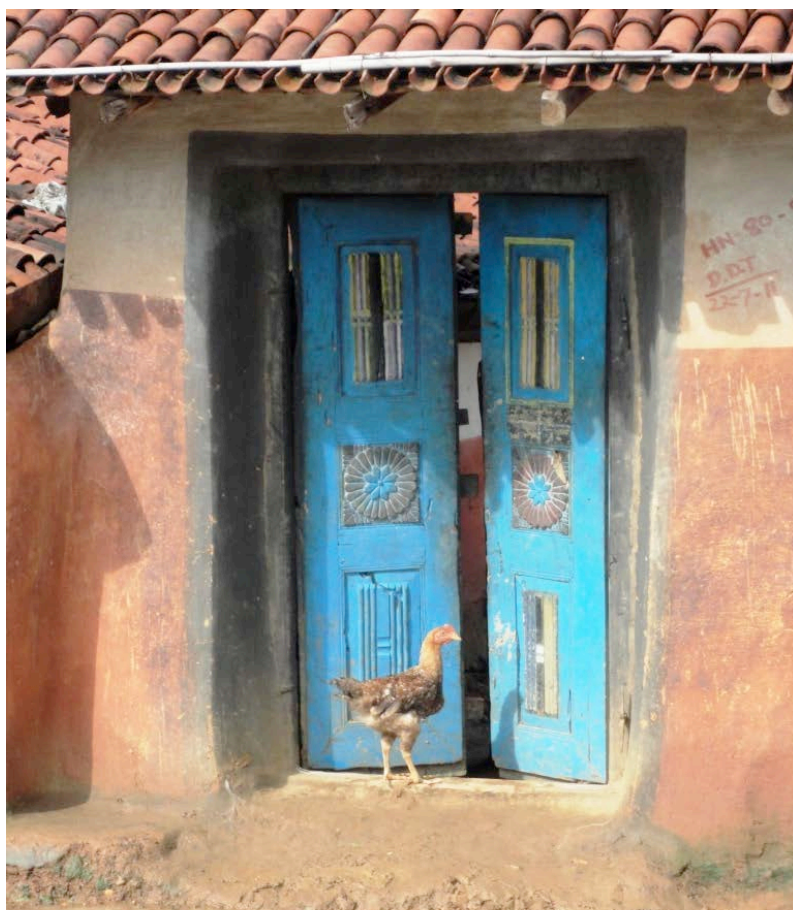


Impact assessment of Tata Steel interventions in the economic and social aspects of the community in 23 villages of Saraikela-Kharswan Area



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Introduction: Objectives and rationale of the study

TSRDS has been working in Saraikela-Kharswan district since 2003-4, focusing on livelihoods, health, education, empowerment and environmental interventions. It is anticipated that TSRDS will begin to withdraw from 23 villages in the project area by March 2013. To ensure that the development in the project area is sustainable, it is important that the plans for withdrawal of TSRDS services are based on a clear understanding of the real impacts interventions have had to date, gaps in the interventions to date, and the capacity of the community to maintain and build upon the changes the development benefits that have occurred.

This study therefore has the following objectives:

1. Assess the social and economic impact of TSRDS interventions in 23 villages of Saraikela-Kharswan district, namely:
 - a. The increase in family income since the project start, and the proportion of increased income which is due to TSRDS interventions
 - b. The way this additional income has been used (eg increase in family assets, school fees etc.)
 - c. The social impact of the changes in income, including changes in health and education.
2. Identify gaps and weaknesses where TSRDS interventions have yet to achieve anticipated impacts.
3. Suggest practical ways that these gaps can be addressed between now and March 2013 to ensure the sustainability of interventions after TSRDS withdrawal, and the ways these could be incorporated into 2011-2012 and long term plans.
4. Identify examples of good practice and learning that could inform and strengthen future projects.

Section 1: Methodology

Methods

A number of methods were used to gather data for this study. First, an analysis of existing secondary data was carried out, including village level Human Development Index (HDI) data on the selected villages, TSRDS project proposals and mid-term reports, and TSRDS baseline and monitoring data on the selected villages. Second, surveys were conducted with 40 individuals from 6 focus villages, which collected data on participation in TSRDS activities and changes in agricultural productivity and income at an individual household level. These surveys followed a structured questionnaire consisting of a combination of closed and open ended questions. Third, focus group discussions (FGDs) were carried out in 4 of the focus villages: Kursonpur, Nayadih, Lakhodi and Mosodih. The focus groups included both men and women, and provided data on village level impacts, and in particular social changes. Fourth, informal discussions with groups and individuals were done in one control village where TSRDS is not currently working (Ukri), again including both men and women. This allowed a comparison with TSRDS focussed villages, by providing data on the agricultural methods, incomes and social status of a comparable non-TSRDS village. The individual surveys were carried out via a translator, who translated into Hindi, Bengali, or tribal languages as appropriate. The FGDs were facilitated by TSRDS staff in Hindi or Bengali as appropriate, based on a set of questions or topics agreed in advance, and a translation into English was provided during the course of the discussion.

Prior to data collection, a series of field visits were made to the selected villages, as well as other villages in the project area. These allowed informal discussions with individuals and groups, familiarisation with the project area and TSRDS interventions, and preliminary testing of the survey design.

Following data collection, the results were analysed using a combination of quantitative and qualitative methods. Responses to open ended questions were coded and the frequency of responses analysed.

Sampling

6 focus villages were selected for the study, representing 20% of the 23 villages in Saraikela-Kharswan district in which TSRDS works. The selection of villages was designed to provide a representative sample of the project area, based on the following three criteria: number of TSRDS projects; length of TSRDS interventions; and the social composition of village. To maximise comparability of the data, villages were also selected which had similar numbers of households. For practical reasons, a fourth criteria became necessary, namely ability to access the village by road during the monsoon season. The table below provides basic data on the villages selected.

Name of village	No. of TSRDS projects	Year of project start	Social make up	No. of households	No. of surveys completed (% of total HHs)
Masodih	4	2003-4	100% ST	58	6
Kursonpur	3	2007	100% ST	60	6 (10%)
Jojo	4	2003-4	Mixed: ST/ Other	90	6 (7%)
Tetultand	3	2003-4	100% ST	59	7
Lakhodi	4	2003-4	Mixed: SC, ST, Other	41	8 (20%)
Nayadih	2	2003-4	Mixed: Muslim and ST	82	7

Within these villages, individual surveys were carried out with between 6 and 8 people. The original aim was to survey a minimum of 10% of the households in the village. However, because of constraints discussed below in the limitations section, it was not always possible to complete this in each village.

