



# IMPACT ASSESSMENT REPORT

2019

Umbrella Programme for Natural  
Resources Management (UPNRM)

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# INTRODUCTION

## 1.1 Background

The Umbrella Programme for Natural Resource Management (UPNRM) whose inception was in 2008 is a unique programme successfully practicing credit financing for protection and conservation of natural resources, promotion of improved and sustainable NRM practices combined with capacity building. The Indo-German programme brought in a paradigm shift from grant to loan-based financing in the NRM sector. This joint program between The National Bank for Agriculture and Rural Development (NABARD), German Development Bank (KfW) and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH supports financially and environmentally viable business models in the NRM sector. Financial support is provided in the form of loans with a small grant component.

Financial Summary of UPNRM	
Total No. of projects	334
Total amount of loan	INR 652 Crore
Total amount of grant	INR 44 Crore
No. of States and Union territories	22 states & 1 union territory
Total No. of Implementing partners	170 +

It aims at supporting financially viable and ecologically sustainable business models to reduce poverty, increasing farm incomes, strengthening agricultural value chains and conserving natural resources, thus leading to sustainable development.

UPNRM covers a wide range of projects such as integrated fishery, agro-processing, horticulture, agro-forestry, medicinal plant cultivation/collection, organic farming, eco-tourism, integrated dairy projects including sustainable fodder cultivation and small-scale biogas plants besides many others. It also promotes resource efficient technologies such as the system of rice intensification (SRI), sustainable sugarcane initiative (SSI), coir-based value addition and drip irrigation etc. More than 2,00,000 beneficiaries have been associated with this programme.

After more than 10 years of implementation, the UPNRM programme comes to an end in December, 2019. In order to capture the results and the key impacts at a programmatic level as well to provide strategic inputs for mainstreaming, an impact assessment for the UPNRM programme has been carried out in 2018-19 and the following sections of the study deals with key findings.



## 1.2 Objectives of the exercise

Impact monitoring of projects is an annual exercise under UPNRM. The exercise assists in gauging the ground level impact of activities undertaken by UPNRM projects and provides useful information for devising suitable future strategies. Previous impact assessment exercises have also helped in policy level dialogue and advocacy for increased public and private investments in the natural resources sector. Some of the major objectives of the impact assessment exercises are:

- Environmental, economic, social and other impact related data collection for UPNRM projects
- Gauging the actual project impacts vis a vis intended impacts
- Analysis of impact data according to impact categories
- Publication of the annual Impact Assessment Report for stakeholders for reporting to stakeholders, strategic discussion and communication

In the final year (2019) of the UPNRM programme, it is considered important to measure the programme's impacts over the years in terms of achieving the goals of income and livelihood generation, environmental conservation and sustaining natural resources. Thus, as a part of effective programme closure, this exercise also becomes necessary for the following reasons:

1. Capturing and showcasing the results to a wider range of stakeholders
2. Reporting to the project partners
3. Providing strategic inputs

