	52.59	39.24	6.81	1.36	100	51.91	40.44	
CHANDRAPUR	83	62	18	2	165	74	65	
	50.3	37.58	10.9	1.21	100	44.85	39.39	
GADCHIROLI	58	256	16	18	348	89	233	
	16.67	73.56	4.6	5.17	100	25.57	66.95	
GONDIA	82	253	17	11	363	88	223	
	22.59	69.7	4.69	3.03	100	24.31	61.6	
JALGAON	23	34	17	0	74	25	31	
	31.08	45.95	22.97	0	100	33.78	41.89	
JALNA	75	13	9	0	97	64	23	
	77.32	13.4	9.28	0	100	65.98	23.71	
KOLHAPUR	78	20	1	1	100	75	22	
	78	20	1	1	100	73.53	21.57	
LATUR	174	47	8	1	230	188	32	
	75.65	20.43	3.48	0.43	100	82.46	14.04	
NAGPUR	239	31	1	0	271	236	33	
	88.19	11.44	0.37	0	100	87.08	12.18	
NASHIK	15	20	9	0	44	11	23	
	34.09	45.45	20.46	0	100	25	52.27	

District	How useful is the work to you?				How would you say your life has changed?			
	Very useful	Somewhat useful	Not useful or worse	Unable to say, do not care	Total	Much better than before	Somewhat better than before	No change or worse
PARBHANI	109	74	10	1	194	118	65	
	56.19	38.14	5.16	0.52	100	60.82	33.51	
PUNE	89	116	55	2	262	94	101	
	33.97	44.27	20.99	0.76	100	35.88	38.55	
RAIGAD	69	38	3	0	110	62	44	
	62.73	34.55	2.73	0	100	56.88	40.37	
SANGALI	282	123	14	2	421	278	127	
	66.98	29.22	3.33	0.48	100	66.03	30.17	
SOLAPUR	241	123	19	0	383	201	151	
	62.92	32.11	4.96	0	100	52.76	39.63	
THANE	222	352	29	9	612	284	302	
	36.27	57.52	4.74	1.47	100	46.18	49.11	
WARDHA	223	60	34	13	330	224	70	
	67.58	18.18	10.3	3.94	100	67.47	21.08	
WASHIM	54	20	5	0	79	53	22	
	68.35	25.32	6.33	0	100	66.25	27.5	
Total	2449	1928	321	71	4769	2490	1853	
	51.35	40.43	6.73	1.49	100	52.26	38.89	

Annex Table 5: Roads and their consequences

Serial Number	Details	Number who claim this is true	Valid Responses
1	There are no more disputes about rights of passage	285	4
2	Traffic (vehicular or otherwise) to the hamlet/village has increased	375	4
3	Traffic from the hamlet/village has increased	363	4
4	Public transport to the hamlet/village has developed	367	4
5	Travel time to and from the hamlet /village has gone down	339	4
6	It has made it possible to access following services		
a	Post office/Bank	193	4
b	Health centre /Schools	221	4
c	District/Block headquarters/Panchayat office	192	4
7	Access to natural resources has increased	348	4
a	Access to Fields	399	4
b	Water source (for irrigation)	345	4
c	Water source (for cattle)	328	4
d	Water source (for drinking and other uses)	335	4
e	Pastures	342	4
f	Forests (for fuel and /or NTFP)	299	4
8	Transport costs have come down	292	4
9	It has made it possible to access markets	257	4
a	Markets for selling produce	275	4
b	Markets for purchase of inputs	262	4
c	Markets for purchase of food and other necessities	266	4
10	Road provides yearlong access to the village whereas it did not exist before	52	
11	Road makes it safer to undertake some activities	285	4
12	(-) The road has meant loss of a part of my land	137	4
13	(-) The road has increased conflicts over use of common resources	73	4

Annex Table 6: Decisions over creation of assets

	Water structure s on Common Lands	Afforestation	Works on private land	Horticulture	Roads	Other works	Total
<i>Who Decides</i>							
Gram Sabha meeting	61.8	59.4	68.7	50.4	69.2	33.1	59.4
Gram Panchayat Officials	21.3	28.6	19.6	37.8	20.1	63.1	28.1
Dont know	9.6	6.9	9.5	5.8	3.8	2.2	7.6
	7.4	5.1	2.3	6.1	6.8	1.6	5
Total	100	100	100	100	100	100	100
<i>Role of the household</i>							
Big Role	35.3	19.6	63.8	28.3	40.9	38.7	42.7
Had some role	38.4	52.8	26.8	37.9	34.7	44.3	36.5
Did not have much role	26.3	27.7	9.5	33.8	24.4	17.0	8.7
Total	100	100	100	100	100	100	100