Constraints and limitations

1. **Availability of community participants:** As the research was carried out during paddy transplanting season, the availability of villagers to participate in FGDs and individual surveys was limited. The travelling time between Jamshedpur and the project area made it more difficult to work around the agricultural or household work of participants. Attempts were made to mitigate this by arriving at the village during lunchtime to find respondents during their break from working in the fields, combining the surveys with TSRDS agricultural training in the fields, and using TSRDS's village level contacts to identify potential respondents. The original survey was also reduced in length to adjust for the limited time availability of participants, and FGDs used to more quickly gather general village level data.
2. **Language constraints:** Conducting the individual surveys and FGDs via a translator poses a number of challenges. First, there is the risk of the nuances of both questions and answers being lost. This risk was

increased where the interviews were conducted in languages which are second languages for the respondent or TSRDS staff, which was often the case in Bengali speaking villages. Second, it makes rapport with respondents more difficult. Third, using TSRDS staff as translators potentially reduces the willingness of respondents to voice criticisms about TSRDS projects. To minimise language misunderstandings, TSRDS staff who would be acting as translators were involved in the survey design and testing process. A second TSRDS staff member was often present to assist in translation between Hindi and Bengali or local languages.

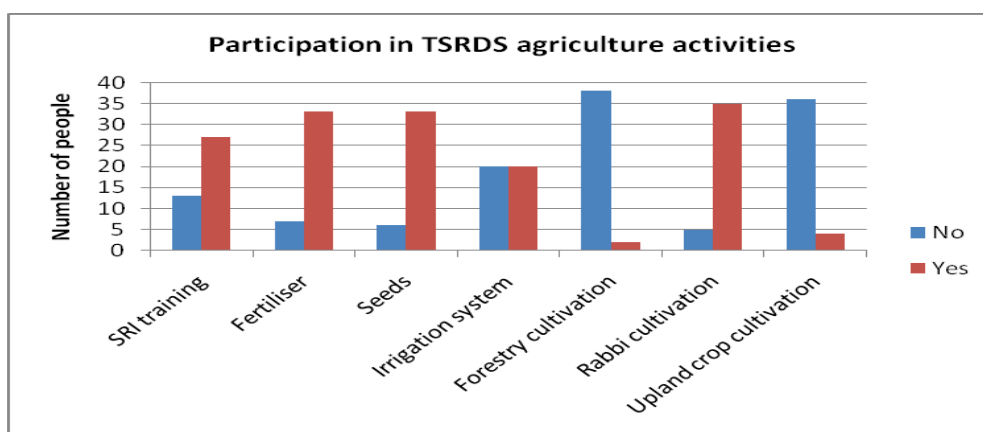
3. **Gender balance:** With one exception, the individual surveys were carried out with men. This was due to a number of factors. First, the nature of the questions about agricultural productivity and family income meant in many cases women were not able or did not feel comfortable providing the information. Second, in some cases, the women did not feel comfortable talking to TSRDS staff, in particular in Nayadih which is a Muslim village and where all the TSRDS staff present were male, and in Jojo, where the TSRDS staff available to translate was not well known in the village. Third, at the times the research team arrived in the villages, women were frequently busy with agricultural or household work. Fourth, the participants of the agriculture projects meant that TSRDS staff often had stronger contacts with men in the villages than women, and these contacts were frequently used to identify available interview respondents. Several strategies were used to overcome this gender balance. The FGDs included both male and female participants and special efforts were made to solicit the views of women. In Nayadih, a return visit was made to allow an informal discussion with women in one of the women’s homes. Wherever possible, women were invited to participate in the survey along with their husbands, and this allowed for women’s input in some cases.
4. **Time constraints:** The limited time available for the study necessarily limited the scope and scale of the study, in particular the sample size. It was originally planned to include two control villages, but time constraints meant this had to be reduced to one. The scope for return visits to feedback and test findings and suggestions with the community was also limited. It also limited the possibility for community participation in the design and planning of the study, although initial consultation with community members during the initial field visits was used to inform the design of both the survey and FGDs.

Section 2: Findings

1. Participation in TSRDS activities

i) Agriculture

The majority of respondents had benefitted from TSRDS agriculture interventions, and had a good knowledge of the support TSRDS provides. The variation is mainly because some activities, such as irrigation and forestry training, have not been implemented in all villages.



However, there were instances where some respondents did not benefit from activities that were available in their villages. 18% of people had received no fertiliser from TSRDS, and 15% had received no seeds. A small minority of respondents reported that fertiliser and seeds, from both TSRDS and the government, had been provided too late to be useful. In some cases people were not aware about TSRDS activities such as SRI training. Others were aware of the interventions but did not benefit from them. For example, two respondents, one in Nayadih and one in Lakhodi got no benefit from the irrigation system because their land was in locations which could not be reached by the irrigation system installed. In the case of the Nayadih participant, while the respondent was not able to grow a rabbi crop, the paddy production did increase as a result of transplanting methods, seeds and fertilisers and additional income from selling surplus paddy was achieved. For the Lakhodi participant, however, the farmer has not benefitted from any other TSRDS agriculture activities and his production and income remained extremely low (see case study 1 below).

Case study 1: Shukdewo Sardar

Shukdewo Sardar from Lakhodi village has a family of 6 and owns just 0.1 bicar of land, which is all upland. He and his wife are both literate; Shukdewo was educated to Class 7 and his wife to Class 2. Shukdewo's participation in TSRDS activities has been limited. He benefits from solar street lighting, but does not have a biogas installation as he has no livestock. He does occasionally use TSRDS health clinic in a nearby village.

He grows paddy using local varieties of rice and broadcasting method, and gets a yield of 1-2 man, which feeds his family for one month of the year. For the rest of the year he is dependent on day labour within the village and in railway construction. He has not taken HYV seeds or chemical fertilisers from TSRDS, and although he is aware about the training provided by TSRDS on transplanting and SRI he did not participate as his land is not suitable for these methods. Although there is an irrigation system in the village, his land does not get water from it so he is unable to grow a rabbi crop.

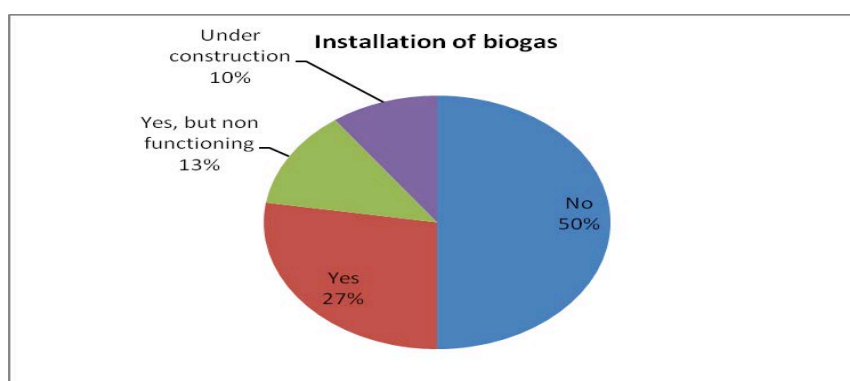
So far, there has been no change in his agricultural production or income as a result of TSRDS activities. However, he has seen the benefits that other farmers have received from rabbi cultivation and would like to lease some land so that he can start growing vegetables. The vegetables would be used for the family's own consumption as well as selling, so he feels he would not only save money on purchasing food but would also be able to get extra income to save. He would like to be able to open a bank account and save money, particularly for the marriages of his two young daughters. Shukdewo also says that his income level is the main factor that will determine how long his four children can stay in school.

ii) Renewable energy

Solar street lighting has been installed in 5 of the 6 focus villages (all except Nayadih) and this benefits the entire village. In general people agreed that the street lights had been installed in appropriate places in the village, such as by water pumps and cross roads and were evenly spaced between houses. However, there were some instances where it was not always clear that all villagers had had equal input into the decision making process. While most respondents agreed that there had been a general meeting to discuss the installation, in four villages there was no participation of women. In one village, a street light had been installed directly in front of the house of the *panda*, an influential person in the village who is the main focal point for TSRDS activities, apparently because people needed to come to his house for meetings or advice. While this may genuinely be the case and have been the result of consensus in the village, it does also raise the question of whether those with greater influence in the village are more actively involved in the decision making process.