## 1.3 Methodology

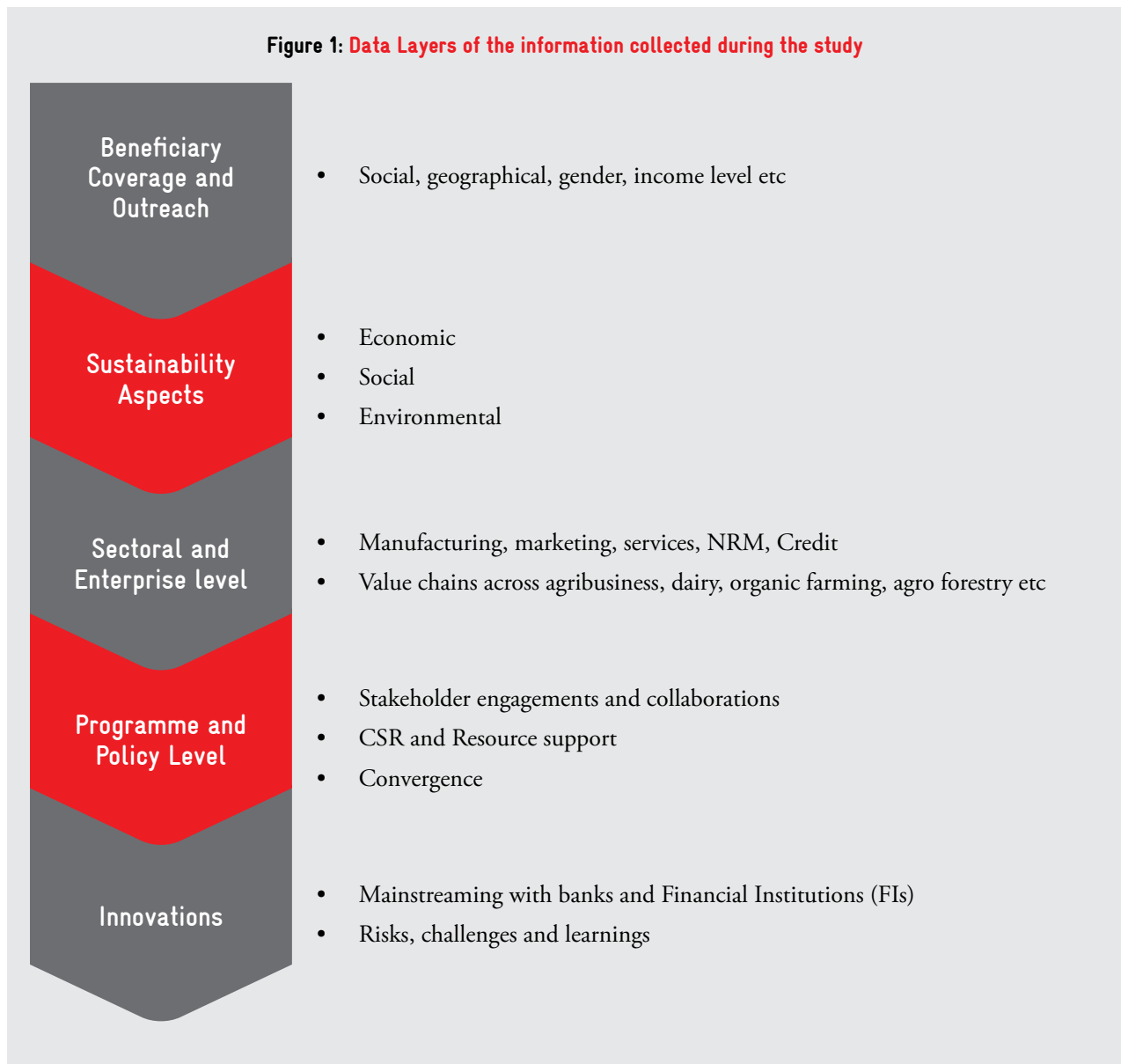
The assessment team relied on primary data collection using a questionnaire-based survey. The process made use of the formats and tools developed for collection, analysis and reporting of data at a project level. The methodology used for this exercise is as follows:

1. Review of Secondary information about UPNRM and existing impact questionnaire and schedules
2. Survey of a stratified sample through a questionnaire, after field testing
3. Vetting of data by Project team (collect, collate, clean and analyse information with respect to finalised parameters and indicators as per the survey questionnaire.)
4. Validation of information with periodic reports from Regional Coordination Units (RCUs) for additional inputs and information
5. Focus Group Discussion (FGD) workshop in Delhi for a selected group of 12 Channel Partners CPs for additional discussion and qualitative validation of the findings
6. Consolidation and data analysis by the UPNRM team at GIZ, Delhi
7. Inputs from NABARD for finalisation
8. Finalisation of report



The study aims to provide granular data and analysis of the information collected in the five different layers as depicted in the figure below:

**Figure 1: Data Layers of the information collected during the study**



# UPNRM PROGRAMME PROFILE (SAMPLE DATA AT OUTPUT LEVEL)

As of August 2018, UPNRM had sanctioned 334 projects across 22 states and one Union territory with a total investment of around INR 600 crores or 77 million Euros. The current Impact Assessment Study captured insights from 157 sample projects which were spread across 16 Indian states and 1 union territory and covered 145 districts and more than 9,000 villages.

Data on sampled projects shows that Andhra Pradesh and Tamil Nadu has the maximum number of sanctioned projects (24) included in the study, followed by Maharashtra (22), Telangana (13), Karnataka (12) and Bihar (11). The state-wise distribution of these 157 projects is presented in Table 1.

