

**Title:** Rural Empowerment by Natural Resource Management

**Topic of the case study:** Strengthening village economy by replicable model of NRM

**Name of the researcher/ organisation:** Dr.Elyas Majid, Dr.Seema Nath, Shramajivi Unnayan

**Thematic area of the case:** The role of women SHGs empowered by GP and NGO coalition in bringing positive changes in agricultural sector using NRM-based government programmes

**Name of the Gram Panchayat, District, State:** Shibrajpur Panchayat (Ghaghra Block), Gumla District, Jharkhand

### Abbreviation

NRM	Natural Resource Management
PESA	Panchayats (Extension to Scheduled Areas)
FGD	Focused Group Discussion
HH	HouseHold
CBO	Community Based Organization
NGO	Non-Government Organization
PRI	Panchayati Raj Institution
ER	Elected Representative
SC	Scheduled Caste
ST	Scheduled Tribe
MFP	Minor Forest Produce
NRLM	National Rural Livelihood Mission
PRADAN	Professional Assistance for Development Action
APC	Agriculture Production Cluster
MGNREGS	Mahatma Gandhi National Rural Employment Gurantee Scheme
SGSY	<i>Swarnajayanti Gram Swarozgar Yojana</i>
LGSS	Lohardaga Gram Swarajya Sansthan

### Glossary

<i>Dobha</i>	Shallow water bodies
<i>Gram Pradhan</i>	Head of the village
<i>Gram Sabha</i>	Village council
<i>Gram Sangathan</i>	Village level association
<i>Mukhiya</i>	Village council chief
<i>Krishi Mitra</i>	Volunteer working for farmers' welfare
SGSY	Government of India initiative to provide sustainable income to poorest of the poor people living in rural & urban areas of the country.
<i>Tola</i>	Hamlet
<i>Yojana</i>	Scheme

## Executive Summary

A vast area of the state Jharkhand belongs to village and most of the people are dependent on rain-dependent farming, livestock rearing and collection of forest produces as their livelihood. But the farming practices and related infrastructures not being organised, it had never become a profitable way of earning. This situation propels for optimum utilization of locally available natural resources by organised management techniques. Numerous programs have being organised by government and non-government agencies for village empowerment by Natural Resource Management (NRM). Available resources in Jharkhand are – i) Land Management – land levelling, step farming, ii) Multi-cropping, iii) Integrated pond system, iv) Forestry, v) Vermi-composting, Enriched composting, vi) Multipurpose NRM, vii) Agri-services, viii) Training and Marketing. Many changes are being observed for the last few decades and focused activities are continuously being performed in the direction with a continuous assistance by government, non-government agencies. Non-government organizations (NGOs), Community based organization (CBOs), gram panchayats play an important role in changing the picturesque village by various NRM-based programs like implementation of new and improved farming techniques, water management, nursery rearing etc. Emphasis is being given on creating awareness about the improved cultivation techniques among the villagers, giving them training in those skills and finally assisting them in applying those techniques in their own farm lands.

In this context **the success story narrating the fruitful implementation of NRM in Shibrajpur village, Ghagra block of Gumla district** showcases that the agriculture based villages may improve their overall condition by optimally utilizing the locally available natural resources in technically organized way. The poverty-stricken villagers were suffering from the **evil societal aspects of untouchability issues, superstitions, menaces caused by witchcraft etc. and were barely able to meet food security** throughout the year. **Villagers once made aware by PRADAN, an eminent NGO started to wipe out these obstacles** and took active participation in alleviating the poverty. **Gram panchayat supported this initiative.** The activities made in this direction were initiated by trust building followed by awareness campaign and mobilisation, formation of women-based organisations, farmers' co-operative etc. Since the area has a ample scope of agricultural practices by **developing required infrastructure**, priority was given to **land and soil management, irrigation system development, training on multicropping and other improved farming techniques, horticulture development, biofertilizer preparation etc.** **The farmers have started adopting modern farming methods** along with traditional practices and have already observed **financial gain from horticulture activities** (like mango and banana plantation). **The problem of malnourishment was easily addressed by starting backyard kitchen gardens.** In 2012, PRADAN started “**Special SGSY**” scheme under which women led meeting was organised in each hamlet. They identified locally available natural resources by mapping and conceptualize village development plan utilising the map. They prioritized conservation of land, water and forest resources as the first step and started working accordingly. The problem of **seasonal migration** due to lack of facilities for continuing year-around farming and its subsequent effects on family welfare was addressed by forming