Solar home lighting has been installed for 48% of respondents. In most cases home lights were provided for all households in the village. The exception was Kursonpur which had been included in the project at a late stage due to community problems within one of the villages where installation had been originally planned. As the budget had already been set based on the original village size, home lights could only be provided to half the residents of Kursonpur and the remaining households will receive lights next year. The decision about which households should receive lights in the first phase was carried out by the villagers. A list of households was drawn up starting at one end of the main street and progressing to the end. The first names on the list received a home light. There does not appear to have been any effort to prioritise families with lower incomes who may have benefitted most from renewable energy.

Biogas was installed in 50% of households, but was working effectively in only just over half these cases. Four were under construction, but five were fully installed but not functioning well. Of those that were functioning, most people used the biogas mainly for tea making as it did not produce enough power to cook proper meals.



iii) *Self help groups*

None of the villages had a successfully functioning self help group (SHG). In Jojo a group was involved in vegetable cultivation, but there were internal problems within the group and it was not running effectively. In other villages groups had existed previously but had become defunct due to internal disputes in the groups or a lack of supervision and support from TSRDS. Most groups in the past had only been involved in saving, and not income generating. When asked, both male and female respondents said that they would like to have SHGs and would benefit from the additional income generating capacity. Some respondents, both male and female, also mentioned that SHGs would help women to play a more active role in the community outside their own homes.

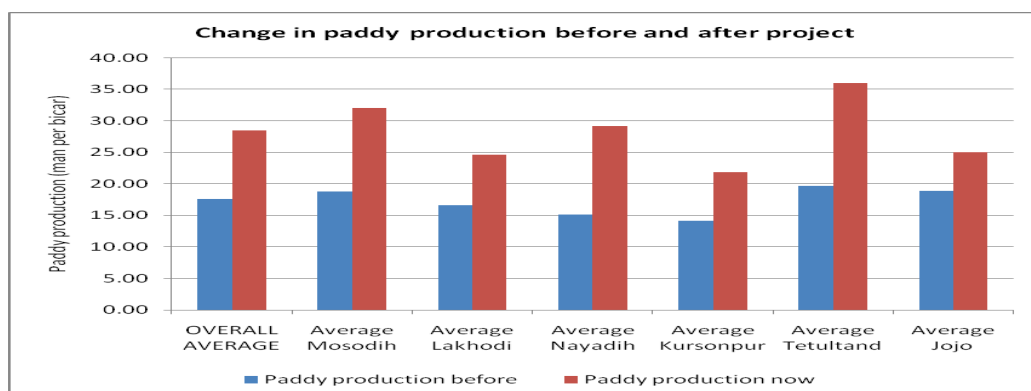
iv) *Health*

There was generally a high level of awareness about the TSRDS clinics which take place weekly in two villages in the project area. The exception was Nayadih where awareness among the older men in particular was low, although the women did about the service. Discussions with people attending the clinic showed that it was valued, mainly because the doctors provide a good quality service and because the service is of low cost. However, the clinics were used by only 55% of respondents in the focus villages, with most people preferring local doctors in Sini. The main reason was that the TSRDS clinic is only available weekly and if people fell ill on other days they could not wait to see a doctor. Most people who did use the clinic also used local doctors on the days that TSRDS clinics were not available, suggesting that if the TSRDS clinic was not available people would not be left without access to health care.

2. Agricultural production and income

i) Crop production

The survey showed that paddy production has increased in the focus villages since the start of the TSRDS interventions. While still low compared to other states in India, paddy production has increased by an average of 60%, and increased by almost 80% to 36 man per bicar in the most successful village (Tetultand). Almost all the farmers put this increase down to the new seed varieties and cultivation methods introduced by TSRDS. 87% of farmers are using HYV paddy seeds. 51% of farmers are using transplanting method and 31% are using SRI method on at least some of their land. The remaining 18% are still using broadcasting method.

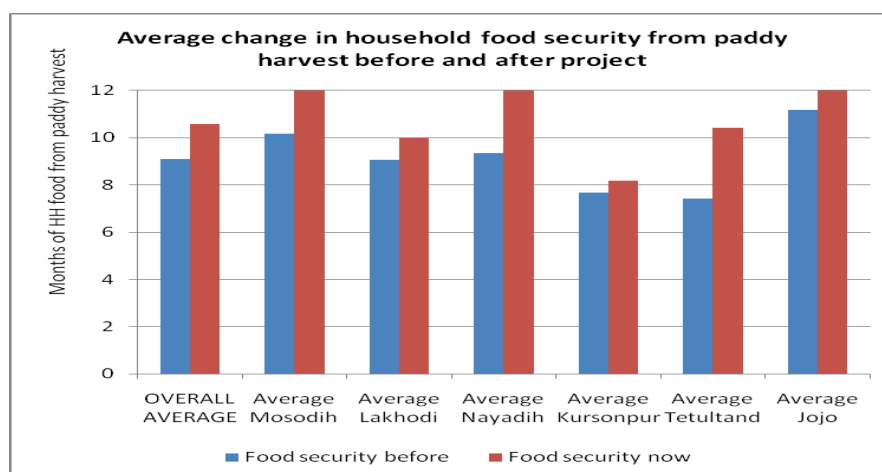


Production from second crops (rabbi season crops or alternative kharif season crops) has also increased. Before TSRDS interventions only 3 respondents said they grew any second crops for selling. Now, 36 farmers of the 40 farmers questioned grow a second crop and 17 sell part or all of the produce.

In the control village, some farmers were using HYV seeds and fertiliser which they bought privately from the markets but several did not have any knowledge about fertiliser use and used broadcasting methods on most of their land. All the farmers surveyed in the control village were dependent on rain fed agriculture and none grew a second crop.