**Table 1: Geographical distribution of projects**

State	No. Of projects
Assam	3
Andhra Pradesh	24
Andaman and Nicobar Islands	8
Bihar	11
Gujarat	5
Haryana	1
Himachal Pradesh	4
Jharkhand	3
Karnataka	12
Kerala	5
Maharashtra	22
Odisha	7
Rajasthan	8
Tamil Nadu	24
Telangana	13
West Bengal	3
Uttarakhand	4

Data in Table 2 indicates that out of the 157 projects, 75% (118 projects) were term loan projects, 15% (23 projects) were working capital and the rest were composite loan (16 projects). Large share of term loan projects indicates investment in farm businesses particularly towards the creation of assets (drip irrigation, milch animals etc.) for enhancing farmer's income through UPNRM projects.

**Table 2: Number of projects - Loan type**

Type of loan	No. of projects	Percentage share
Term loan Projects	118	75%
Working Capital Projects	23	15%
Composite Projects	16	10%
<b>Total</b>	<b>157</b>	<b>100.00%</b>

The table below shows the categorisation of projects with respect to average loan size per beneficiary. It is seen that average loan sizes in the range of Rs. 20000 – Rs. 50000 has the maximum no. of beneficiaries which is 49. The two bands 20,000 and above account for 68% of all projects, indicating the rising loan requirements even in the NRM projects.

**Table 3: Average Loan Size**

Average Loan Size	Number of Projects
<5000	3
5000 - 10000	27
10000 - 20000	39
20000 - 50000	53
>50000	35

Figures in Table 4 shows that UPNRM projects are distributed across and implemented by different channel partners out of which 81 are Non Government Organisations (NGOs). The higher share of NGOs involved as channel partners in UPNRM reflects the fact that grassroots livelihood projects in India are mainly implemented by the NGOs. However, to promote direct participation of primary producers in the programme, UPNRM is guiding NGOs to form and empower Producer Organisations (POs) and producer cooperatives. The clear signal that emerges that NGOs with their development orientation have the necessary patience to implement NRM projects more than other types of partners. In terms of choice of partners, NRM loan projects will find those with development competencies more suitable than those with financial competencies.

**Table 4: Number of Projects - Category of channel partner**

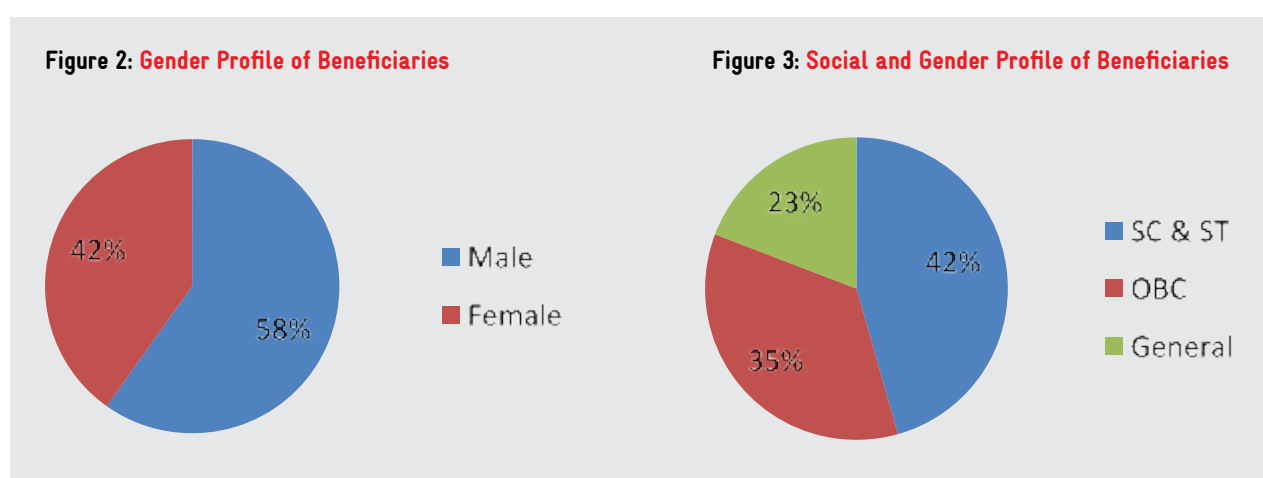
Category of Channel Partners	Number of Projects
Bank	4
Community Based Organisation (CBO)	2
Company	5
Cooperative	27
Corporate	2
Micro Finance Institution (MFI)	4
NGO	81
Producer Organisation (PO)	6
Producer Companies (PCs)	9
Trust	13

## 2.1 Socio-economic profile of beneficiaries

UPNRM is working with a mandate to mainstream holistic, participatory and financially sustainable livelihood solutions for the rural poor and improving their livelihoods through providing credit to income generating activities under diverse sectors such as agriculture, agro-forestry, animal husbandry, efficient irrigation, organic farming, SRI, fisheries etc.