**Agriculture Production Clusters (APCs)** which allows utilising irrigation for vegetable cultivation. Women organisations are connected to **National Rural Livelihood Mission (NRLM)** and **gram panchayat facilitates the process.**

This study represents a replicable example of overall village development by optimally utilising the locally available natural resources for agriculture-based practices.

## Introduction

Jharkhand, the tribal dominated state was formed 17 years ago and an abundance of natural resources paves the pathway of becoming one of the developed states in our country. As the name suggests, (*Jhar* means forest) a large area of the state is occupied by forest land and forest resources along with minerals are available in larger quantity. During the initial stage after the formation of the state, the lifestyle-culture of the indigenous communities used to hover around *jal, jungle, jamin* (water, forest, land). This primitive connection always goes hands in hand toward environment friendly developmental approaches. As a vast area of the state belongs to village, the people are dependent on farming, livestock rearing and forest products as their livelihood. In spite of having adequate resources, management power it had never become a profitable way of earning due to unorganised conditions in farming and allied practices and related infrastructures. According to the Jharkhand Panchayat Raj Act, 2001, under Section 10, the *gram sabha* has been entrusted with the power of “...(xi) Managing natural sources such as land, water, forest falling within the limits of the village area according to the constitution and other relevant laws then in force; (xii) Giving advice of the Gram Panchayat as to regularization and utilization of small reservoirs; (xiii) Keeping watch over local schemes and over sources and expenditure of the said schemes”. Under the ‘Extra powers and functional of Gram Sabha in scheduled area’, the *gram sabha* “may manage the natural sources including land, water and forest within the village areas according to its tradition but in tandem with the provision of the constitution and duly keeping in view the spirit of other relevant laws in force for the time being”. Also under the PESA act, tribal population have given control over natural resources such as minor water bodies, minor forest produce, minor minerals, etc. for an aim of improving their livelihoods and incomes. These efforts may be regarded as way of mainstreaming natural resource management into local governance through Panchayati Raj Institutions (PRIs).

This situation propels for optimum utilization of locally available natural resources by organised management techniques. Numerous programs have been organised by government and non-government agencies for village empowerment by Natural Resource Management (NRM). Available resources in Jharkhand are – i) Land Management – land levelling, step farming, ii) Multi-cropping, iii) Integrated pond system, iv) Forestry, v) Vermi-composting, Enriched composting, vi) Multipurpose NRM, vii) Agri-services, viii) Training and Marketing. There are many other aspects of NRM which may be used for village development purpose. Many changes are being observed for the last few decades and focused activities are continuously being performed in the direction with a continuous assistance by government, non-government agencies. Voluntary organizations (VOs), Community based organization (CBOs), Village Panchayats play an important role in changing the picturesque village by various NRM-based programs like, implementation of new and improved farming techniques, water management, nursery rearing etc. Emphasis is being given on creating awareness about the improved cultivation techniques among the villagers, giving them training in those skills and finally assisting them in applying those techniques in their own farm lands.

The Panchayat chosen for studying NRM is situated Ghagra block of Gumla district, Jharkhand. The block consisting of total 18 Panchayats and 120 villages has ample natural

resources like water, land, forest and bauxite mines. Shibrajpur, one of the Panchayats in the block consists of five villages which are again composed of several *tola* (hamlet) and the inhabitants are mostly dependent on cultivation and daily labour works for their livelihood. Comparing the situation of livelihood and overall lifestyle within a decade presents a sea-change. In this context the success story narrating the fruitful implementation of NRM in this Panchayat showcases that the agriculture based villages may improve their overall condition by optimally utilizing the locally available natural resources in technically organized way.