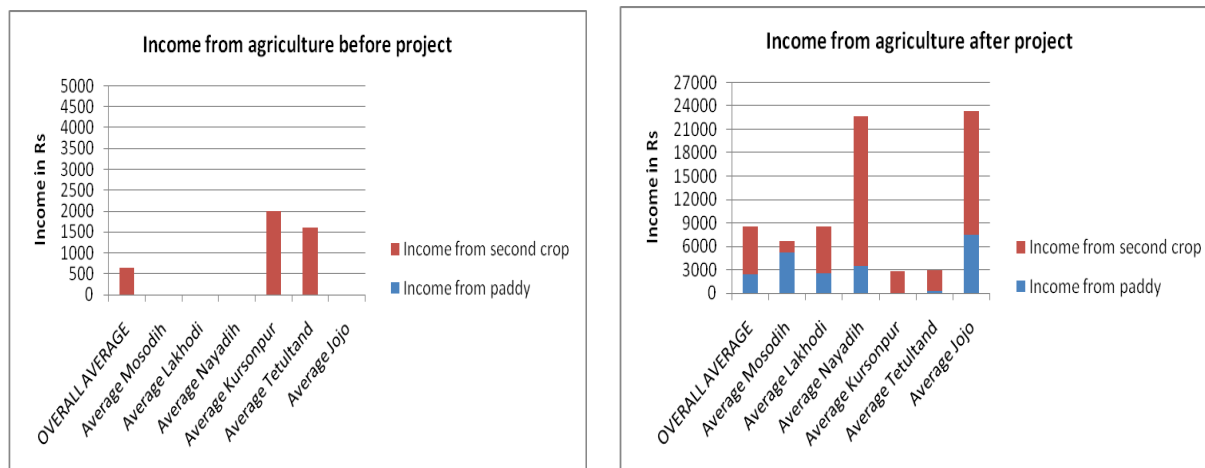
ii) Food security

On average, at the start of the project period, households produced enough rice to feed the family for 9 months. Now, as a result of the increased production, the average is 11 months, and in three villages (Mosodih, Nayadih and Jojo) 100% of respondents produced sufficient for 12 months.



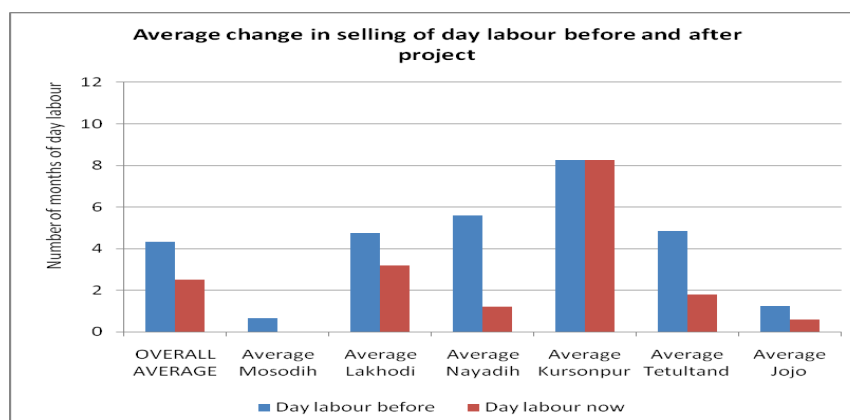
iii) *Income from agriculture*

As well as producing enough to meet family needs, households were able to produce enough surplus to sell, and so the household income from agriculture increased. In general, prior to TSRDS intervention very few farmers sold any paddy, and most either did not produce a second crop or did so only for the family's own consumption. Now, the average annual income from selling agricultural produce is Rs.8169 (of which Rs.2440 from paddy and Rs.6138 from second crop) compared to Rs.644 before the project (all of which came from second crop).



iv) *Dependence on day labour*

An important indirect result of the increased income is the decreased dependency on day labour. At the start of the project period, respondents were employed in day labour for an average of 4.3 months per year. Now, the average is 2.5 months, with the most significant decreases in day labour seen in Nayadih and Tetultand. Many of those who were still engaged in day labour to some extent felt that they now had greater choice now about when and where to sell their labour, with some only working within their own village.



v) *Variation between villages*

While these results are impressive overall, there is considerable variation between villages in the level of improvement. In terms of paddy production, three villages in particular, Kursonpur, Jojo and Lakhodi, have seen only small increases and continue to have below average production. While incomes in Jojo increased dramatically from second cropping, this was not the case in Kursonpur and Lakhodi. This is reflected in lower rates of food security in Lakhodi and Kursonpur. Lakhodi and Kursonpur also had smaller reductions in day labour than the other villages, with Kursonpur experiencing no change. Several limiting factors seem to be

important across the three villages: access to irrigation, size of land ownership, and uptake of improved cultivation methods.

Kursonpur has performed poorly across all four indicators (increase in paddy production, increase in food security, increase in income from agriculture and reduction in day labour). The lack of improvement appears to be because farmers have small amounts of land, and have not benefitted from an irrigation system, which limits their ability to grow a second crop. Most farmers are using HYV seeds and transplanting methods, and all but two of the farmers planned to adopt SRI next year, after seeing the results of others.

In Lakhodi improvements have been seen across all indicators but these have been modest. Irrigation has led to increased incomes from rabbi crop but not at the levels seen in Nayadih and Jojo. Paddy production has increased but while there has been an improvement in food security the production is still not enough to meet requirements for the full year. An important factor in Lakhodi has been the low uptake of newer paddy cultivation methods. Overall 82% of respondents are using either transplanting or SRI method with HYV seeds. However in Lakhodi only 50% of respondents used these newer methods, and the remaining 50% used broadcasting methods with either HYV or local varieties of seeds. The most common reason for not doing SRI methods was that respondents had upland which was not suitable, or had insufficient water, suggesting that paddy production is unlikely to significantly increase in this village as a result of the new method.

Jojo provides an interesting contrast. While increases in paddy production have been below average (despite good take-up of transplanting and SRI methods), food security and income from paddy have both gone up significantly. The main factor seems to be that farmers have larger amounts of land: respondents had an average of 12.7 bicar of land, compared to an overall average of 5.5 bicar, and 3.5 and 3.6 in Kursonpur and Lakhodi respectively. Income from second cropping has also increased in Jojo, despite the fact that only limited numbers of people (the minority of respondents) benefited from the irrigation system installed. Most farmers used private irrigation sources, such as their own ponds, or rivers.