The total number of beneficiaries of the surveyed livelihood based projects under UPNRM are 1,23,481 out of which approximately 77% belong to Scheduled Caste (SC), Scheduled Tribe (ST) and Other Backward Classes (OBC) and the remaining 23% are from the General Category. In addition to this, around 24,720 beneficiaries are getting other indirect benefits.

Results show that 42% of the total beneficiaries are female, while 58% are male. These are illustrated in figure 2 & 3.



## 2.2 Sectoral coverage

UPNRM is wide spread not only in its coverage across states, but also across sectors and sub-sectors. The sample projects are broadly categorised under 16 sectors, illustrated in table 5.

**Table 5: Number of Projects - Sector**

Sector	No. of projects
Agriculture	31
Agro Forestry	10
Agro Processing	9
Animal Husbandry	33
Drinking Water	2
Efficient Cook stove	3
Efficient Irrigation	25
Fisheries	3
Marketing	17
NTFP	7
Organic Farming	8
Renewable Energy	1

Sericulture	1
SRI	2
SSI	2
Waste Management	3

A number of agriculture projects are promoting innovative technologies to increase productivity such as SSI (Sustainable Sugarcane Initiative), SRI (System of Rice Intensification) and Tissue culture cultivation. The introduction of such farming techniques has shown evident improvement in the net yield and income. UPNRM is also promoting and encouraging farmers to design business models in non-traditional fields such as organic farming and conservation management of Non-Timber Forest Produce (NTFP). This has further facilitated farmers to access financing in these sectors and develop their capacities.

## 2.3 Sector-wise disaggregation

From Table 5 it is seen that animal husbandry (33), agriculture (31) and efficient irrigation (25) are the three major sectors. The following section shows the above data i.e. loan sizes, loan types and the socio-economic profile disaggregated by these major sectors.

**Table 6: Loan type disaggregated by the 3 major sectors**

	Animal husbandry	Agriculture	Efficient Irrigation
Term loan	19	15	12
Working Capital	8	10	8
Composite	6	6	5

**Table 7: Loan size disaggregated by the 3 major sectors**

	Animal husbandry	Agriculture	Efficient Irrigation
<5000	0	0	1
5000 - 10000	2	3	5
10000 - 20000	6	5	12
20000 - 50000	18	14	6
>50000	7	9	1

**Table 8: Socio-economic profile disaggregated by the 3 major sectors**

	Animal husbandry	Agriculture	Efficient Irrigation
SC /ST (%)	42	37	48
OBC (%)	35	23	30
General (%)	23	40	22
Male (%)	51	55	52
Female (%)	49	45	48

A FGD which was held between representatives of the UPNRM channel partners also validated these findings. Channel partners stressed on the importance of UPNRM in bridging some of their working capital requirements. Most of them felt that UPNRM played an important role in helping them transform their operational mode from charity to loan thereby increasing project sustainability. A few of them expressed the need for a collateral-free loan saying that bank guarantees hamper smooth project implementation.



*Fish Farmers of Kalong Kapili*



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# ANALYSIS OF SAMPLED DATA (FINDINGS AT IMPACT LEVEL)

## 3.1 Environmental Impact

Ensuring environmental sustainability is an essential criteria for UPNRM projects. It is one of the guiding principles to ensure integration of environment related components in the project design. As per the criteria under this guiding principle, the project should have at least one of the following components in the project.

- Conserve water (ground and/or surface water)/ conserve soil/ reduce land degradation
- Reduce post-harvest losses/ waste utilisation/ reduce waste
- Conserve faunal and floral biodiversity
- Conserve energy/inputs

The environment supportive project design has been translated into outputs and impacts of UPNRM. Findings of the study reveal that the major environmental activities of UPNRM projects are related to soil and water conservation, organic input production, clean energy and plantation.

Under soil and water conservation, major project interventions are: SRI, and installation of drip irrigation units with a range of crops including cotton, sugarcane and banana.