### Methodology

To know the facts of village empowerment through natural resource management, primary information was obtained by direct interaction with the villagers, especially women members of different SHGs following focused group discussion (FGD) and individual interviews. Official websites, register books, articles, discussion with NGO members served as secondary data source. The recorded information was further analysed by visiting the working sites to collect evidences and is presented in narrative way.

The details of the persons considered for the interview are given in Table 1.

Table 1.

Name	Age	Social Background	Economical Background	Years of experience in the participation of social and political institutions and motivating factors
Smt. Jagani Uraon	48	They are members of different SHGs working in the Panchayat	Farmer	The decayed situation in their respective hamlet/village forced them to migrate seasonally affecting their families. Finally they utilised the opportunity to get involved with PRADAN, an NGO working in the area for the last 8-10years and since then they have been continuing as SHG members.
Smt. Chandramani Uraon	39		„	
Smt. Draupadi Debi	40		„	
Shri Sahna Pahan	60	Member of Farmers' Club	„	He used to traditional farming seasonally. After getting involved with farmers' club, he has adopted improved farming methods.
Shri Tembo Uraon	45	Mukhiya	„	He has been elected as <i>Mukhiya</i> of the Panchayat in 2015 and he tries to facilitate the villagers to get benefits of certain schemes/ programmes.
Smt. Sujanti Debi	39	Up-mukhiya	„	She has become the <i>Up-mukhiya</i> in 2015 after running her SHG for more than 5-8years. Her activities always remains synonymous with women empowerment.

Shri Manoj Singh		Krishi Mitra	Social worker	They are the newly elected <i>Krishi Mitra</i> . They are trying to strengthening linkages between the farmers' club members and agencies dealing with training programmes, marketing supports.
Shri Naseem Ansari				
Shri Somesh Uraon		Ward member	Farmer	They have been elected as ward members of the Panchayat in 2015 and they represent their hamlets/ villages, often the marginalised section of the society. They voice the demands of the villagers in Panchayat meetings and assist in need-assessment program.
Smt. Poonam Debi			Home-maker	
Smt. Elori Debi				
Shri Bimal Kewat			Farmer	

## Case presentation

### Situation before

The demographic details of the Panchayat as given in Table 2 shows that the panchayat is mainly ST (scheduled tribe) dominated. Ten years earlier almost all families of the area used to migrate for ensuring their livelihood security. Also there were severe problems of hunger, poverty, untouchability issues among different castes, illiteracy and even witchcraft! Hence the developmental works are in its progressive stage as villagers are becoming aware and careful about various government aids.

Table 2.

<u>Village Name</u>	<u>No. of HH</u>	<u>Total Population</u>		<u>SC Population</u>		<u>ST Population</u>		<u>% Literacy Rate</u>		<u>Total Worker</u>		<u>Main Worker</u>		<u>Mar. Worker</u>	
		<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>
Shiwrajpur	362	1126	1063	0	0	833	808	64.97	46.01	479	207	423	47	56	160
Totambi	249	723	714	41	33	598	605	63.99	45.18	320	198	309	196	11	2
Dodang	128	348	319	0	0	325	299	70.82	48.89	139	144	127	109	12	18
Chechepat	72	253	221	0	0	253	221	61.76	33.90	120	119	86	6	34	113
Dardag	146	489	437	0	0	480	427	71.67	42.90	294	279	5	8	289	271

### Triggering situation

The villagers suffering from these problems were in dearth need of hand holding supports which would not only help them to overcome the gruesome situation but also lead them to a suitable direction for betterment. The task was indeed too tough to materialize as the foremost demand was 'trust building' with the community people and to address various women issues like suffering from societal oppression in the name of traditional beliefs, abiding by uncountable rules and regulations especially applicable for women.