The more successful villages (Nayadih and Mosodih) have several characteristics in common. Irrigation systems allow a second rabbi crop to be grown by the majority of households. Land holding is higher, at 5.6 bicar in Mosodih and 4.7 in Nayadih. All respondents used transplanting or SRI methods with HYV seeds.

vi) Threats

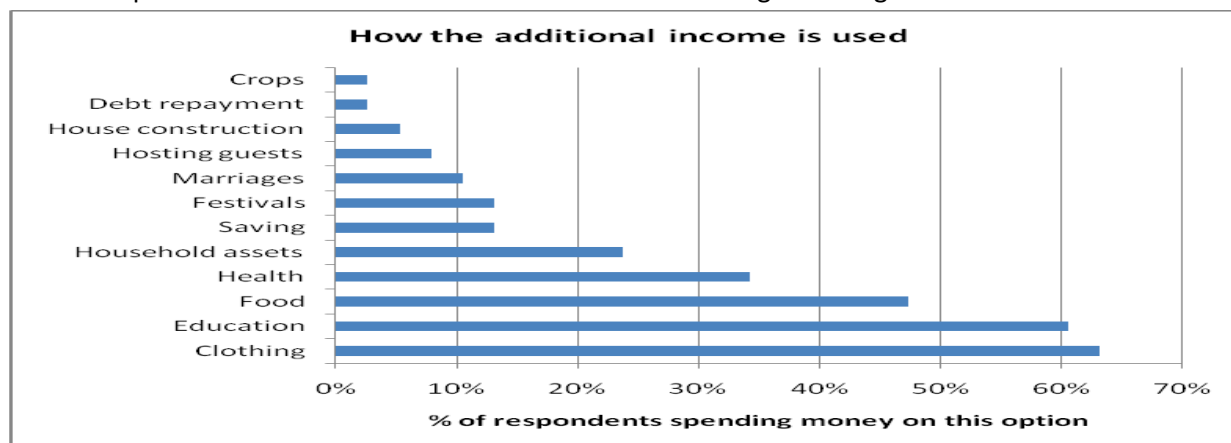
Drought was mentioned as the most common threat to farmers. While productivity and incomes have increased overall since the start of the project, the severe drought in 2010 meant that many had made little or no income during that year. Many respondents said that TSRDS interventions had helped to minimise the negative effects of the drought in a number of ways. Increased production in previous years meant that some families had enough surplus to eat during the drought year without buying from outside. Others described how irrigation had allowed a successful rabbi crop even though the paddy harvest had been poor, with one farmer referring to his rabbi crop as a "life saver". These impacts are important and show that increased resilience to threats has been a significant outcome of the project. However, it is also important that ways to minimise the negative impacts of drought are considered in TSRDS interventions to ensure that the benefits seen by farmers in recent years are sustainable. This is particularly important as several farmers perceived that droughts were increasing in frequency and severity.

The other important threat mentioned by farmers was the destruction of crops by elephants. Several villages had received equipment such as flares and "bombs" from the government forestry department to scare off elephants.

3. Social impacts

i) *Uses of additional income*

The increased income from agriculture has had important social impacts. The graph below shows that clothing, education, food household assets and health costs were the most frequently mentioned ways that the additional income was spent. The additional money available for education is particularly significant, as 33% of respondents cited cost as the main factor in determining how long children would remain in school.



ii) *Changes in social status*

The table below shows the frequency of responses relating to the social changes that had occurred as a result of TSRDS interventions.

	No. of respondents giving this answer	% of respondents
Increased food/ financial security	14	36%
Respect from outside village	8	21%
Improved education	8	21%
Able to spend on non essential items (household assets)	6	15%
Less dependence on day labour	5	13%
Access to agricultural knowledge	5	13%
More social meetings/ entertainment	5	13%
Able to spend on marriages & festivals	4	10%
Able to save	3	8%
More respect within village	3	8%
Less time spent on household work	3	8%
Other	7	18%

The financial and food security brought by the projects were the most dramatic changes mentioned by respondents. Many people had moved from essentially subsistence farming to generating cash income and the result of this was that they had greater freedom to make choices about how to spend their money. The renewable energy project was felt to improve education by allowing children to study in the evenings, and also provided more entertainment as people could meet in the evenings rather than going to bed when the

sun set. Through the solar home lighting and biogas people saved money on fuel costs and also had to spend less time collecting firewood.

Another important response relating to financial security was that the additional income had allowed farmers to reduce debt. For example, see Case Study 2 below.

Case study 2: Ranjit and Pansori Sardar

Ranjit Sardar and his wife Pansori Sardar live in Nayadih village. Ranjit completed schooling up to Class 4, but Pansori is illiterate. They own 9 bicar of land, and lease a further 1.75 bicar for vegetable cultivation. They have participated in TSRDS training on transplanting and SRI methods and rabbi cultivation, and have received fertilisers and seeds. Their land also gets water from the lift irrigation system provided by TSRDS. Before the project the paddy yield from their land was 15 man/bicar, which provided enough to feed the family all year but they were not able to sell any. Now, the yield has doubled to 30man/bicar and they produce enough surplus to sell for Rs4500 per year. Before they grew a small amount of vegetables for their own consumption, using water from a private pond; now the irrigation system allows them to grow enough vegetables to sell for Rs15000 per year.

9 years ago, Ranjit's father had been forced to mortgage the family's land to pay for his daughters' marriages, and Ranjit is still working to pay off the debts. Before the project, although they produced enough rice to meet family needs, Ranjit did construction work for 11-12 months per year to pay the mortgage while his wife took on most of the agricultural work. Now, because of the extra income from selling vegetables and rice, he only works 2-3 months per year and has more choice about when and where to work. The extra income has allowed them to pay back the debt more quickly, and are close to being able to recover their land (Rs 35000 remains). Ranjit and Pansori are very happy about the additional income that TSRDS interventions have brought; as well as the increased financial security, Ranjit says he feels proud now that the debt is almost cleared. He said that getting his family's land back will be his greatest achievement.

Increased self respect and respect from others was an important impact of the project. With increased income came the ability to celebrate festivals and marriages more fully and to provide for guests. People also felt that outsiders respected the village more because of higher levels of education, more productive agriculture and increased wealth. In one village in particular, the reduced dependence on day labour had dramatic impacts on perceptions of social status (see Case Study 3 below).

Case Study 3: Lakhodi Village

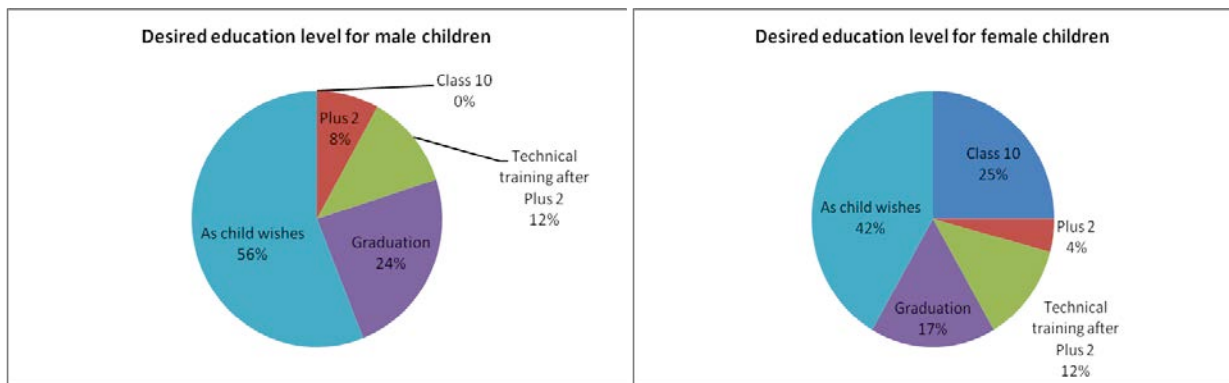
TSRDS has been working in Lakhodi village since 2000 and has implemented agriculture and renewable energy projects. The village has a pond, which is used for irrigation as well as fisheries and duck rearing, and 4 irrigation wells. The majority of people are using HYV seeds and chemical fertilisers, although 50% of farmers still use broadcasting methods as they feel transplanting and SRI are not appropriate for their land.