SRI projects have covered more than 40,000 beneficiaries who took credit for SRI cultivation in 16,856 ha of land. The water saved through SRI is approximately 24 million cubic meter<sup>1</sup>.

Drip irrigation has been promoted mostly in Maharashtra region which is prone to successive spells of droughts. Sustainable Sugarcane Initiative (SSI) covers 351 ha of land, mostly with drip irrigation which helps in saving water and reducing use of fertilizer and pesticides during cultivation.

A large portion of UPNRM portfolio covers integrated dairy projects which includes supplementary activities viz., vermicompost production, fodder cultivation and establishment of biogas units along with dairy farming. Regular dung supply from cattle procured under the dairy projects ensure sufficient raw material availability for functioning of vermicompost and biogas units throughout the year. Biogas slurry is also being used for vermicomposting. As per

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<sup>1</sup> Conversion factor: 1 Ha SRI saves 5500 cubic meter water



the study, 61,462 quintals of vermicompost has been produced annually from 1,239 compost units from 17 projects. Production of organic compost supported organic farming in villages. Approximately, 5,739 ha have been covered under organic cultivation with support of UPNRM financing.

A wide range of projects under the UPNRM portfolio promotes green energy. Interventions such as biogas units which produce both renewable cooking fuel as well as clean electricity, solar lantern, solar pump set for irrigation, efficient cook stoves are helping households to counter energy crisis in rural areas. Clean energy as an alternative to fuel wood, kerosene and Liquefied Petroleum Gas (LPG), has reduced dependency on non-renewable and inefficient sources of energy in rural areas.

Innovative solutions under UPNRM such as replacing old inefficient pumps with new efficient pumps under the partnership of Bangalore Electricity Supply Company Ltd. (BESCOM) and Enzen Global Solutions Private Limited are conserving electricity used for irrigation. This innovative partnership design has a great potential for replication across India.

Large scale agro-forestry plantations on fallow or waste land in Odisha under UPNRM and paper mill partnership projects of UPNRM have created green assets for carbon sequestration. So far 9,299 ha has been covered under plantation activity through UPNRM projects.

The details of environmental interventions and its assumed outcomes are mentioned in table 9&10.

**Table 9: Environmental Interventions and their output values**

Environmental Interventions	Value
SRI Cultivation (Ha)	16856
Drip Irrigation area (Ha)	351
Biogas Units	12039
Vermicompost Production (Q)	61462
Plantation area (Ha)	9299
No. Of trees planted	4187175
SSI area (Ha)	351
Number of Solar Pump sets	4
Organic Farming area (Ha)	5739
Area under Medicinal Plants (Ha)	485

**Table 10: Outcome of Environmental Interventions**

Outcome	Value
Carbon Mitigated through Biogas Plant (tonnes of CO <sub>2</sub> )	50836.5 tonnes of CO <sub>2</sub> e/ biogas digester/yr
Fuelwood saved through Biogas (Q)	328482 Q/year
Trees saved through Biogas Plant (no.)	30174.9 plants/year
Carbon sequestered through agroforestry (tonnes of CO <sub>2</sub> )	60411232.5 tCO <sub>2</sub> e/year
Carbon mitigated through SRI (tonnes of CO <sub>2</sub> )	57455 Co <sub>2</sub> e/year
Carbon mitigated through Drip (tonnes of CO <sub>2</sub> )	3517 tonnes of Co <sub>2</sub> e/year
Water saved through SRI (cubic meters)	243111500 cubic meter
Water saved through Drip (cubic meters)	20113516.8 cubic meter
Replacement of Chemical Fertilizer (Kgs)	297310 kgs
Kerosene replaced by Solar Lantern (lt/Year)	809100 lt/year

These environmental impact findings were also reinforced by the channel partner representatives during the FGD. They felt that the UPNRM projects contributed to an overall increase in green cover and promoted greater availability of water by more effective ground water recharge (Kalong Kapili, an NGO implementing an innovative fisheries project mentioned that because of ground water recharge, water availability improved from 100 feet to 40 feet because of the project.)