### Change(s) brought by them after assuming office and Activities performed over the year

Slowly the villagers were made to understand by the village volunteers that unless their women were not organised, the village development concept would never be materialised and the women were brought under an umbrella by the formation of SHGs. The journey which started with the agenda of village development through women empowerment was unquestionably tough to implement in field level. Village volunteers came forward for this mission and after numerous interactive discussions, prolonged meeting hours finally the first stepping stone – ‘trust building’ was established leading to the formation of first women organization. After the formation it faced economical burden as most of the members who used to live in hand to mouth condition questioning round-the-year food security, were unable to afford proper health and education of their children could barely save money for themselves. The solution came in the form of food-grains i.e. each member decided to donate and gather one handful of rice in lieu of money and started their journey.

#### Support from

PRADAN, a non-government organization and other few of such organizations working in this area came forward to train the village volunteers working for their area development for community mobilisation and different groups – women SHG, farmers’ club formation. Then capacity building programmes of these groups were conducted for adopting improved way of farming paddy and the through horticulture promotion by Department of Horticulture, few groups were also sensitised for vegetable cultivation.

#### **Outcome**

##### Problem faced by ER

Though the *gram sabha* possess the power and manage the natural resources for creating better livelihood opportunity and a group working under the Panchayat, *Vanraksha Samiti* is entrusted with the power of monitoring forest conservation related activities, they often lack adequate capacity and good governance skill to serve the purpose. Also the power dynamics played among different administration levels often show reluctance to completely devolve powers to these institutions making them project implementing agencies of government.

##### Adaptive measures and/strategies

In 2012, PRADAN started “Special SGSY” scheme under which women led meeting was organised in each hamlet. They were trained to identify locally available natural resources by mapping and conceptualize village development plan utilising the map. Prioritization was given to conservation of land, water and forest resources as the first step. Under the MGNREGS programme shallow water-bodies, well have been built in beneficiaries’ land through the Panchayat. State Horticulture Department assist in vegetable and fruit cultivation by providing training programmes, seeds, and fertilizers. Check-dam constructed in the villages through MGNREGS has solved water problem for agriculture purpose.

#### Outcome

Among the total population of main worker in the Panchayat, only Shiwraipur village has 32 agricultural labourers and more 50% worker involved in agricultural activities are owner/co-owner of their land. The details are given in Table 3.

Table 3.

Village Name	Total Worker	Cultivator (Owner/ Co-owner)	Agricultural Labourer
Shiwrajpur	686	422	32
Totambi	518	491	0
Dodang	283	244	0
Chechepat	239	90	0
Dardag	573	11	0

The steps taken are proved successful as now they themselves ensure the food demand of their families. The land and water management strategy was materialized as “5% model”, now popularly known as *dobha* prepared by 78 families of Sarna Toli and Jam Toli in Shiwrajpur village to maintain the optimum moisture content of the land thus conserving both the water and soil health. 11 sepage tanks constructed for irrigation purpose helps in ground water recharging, 2.5 acre barren land was levelled and is now being used as farmland. 85 families prepared pit for making vermi-compost which is now being used by the local growers in their farmlands. 19 families together use 15 acre barren lands for mango tree plantation which in its first year gives them ~3000kgs mangoes in 2016-17 fetching approximately 1.2lacs market price. To address the health issues and seasonal migration problem, Agriculture Production Cluster (APC) was formed to cultivate vegetables utilising the available irrigation facility. Using the net house, people are now maintaining vegetable nursery together. Local youths are being trained and exposed to marketing systems for selling those products. As an example, tomatoes grown in Shibrajpur Panchayat are sold in the markets of Ranchi, Rourkella, Ambikapur. These initiatives have lowered the migration rate at a large extent. 269 families out of total 362 in Shibrajpur village are now connected with the *Gram Sangathan* (Panchayat level association). There are two such village level associations comprising of all women SHGs which are again active in each hamlet. MGNREGS programme opens opportunity for rural employments and also serves the purpose of facilitating agricultural activities. Under the NRLM (National Rural Livelihood Mission) scheme the women organizations are given financial supports which they are using for their livelihood, betterment of their children education and overall health condition of their families. Capital shortage for starting new business, arranging marriage ceremony, health treatment have now been solved by the fund from the association and villagers no longer depend on middlemen for loan. This has immensely helped them to save their lands from being mortgaged or lost from debts.