While, as discussed above, the increases in crop production, income from agriculture and food security in Lakhodi have not been as dramatic as in other villages, it is clear that the projects have brought important social changes. Participants in the focus group discussion described how they now have to go outside the village for day labour much less often than they did 5 years ago. Before, they worked as contract agricultural labourers on other people's land, receiving a set amount for the year. Now, although some people still do labour work inside the village through the NREGA scheme, they do not have to sell their labour outside the village. The participants described how previously people from outside saw Lakhodi as a source of labour. Now, this is not the case; people in Lakhodi even buy in labour from outside to help on their land. This

change has been a source of pride for the village, and people now feel that they get more respect from other villages. The money that has been earned from rabbi cultivation also allows people to celebrate festivals and marriages more easily. FGD participants mentioned how they appreciated having the money to buy clothing to give as gifts during festivals. One family described how their son had been sought out as a desirable groom by a family from another village because he was now a successful farmer and could earn money from agriculture. Overall, although quantitative changes in Lakhodi have been on a smaller scale than other villages, the qualitative improvements in people’s lives are evident.

iii) Attitudes to education

The pie charts below show the responses to the question “How long do you want your children to continue in school?”. While the most common response for both male and female children was “as long as the child wishes”, the desired level of education was lower for girls than boys.



The major constraint on education mentioned by respondents as cost, especially for female children. Other reasons for girls in particular were marriage, and household work. Agricultural work was also mentioned as a constraint by some for both genders, particularly the need for children to look after cattle. In Nayadih, by contrast, participants in the FGD described households now kept fewer cows because their children were going to school and were not available to look after livestock. While they felt education was important, they pointed out that crop yields had decreased slightly because there was less manure to use as fertiliser on the fields. This suggests again the important link between supporting farmers and education: increased incomes help families pay for education, and at the same time, information and training could help find alternative ways to provide fertiliser to minimise the disadvantages of putting children in school. It also raises a potential difficulty with biogas, if people keep fewer cows and have less manure to power the biogas.

In two families school age children had either not attended school or had dropped out. For one family this was because the girls had to take on household work after the death of their mother. For the other family, the boy had been taken out of school when the family was forced to migrate away from the village in search of work. Respondents felt this kind of threat would be less likely now due to improved agriculture.

Ambitions for girls education were lowest in Nayadih village, with 43% of respondents planning to educate their daughters up to Class 10 only. This response was not given for any of the male children. Common reasons given were that in a Muslim community that higher education was not suitable for girls, and specifically that parents were not willing for their daughters to travel to go to school. Some said that if suitable hostels were available where girls could stay separately, and if they could travel in groups then it may be possible. However, cost was given directly or indirectly as an important factor in all cases, particularly given the need to spend extra money on accomodation and transport.

4. Sustainability and community ownership

When asked directly, villagers said that they felt that the resources provided by TSRDS (irrigation systems, solar lights) belonged to them rather than TSRDS. However, there are several areas where community ownership and buy in appears to be limited.

i) Responsibility for repair and maintenance

There seemed to be high dependence on TSRDS staff for maintenance and repair of services. In several of the villages visited some of the solar street lights were reported to be faulty or in need of repair. In some cases this had not been reported to TSRDS staff and villagers frequently seemed unsure about what to do in this instance. Committees had been formed at the installation stage, but did not appear to be involved in the ongoing management of the service. Not all the villages were collecting savings to contribute to maintenance and repair of the street lights, and few seemed to have given consideration to how the system would be maintained when TSRDS no longer works in the village. None of the people asked had direct relationships with the company contracted to carry out repair and maintenance and were dependent on TSRDS staff to communicate with suppliers. When the issue of maintenance after TSRDS begins to phase out was raised in one village, people said they would be willing to take responsibility for dealing directly with contractors in the future but would need support from TSRDS to understand the system properly and become aware about how to contact the appropriate people.

A similar situation was seen with the biogas installations. Where the system was not functioning well, this was often not reported to TSRDS staff. In some cases the poor performance of the system was because the family had not carried out the necessary maintenance or daily turning of the manure. Amongst the people who had problems with the biogas installations, most did not seem to attach great importance to proactively resolving it, suggesting that they did not feel much ownership or responsibility for the system.

ii) Village level institutions

There was little evidence of strong community institutions at the village level. Although village committees were formed in both the agriculture and solar lighting projects, these seem to have been active mainly during the installation phase, for example in coordinating labour contributions from the villagers. They do not appear to be playing a strong role in ongoing management and maintenance of the resources, or to plan for future village development. When individual respondents were asked about the village development committees, many were unable to recall any ongoing responsibilities of the committees or who the members were. In some instances this applied even to those people who theoretically held positions in the group. In the agriculture project, the committees had developed into water user groups made up of farmers benefitting from individual irrigation systems, who are responsible for allocating water use and looking after the system. This appeared to be working effectively as all the irrigation systems in the focus villages were functioning properly. However, these groups were not playing a wider role in village development or other TSRDS activities, such as coordinating the SRI training or renewable energy interventions.

In the absence of strong institutions, TSRDS staff appear to rely primarily on individual contacts within the village to coordinate day to day activities and inform villagers about upcoming training or meetings. Often these focal points are the more educated people in the village, such as school teachers or village leaders. These individuals seemed to be enthusiastic about the projects and committed to supporting development in their village but a reliance on individual contacts creates several potential threats to sustainability.

First, there is the possibility that certain groups are excluded, intentionally or unintentionally, if they are not considered or prioritised by the particular individual responsible for coordinating activities. This could happen directly, for example by not alerting people to trainings, or indirectly, for example in scheduling meetings when it is not possible for certain groups to attend.

Second, there is the possibility that those in the village who have strong contacts with TSRDS and have actively engaged in the project to date are able to secure most benefit, especially in terms of advice and guidance from TSRDS staff. Those people who are more difficult to engage and who are less assertive in interacting with TSRDS staff are perhaps those who have the greatest need of the interventions.

Third, it makes TSRDS' work vulnerable to individual changes at the village level. For example if the main focal point moves away from the village, or suffers some personal problems, then TSRDS' ability to implement activities at the village level might suffer.

Fourth, the vast majority of these individual focal points are male, which potentially reduces the engagement of women in the projects. This was seen clearly in the solar street lighting projects where the participation of women in decision making was weak. In the agriculture projects too, women's awareness about the detail of TSRDS interventions and the impacts on agricultural productivity were limited and fewer women than men participated in the SRI trainings. Strengthening women's participation would be especially important if women were to engage in agriculture activities through SHGs.