### 3.2 Economic impact

Out of 157 projects, 86 projects (50%) reported increase in income of beneficiaries ranging between 10-30% after implementation of UPNRM project, whereas 22 projects (8%) showed above 50% increase in annual income of beneficiaries (Table 8). The increase in beneficiaries' income is mainly attributed to:

- i. **Enhancement of productivity** due to introduction of new technologies such as drip irrigation (Dilasa, Maharashtra), Tissue culture in banana (IRA, Bihar), Tissue culture in Sugarcane (IRA, Bihar), Improved bee boxes and practices (DNPPCL, Uttarakhand), Sewa Gram Nisarg Technique of Raw Bee Management (CBEED, NCT, Maharashtra), etc.
- ii. **Promotion of good agricultural practices** such as SRI (SKDRDP, Sajjalashri, Karnataka), SSI (Shri Datta and Kranti sugar cooperative, Maharashtra), Better Cotton Initiative-BCI (Dilasa, Maharashtra),
- iii. **Integrated approaches** in animal husbandry (MASS, AP, Lupin foundation, Rajasthan), fishery (Gram Uthan, Odisha) and other projects,
- iv. **Capacity building of farmers** through trainings, demo plots, exposure visits as designed in project by channel partners; and
- v. **Collectivisation of produce and reaching better markets** to sell produce through federations, cooperative or producer organizations.

The table below shows that majority of the projects had a net increase in income in the range of (10-30)%. There were 2 respondents who reported there has been no change in income

**Table 11: Number of Projects - Increase in Income**

Percentage increase in income	No. of projects
No change	2
Up to 10%	20
10-20%	31
20-30%	55
30-50%	22
Above 50%	22
<b>Total</b>	<b>157</b>

Also, as reported by the respondents, the major factors resulting in increase in productivity and income are the following:

1. Innovation and new technology
2. Good agricultural practices
3. Integrated approach

**Table 12: Factors for increase in income**

Factors for increase in income	% age of projects
Innovation and new technology	30
Good agricultural practices	43
Integrated approach	27

Also, the income level data disaggregated as per the major sectors reveal the following:

**Table 13: Income enhancement in major sectors**

	Animal Husbandry	Agriculture	Irrigation
No change	0	0	0
Up to 10%	5	3	2
10-30%	19	16	14
30-50%	4	7	6
Above 50%	5	5	3

**Table 14: Factors for increase in income in major sectors (total of 56 responses)**

	Animal Husbandry	Agriculture	Irrigation
Innovation and new technology	7	5	7
Good agricultural practices	4	9	4
Integrated approach	8	9	3

The views expressed by the partners in the FGD highlighted the role of UPNRM in fixed asset creation (for eg. RCDS reported an increase in number of milch animals per farmer from 1 to 4), in proving the viability of a loan-based model/ group-lending model through an Self Help Group (SHG) platform and also, in some cases ensuring greater scalability. One of the channel partners Loksathi, for instance mentioned that another major impact of UPNRM was that it led to the opening of 1200 bank accounts. Another impact was the improved access to farm insurance (as reported by RCDS, because of the UPNRM project 24 farmers benefitted from cattle insurance). Because of the UPNRM project, in some cases, primary producers have been able to move up the value chain. For some, easy and timely access to credit without documentation related hassles in another key economic impact (RCDS).

### 3.3 Social, Community level and Governance Impacts

#### 3.3.1 Community Participation and Governance

Under UPNRM, loans were directly given to farmers' federation, cooperatives, producer organisation and producer companies where the community is engaged in planning, monitoring and implementation of the project.

In the case of on-lending projects (example-integrated dairy projects) where loans are given to individual clients (farmers, artisans etc.), channel partners normally act as a facilitator to channelise the loan through community-based structures such as Joint Liability Groups (JLGs), village watershed committees and SHGs. These community organisations assess the loan application of individual members (or borrowers) and take decision with respect to approval of the loan.

Table 15 illustrates community organisations and their numbers involved in project implementation under UPNRM. Channel partners who took loan facilitated the formation of SHGs, JLGs, cooperative or producer companies in the project area as per the requirement of the project or else worked on the existing community structures, strengthening them further through capacity building efforts to enhance their credit absorption capacities from formal institutions for livelihoods and enterprise promotion.

Term loans helped in creating community assets at the organisation level (processing, storage infrastructure, machines and equipment's, demo plots/farms etc.) and at the farmer level, productive assets are created (livestock, drip irrigation sets, plantation crop, ponds etc.) that become a sustainable sources of revenue generation.