The condition of the women in the village has also been uplifted along with the improvement of their livelihood options. Women who were mainly limited to their household activities and inclined to seasonal migration are now becoming aware of their rights. They are now involved in planning developmental schemes including health and education for themselves and their families, participating in panchayat election, public awareness programs, protesting against the violence against women and alcohol abuse. Many hamlets have become free from the problems of alcohol preparation and consumption.



PRADAN advised the women organizations for banana plantation in many lands which remained barren for years in Sarna Toli. After the soil testing, banana cultivation training was given followed by exposure visit to other such farms. The beneficiaries sought help from district horticulture department and finally 13 women started banana cultivation in 10 acre of that barren land. District horticulture department supplied tissue cultured banana saplings, required fertilizers and also assisted in water management. The department also informed them about post harvest management of banana and probable pest attack control measures. This venture is proved to be one of the correct steps in barren land utilization as people in Sarna Toli are now successfully cultivating banana and many visitors come to see and procure information regarding the same.

#### Recognition, if any

According to one of the woman member of the SHG mentioned that the Panchayat has recently been announced as “Model Panchayat” for its outstanding contribution in reversing the agricultural scenario.

#### Future plan and vision

Women members express to accomplish activities carried out under government schemes through the village level association without mediating external agents so that the funds, facilities entitled for them may be utilised properly.

Another major vision emerges out from most of the respondents is their concern about education. They want to have better education for their children so that they can improve on the present situation and able to lead better life.

#### **Discussion**

The successful implementation of NRM in Shibrajpur Panchayat has demonstrated a new way to the villagers who disillusioned by superstitions were leading an aimless life. The problem of seasonal migration faced by the indigenous community is now using the naturally available resources and has solved livelihood oriented migration problem by implementing suitable management techniques of using these resources. They are now engaged in various horticulture interventions and improved farming techniques along with their traditional farming methods and are getting surplus agri-products. These interventions followed by subsequent outputs indicate several features. Villagers have become aware of natural resources and their next generation is now taking an interest in modern cultivation technology. They are practicing improved farming methods along with the traditional one. Agriculture has become a profitable earning method for them as they are adopting improved agricultural techniques, taking an interest in learning new methods, cultivating cash crops. Their active participation in agri-related activities has opened up other income generation avenues. Land levelling and proper water management has increased the area of farm lands. The construction of farm ponds has helped to grow fruit trees along the pond bank. The villagers are also preparing and using vermi- compost, enriched compost and after their self-consumption, the excess are being sold adding to their existing income.

These activities in Shibrajpur Panchayat has posed a model for holistic development based natural resource utilization, agricultural and related activities which ultimately lead to the improve the quality of life of the villagers. The adjoining villages of Shibrajpur are now taking an interest to follow their footprint for their uplifting their existing situation. Based on this study the following learning outcomes are observed.

1. The supports from local NGOs remain very helpful in reversing the situation of agricultural scenario using NRM. Their initiatives to form village level volunteers, building their capacity, formation and strengthening women-led CBOs have encouraged the villagers to come forward.
2. Based on the information, the members of village level committee responsible for maintaining forest area should be trained so that they can prepare appropriate plans for optimum utilisation and regeneration of forest resources.
3. The once barren lands which are now using for cash crops cultivation and horticulture purpose are commendable but the concept of 'dry-land farming' has been vanished. Different types of millets which were used to be cultivated and consumed earlier have been disappeared and a changed food-habit pattern, impact of which will be prominent after a decade among the villagers has been observed.
4. The usage of bio-fertilizers, vermin-compost is praise-worthy. Their hard-working has shown same or excess rate of agri-production using the same. But they seldom face marketing problem leading to wastage of resources. Post-harvest measures such as- food preservation and processing unit, cold storage facility may be helpful to cope up with this.
5. Better co-ordination is expected among the different committee working under the Panchayat administration and their involvement in larger extent is highly sought after.