Finally, the lack of strong institutions poses a threat to the long term sustainability of the interventions after TSRDS begins to phase out from the project area. At the moment the dynamic of interaction appears to be that TSRDS provides a service in the village (for example paddy cultivation training or advice about the use of fertilisers and new seeds) and persuades the community to engage. While most people clearly appreciated the training, there seemed to be little evidence of the reverse, that is the community approaching TSRDS with requests for additional training and support based on their own perceptions of the development challenges in the village. Rather than TSRDS taking the main responsibility for arranging trainings, motivating people to attend and monitoring the results and impacts of the intervention, stronger village institutions could mean that much of this work could be carried out by the community themselves, allowing TSRDS to begin to reduce the amount of time spent in each village in preparation for phasing out. If stronger village level institutions could begin to play this kind of role, it would be more likely that the achievements to date would be maintained and that the community could build on these impacts with initiatives of their own.

iii) Ability to access government services

The interventions that TSRDS has made in the villages were clearly highly appreciated by the community and have brought significant benefits. However, many of the interventions, for example, the provision of subsidised fertilisers and seeds, support for irrigation, and renewable energy, duplicate services that are, in theory at least, available from government. In at least one village some solar street lighting and biogas had been installed by the government, but were not functioning. Similarly, many villages had half constructed or non functioning sanitary latrines or hand pumps provided by the government. None of the farmers surveyed had received agricultural support, in the form of training, seeds or fertilisers, from the government, although many knew that these were available. Some had received equipment from the government to keep elephants away from crops. The main reasons given were that it was too complicated, bureaucratic and time consuming to access these services. Many gave the example that seeds and fertilisers were delivered well after the planting season. In the control village where this kind of support was not provided by TSRDS, none of the people surveyed had accessed any agricultural support from the government. Awareness in all the

villages on how to report non functioning services to the government was generally low; although some people mentioned block level officials there was little detailed knowledge of how to go about contacting them or demanding services. The introduction of the panchayat system provides an opportunity to address this and may be an area where TSRDS could effectively contribute to strengthening the capacity of these bodies as well as supporting communities to effectively engage with the new bodies.

To some extent, TSRDS has already helped communities to access government services, for example in acting as a connector between block level officials and communities to distribute subsidised agricultural equipment such as plastic storage crates or arranging bulk purchasing of fertilisers. In these instances though, the villages engage only with TSRDS and their ability to connect directly with the government officials does not seem to be strengthened.

iv) Women's empowerment

In the absence of effectively functioning SHGs, the participation of women in TSRDS activities appeared to be limited. The membership of most of the village level committees established during the implementation phases of projects was mostly male. The solar committees in some villages include women, but when asked participants four of the focus villages said that women had not been involved in the meeting to discuss the location of solar street lights, which suggests that the women in the committee played only a nominal role.

Section 3: Conclusions

TSRDS interventions have had considerable success and are clearly highly appreciated by the communities. Positive impacts in agricultural production, income from agriculture, household food security and reliance on day labour have all been evident in the focus villages. The same impacts were not seen in the control village, and most respondents in the focus villages attributed the changes to TSRDS interventions. The positive social impacts of the projects have also been important, with people feeling more financially secure and having the freedom to spend money on priorities of their own choice. Increased spending on education and health were significant. People also felt that they had more respect both within and outside the village as a result of the project. This was for a number of reasons including increased wealth in the village from agriculture, using more efficient and modern agricultural methods, reduced dependence on day labour, the village having solar lighting and the ability to educate their children properly. In this way, TSRDS interventions have supported positive change in the communities and TSRDS staff should be proud of the achievements of the project.

At the same time, the study also identified some gaps and areas where TSRDS interventions could be strengthened, particularly in the context of preparing to phase out from the villages in the near future. The projects have evolved and improved over the years to adapt to the changing circumstances and needs of the communities with which TSRDS works. Highlighting gaps and weaknesses is done in the spirit of this kind of ongoing learning and commitment to improvement for which TSRDS is rightly known.

First, while the majority of respondents had received significant benefits from TSRDS interventions, there was a minority of people who appeared to have been somewhat left behind and had not seen much change from the projects. These people were often those who were the most vulnerable in the first place: those with small amounts of land, farmers whose land is upland and difficult to irrigate, people who have no livestock and cannot therefore have a biogas installation. This applies to individuals within villages and, in the case of irrigation systems, sometimes to whole villages. There were also people in the study who could have benefitted from TSRDS services, such as subsidised fertilisers and seeds, but were either unaware of

the services or had not yet taken advantage of them. TSRDS is already looking for ways to reach some of the people who have benefited less from the agriculture projects, for example by introducing upland crops or forestry projects in villages with a high proportion of upland. More could be done to design interventions to benefit the less successful villages, and to identify those within villages who have not taken advantage of TSRDS interventions such as transplanting methods, HYV seeds and fertilisers, that are suitable for their land.

Second, individual projects implemented by TSRDS are quite stove-piped with little cooperation and coordination between projects working in the same village. There is potential for TSRDS staff at the field level to work much more closely at the village level and to mutually support one another's messages. There is also an opportunity for closer coordination between projects at the level of needs assessment, to prioritise interventions from one project for villages or individuals who have had less opportunity to benefit from other projects.

Third, communities ownership and control of the projects is fairly weak and communities appear to be highly dependent on TSRDS staff. This is seen for example in people's reliance on TSRDS for information and contacts with government providers and in the limited enthusiasm for maintenance and repair of TSRDS services seen in some villages. There appears to have been limited planning for strengthening community control and ownership in preparation for phasing out of the project area, and this creates a potential threat to the long terms sustainability of TSRDS programmes.

Fourth, the ability of communities to access government services directly is limited. TSRDS has supported communities to secure government services, but more needs to be done to help communities to this themselves rather than relying on TSRDS to act as a bridge between the community and the government.

Fifth, the positive impacts of the project to date are potentially vulnerable to external threats such as drought, which could erode the benefits seen by farmers. TSRDS could do more to consider the impact of current and future threats, and to identify ways to make the projects more resilient to drought and other threats. This would be particularly important for the agriculture interventions and for the enterprises selected by SHGs.

Finally, women do not seem to be actively involved in all the projects, particularly at the level of decision making and planning. There are plans to establish or reinvigorate SHGs in the project area, which will support women to play a more active role in the community. However, it is important that women's empowerment is not "quarantined" in the SHG projects only. TSRDS staff in other projects should also consider how women can be supported to participate more actively in other activities and how to ensure that the concerns and priorities of both men and women are taken into account in project planning and implementation. Ultimately, this will strengthen the sustainability of projects, by ensuring that all members of the community have a stake in the project and feel ownership of the activities and resources. One important way that this could be done is to provide support to female panchayat members. While some are undoubtedly already assertive and able to participate equally with male colleagues, some anecdotal evidence suggests that this is not always the case. In one of the villages surveyed, a meeting of villagers and panchayat members was taking place while the TSRDS team were conducting research. Three male panchayat members were given chairs to sit on, while the female panchayat member was seated on the ground behind the men. While the situation was not probed deeper, this is perhaps symbolic of the dynamics within the new group. In the episode mentioned, TSRDS staff did suggest a chair could be provided for the female panchayat member! TSRDS staff could contribute to building the capacity of female members, as well as communicating the importance of female members playing an active role.