**Table 15: Community Groups Organised under UPNRM**

Community Organisation	Number
SHG	5345
JLG	3007
Co-operative & Producer Company	12
Farmer Federation	27
Others	29

### 3.3.2 Gender Empowerment

Some of the key benefits and other important gender-based observations from the respondents are summarised below:

- **Food quality:** Women's access to food in terms of quality and quantity has improved more than men's, where there had been a clear disadvantage before.
- **Health:** In most of the studied projects, women and men reported positive benefits regarding their health status, because with increased income they could spend more money in medicine, as well as transport to hospitals.
- **Women's participation:** Women's participation in capacity building measures, as well as their access to information had an important empowering impact in all projects, except those addressing mainly men. In most of the cases, women participated as well in community events and have started to raise their voices.
- **Alcoholism:** It was observed that the problem of alcoholism among men had generally decreased and harmony in the family increased.
- **Use of technology:** A general pattern in agricultural production, reproduced in most of the projects, is that men assume responsibilities which are linked to the use of technology, whereas women provide the manual labour.
- **Division of labour:** In almost all the projects, an increase in the discrepancy of workload between men and women was observed, mostly because of higher increases in women's workload. However, in projects promoting biogas, it was observed that there is a significant decrease in the workload in collection of fuel wood due to availability of biogas for cooking. And the saved time is invested mostly in other agricultural activities, in some cases in the education of children.

Channel Partners who participated in the FGD testified to the importance of UPNRM in bringing about greater equality (Socio Economic Development Policy (SEDP) reported increase in wages for female workers), removing practices like untouchability and in promoting decision-making among the disadvantaged communities. They also felt that different projects necessitate a different social approach. For example, group model may not work in case of dug-well projects because of individualised incentives offered by the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA). Partners also felt that the project activities reduced distress migration. In some of the projects, existing community linkages play a critical role – for instance, SEDP highlighted the role of the Village Watershed Committees in successful implementation of their watershed project. Social factors also play an important role in ensuring project acceptance by beneficiaries and hence, their success.

The channel partners participating in the FGD felt that the greatest organisational impacts have been at the level of increased goodwill, social recognition and better reputation and visibility for the organisation.

### 3.3.3 Capacity building

#### i. Project level

Capacity building of farmers and beneficiaries is an integral part of design in most of the projects. Grant portion (6-7)% accompanying the loan amount is mainly focused on trainings, exposure visits, establishment of demonstration plots and strengthening market linkages. The total number of formal trainings and exposure visits conducted during implementation of the surveyed UPNRM projects as reported by channel partners are 857 and 112 respectively.

**Table 16: Project level Capacity Building Activities**

Type of Capacity Building Support	Number	Beneficiaries		Total
		Male	Female	
Formal trainings	857	36,241	22,810	59,051
Exposure visits	112	5,078	3,445	8523

#### ii. Programme level

GIZ's programmatic support for capacity building of channel partners includes organising workshops on various themes, Management Development Programmes (MDPs) in renowned training institutions, Handholding exercises from domain experts, Guidance and Mentoring by RCUs helping in implementation of UPNRM projects.

**Table 17: Programme level Capacity Building Support for CPs under GIZ TC - 2016**

Sl.No.	Items	Description
1	Management Development Programmes (MDPs)	'Financial decision strengthening tools' at IRMA, Gujarat (3 CPs)
		'Financial Control in Cooperatives' at Institute of Rural Management, Anand, Gujarat (3 CPs)
2	Handholding support	Financial Management and Business performance (2 CPs) and Marketing and Market Access (2 CPs)
3	Regional workshop for FPOs	CPs from 4 states of Odisha, Bihar, Jharkhand and West Bengal participated.
4	Workshops on web-based monitoring	Two web based loan monitoring workshops were conducted in Pune, Bengaluru and Chandigarh for channel partners and NABARD.
5	Risk mitigation workshops on dairy for channel partners	This workshop was conducted at Jaipur in order to capacitate channel partners on risk management aspects of dairy projects
6	Regional level workshop	Three regional level experience sharing workshops were conducted at Kolkata, Chandigarh and Bengaluru.
7	Workshop on promotion of organic agriculture through sustainable business models	This workshop was conducted to promote best practices and business models on organic agriculture. 40 participants including UPNRM CPs working in organic agriculture participated in the workshop.

One of the Channel Partners, Kalong Kapili, for instance highlighted that because of its innovative nature and successful implementation, Assam Administrative Staff College included the UPNRM project as part of their exposure trips. Some of them felt that better documentation and training related to Management Information System (MIS) related activities are the other important take-aways from UPNRM. Other benefits were access to government schemes (for e.g. for one of the dairy project implemented by RCDS, there were government benefits like vaccination, artificial insemination etc.). There has also been a significant knowledge transfer on issues like Biodiversity register, Access & Benefit sharing etc. (GMCL).