### **Acknowledgement:**

The study is funded by National Institute of Rural Development and Panchayati Raj, India. We thank our advisors of Shramajivi Unnayan for assisting the research, although they may not agree with all of the interpretations/conclusions of this paper. We thank GP members, members of women groups, all the villagers for their contribution and giving us interacting time and members of LGSS and PRADAN for their supports and Mr.P.Mahto & team for the videography work.

### **References**

1. Census 2011
2. Sivaramakrishnan,A., John,J. Natural Resource Governance by Panchayati Raj Institutions: Issues and Opportunities
3. Ministry of Panchayati Raj. PESA Division
4. <http://www.villageinfo.in/>

### **Bibliography**

1. Sanga, N.P., Ranjan, R.K. (2014) Natural resource management in changing climate – reflections from indigenous Jharkhand. World Journal of Science, Technology and Sustainable Development.11(2):117-133
2. <http://forest.jharkhand.gov.in/>

### **Legends**

Table 1. Details of the interviewee

Table 2. Demographic details of the selected Panchayat

Table 3. Details of the total workers in the Panchayat

Photo1- 2. Agriculture Production Cluster (APC) model showing the involvement of the villagers especially the village women organization members in the related activities.

Photo 3. A previously unused land showing an example of mixed cropping utilising the available irrigation facility and land management techniques.

Photo 4. Showing the results of appropriately using 15 acre barren lands by 19 families for mango tree plantation as approximately 3000kgs mangoes grown in the first year (2016-17).

Photo 5-6. Another use of barren lands for banana cultivation in Sarna Toli.

Photo 7-8. Women groups during and coming out after the weekly meeting held by CBOs and village level association respectively.

Photo 9. A lady busy working in her vermi-compost pit.

Photo 10. Women group inspecting the remnants of banana farming.

Photo 11-12. Well and Check dam constructed under MGNREGS programme for water harvesting and utilisation purpose.

Photo 13. Pump set being used by farmers in their farming lands.

Photo 1-2





Photo 3



Photo 4





Photo 5-6

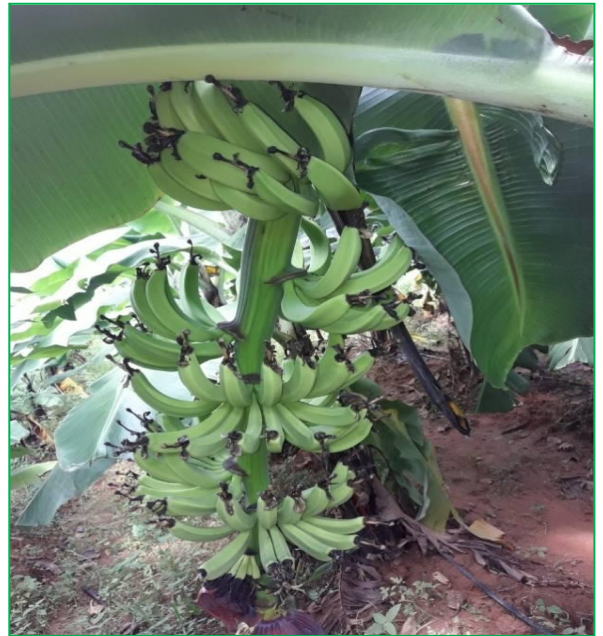


Photo 7-8







Photo 9



Photo 10





Photo 11-12







Photo 13