Section 4: Suggestions

- 1) **Promote stronger integration of TSRDS activities.** TSRDS should aim for a more holistic approach that considers the overall needs and priorities of the village. While individual activities are generally effective, there appears to be little coordination between projects. TSRDS staff are active in the same village implementing agriculture activities, renewable energy activities, promoting health messages and will soon also be working with SHGs. There should be stronger cooperation between projects which would not only lead to greater efficiency of time at the village level, but would also allow projects to support one another in reinforcing messages. More of the day to day activities could be done by village level animators or supervisors, working across different project, particularly as the projects move from the installation or set up phase to ongoing monitoring and support. This would free up head office staff to play a more strategic role to ensure effective monitoring of progress, to plan for an effective and sustainable phase out (see Recommendation 5 below). A more integrated approach would also allow TSRDS to strengthen the resilience of communities to shocks such as drought, which was cited by most farmers as the most severe threat they faced. When establishing SHGs, alternatives to agriculture should also be prioritised to ensure that in drought years households have something to fall back on so the benefits to date are not eroded.
- 2) **Prioritise interventions for those left behind by interventions to date**, such as farmers who have not had access to irrigation, those with upland, those with small land holding. For example, in Nayadih villagers suggested that support to provide portable pipes would help to extend the irrigation system to the 10-12 families who do not currently get water. Special attention should be paid to motivating families that have limited scope to benefit from agricultural interventions to participate in alternative income generating activities such as SHGs. Those within the focus villages who have not engaged to date in TSRDS activities should be identified. For example, follow up on training given after a few months to identify those that have not heard the messages (either directly from the training or by talking to others). This follow up should also check understanding and retention of the information to see how effective the training has been. A similar prioritisation could be applied at a village level. In some of the poorer villages, such as Kursonpur, participants felt that because they were poor and could afford less margin of error, they were less able to adopt SRI techniques until they had seen the results in other villages. Active measures to ensure good practice and positive results are shared across villages after the harvest, including peer to peer training and advice, could help to boost uptake of the new methods next year. Villages which have seen smaller increases in income from agriculture, particularly those such as Kursonpur where upland means irrigation systems are unlikely to be installed, should be prioritised for the first phase of SHG development in the project area. This should be based on a proper needs assessment which takes into account existing TSRDS activities, ideally conducted in collaboration between agriculture project staff and empowerment team staff.
- 3) **Develop a plan for phasing out in collaboration with the community.** The community should be closely involved in planning for the gradual reduction in TSRDS interventions and for identifying ways to ensure that the benefits to date are maintained and built upon. It is important that the community is fully aware of the timeline for phasing out and that planning for further support and capacity building is genuinely based on the needs that the newly established community institutions (see below) feel are important. It is important that women as well as men are involved in the planning process.

- 4) **Prioritise establishment and capacity building of community level institutions over the next 12 months in preparation for the start of phase out.** Rather than being limited to a specific project, these institutions should have responsibility for the overall development activities in the village, ensuring greater integration of TSRDS interventions. The active participation of SHG members in these institutions would be a practical way to begin this process.
- 5) **Head office staff should play a more strategic role to plan for phase out and long term sustainability.** TSRDS staff based in Jamshedpur have played a strong role in directly implementing projects in the villages, and have committed a great deal of time to interacting with the communities, providing training and coordinating the installation of services. This is clearly appreciated by the community and has been an important part of the successes to date. However, as TSRDS prepares to phase out, the role played by head office staff needs to change. As village level institutions begin to take on greater responsibility for their own development activities, the support they will need from TSRDS is likely to be different. If, as suggested above, day to day support such as monitoring progress and helping the new institutions to get established can be provided by animators and supervisors based in the project area, then the added value of head office staff could be in the following areas:
- a) **Building capacity of federations or networks of community level institutions:** TSRDS could work with community institutions to promote cooperation on areas of mutual benefit, such as supporting farmers groups from individual villages to cooperate in bulk purchasing of fertilisers and seeds to maximise purchasing power and secure better prices. Cooperation between SHGs at the cluster level on marketing of products and purchasing of supplies could also add value.
 - b) **Facilitating the sharing of good practice and expertise between communities:** As well as bringing financial benefits, stronger linkages between community institutions could also help to strengthen information sharing. For example, farmers could share experiences with new agricultural methods and seeds, successes or challenges in securing government services. This kind of sharing of information is already happening in an informal way; for example, some respondents had heard about the advantages and disadvantages of biogas from neighbouring villages. TSRDS could play a role in supporting a more systematic sharing of information and experience.
 - c) **Supporting access to government services:** TSRDS staff have strong contacts with local government departments and are well placed to keep up to date with new programmes and support available from government that could benefit the communities in the project area. Instead of playing a direct role as intermediary between the government and communities, TSRDS could instead focus on providing information to communities in an appropriate format and supporting them to access services themselves. For example, TSRDS could gather information on government subsidies for agriculture and renewable energy, government schemes for supporting rural enterprise that could benefit SHGs, and new schemes such as crop insurance or micro insurance. In this TSRDS should work closely with village level committees and panchayats to ensure the information provided is in a useful format, and to understand the kinds of support communities will need to access these services. TSRDS should also consider whether there is an advocacy role that it can play to ensure that community needs and challenges are communicated effectively to local government providers.
 - d) **Identifying longer term threats and opportunities likely to affect communities:** TSRDS staff have considerable technical expertise and access to networks of contacts, as well as detailed understanding of the challenges faced at the village level. One of the ways that they could provide support to communities without directly implementing services would be to monitor and analyse emerging threats and opportunities which are likely to have implications for communities in the project area. For example, this could include

keeping up to date with research and development of improved crop varieties or agricultural methods which could benefit farmers, or monitoring of information networks (scientific research, government alerts, NGO and UN agencies with responsibility for agriculture support) for alerts about pests or crop diseases that might affect crops. TSRDS could then communicate this information in an appropriate way to communities and support them to take necessary action. In the longer term, information about the potential impacts on climate change and advice about how to strengthen resilience (for example promoting drought resistant strains or alternative crops) could also help to ensure that the benefits that TSRDS projects have brought for farmers are not lost in the future.

- e) **Draw on expertise from Tata Steel and external networks:** A limited number of TSRDS staff cannot be expected to provide all the expertise that would benefit communities or implement an exhaustive monitoring service of threats and opportunities on their own. Instead, TSRDS should consider how it can draw on the expertise of existing networks and partners, such as academic partners, research institutions and the media. Tata Steel itself provides a rich source of expertise and information, for example in departments responsible for risk management, strategic planning, and research and development. Considering how these resources could be tapped through Tata Steel's commitment to corporate sustainability or staff volunteering would be a valuable avenue to consider. Staff volunteering could perhaps be of particular value for the SHGs, for example drawing on expertise within Tata Steel in marketing, business planning and finance. TSRDS should consider how it can more effectively use networks and resources outside the department to enable TSRDS to "do more with less".