### 3.4 Convergence of UPNRM Projects

There are many examples where UPNRM projects convergence with government, private agency to leverage subsidies, CSR funds, generate additional fund and avail support in form of trainings, technology transfer. In some cases, banks have been roped in as UPNRM channel partner.

- i. Convergence with government schemes-** A total of 37 projects indicated convergence with government department as per the study, **Convergence with ATMA** (SKDRDP), KVK (DEEPs), **with animal husbandry department** (Pragathi, SWoMACs, GSS, MMS, Krushi Samstha, MASS) for animal husbandry projects, **with Central Institute of Fresh Water Aquaculture** (CIFA)-Bhubaneswar Saramanga- Bhadrak (Gram Uthan) for integrated fishery , **with department of horticulture under national horticulture mission** (SRVICE, CCFID), **with horticulture department** (Angels, CHANARD, Loksathi, KrishiSarathi, Savitri Bai Phule, Manav, 6 sugar cooperatives in Maharashtra, OPR Farmers Federation, Dilasa, CCFID) for drip irrigation, **with agriculture department** (SARDA) for vermicomposting activity, with Assam Fisheries Scheme and RKVY (Kalong-Kapili). As reported by channel partners, Rs 57 million leveraged through convergence with government. In the FGD, MSGD highlighted linkage of their biogas project with CPI, Udaipur
- ii. Convergence with CSR and philanthropic fund -** The study reveals 10 projects have CSR linkages in various activities –Asset creation such as cattle shed, vermi compost units, drip, biogas and group well, smokeless Chulha (Lupin Human Welfare and Research Foundation, Ambuja Cement Foundation), administration cost (Lupin Human Welfare and Research Foundation, Mata Shree Gomati Jan Seva Nidhi, BILT), cattle insurance (Lupin Human Welfare and Research Foundation, Mata Shree Gomati Jan Seva Nidhi), Azolla production units (Mata Shree Gomati Jan Seva Nidhi), Clonal saplings (BILT), IVC project in Rayagada with Axis foundation. The contribution of CSR in terms of money is Rs 37 Million. In addition, Tata Trust (Philanthropic intervention of private organisation) provided (Rs 33.95 million) for a UPNRM project on Integrated Vegetable Cultivation (IVC) in Rayagada District of Odisha, which was two times the financial assistance from UPNRM (Rs 17.7 million).
- iii. Collaboration with Bank-** UPNRM portfolio witnessed collaboration with 8 banks. A majority of banks which became channel partner of UPNRM are District Central Cooperative Bank (DCCB-Pune, Sindhudurg, Satarain Maharashtra, Alwar (Rajasthan), Kodinar (Gujarat)) and Vidharbha Konkan Gramin Bank (VGKB-Wardha). Kalong Kapili NGO in Assam was able to mainstream UPNRM project with 200 beneficiaries with Assam Gramin Vikash Bank (AGVK). Some beneficiaries in IVC project in Rayagada, Odisha were linked to direct finance from the banks for the cultivation of the vegetables.

**Table 18: Number of Projects - Convergence**

Convergence	Number of projects
With Government	37
With CSR	15
With Banks	6

**Table 19: Convergence disaggregated per major sectors**

	Animal Husbandry	Agriculture	Irrigation
With Government	5	12	7
With CSR	3	2	1
With Banks	1	1	0

In the FGD, participants were asked to highlight what they felt were the most important institutional linkages for their projects. The following table enumerates their responses:

Most Valuable linkages	Channel partners
MSGD, WSSS, PSS, Kalong-Kapili	Local Government
Lupin Foundation	Gram Panchayat
PDS	Private Players
MSGD, WSSS	NABARD

Also, some of the respondents expressed that linkages with academic institutions generally did not work in this type of projects. (GMCL, PSS).

### 3.5 Marketing of produce

From the marketing perspective, respondents were asked to highlight the most prominent impact area. Majority of the Channel partners mentioned value addition and improvement in quality of produce (35%). The rest were divided between the following categories: Access to market/ greater diversity of markets, reduction in post-harvest loss and better aggregation. Table below shows the percentage figures:

Convergence	Number of projects
Improvement in quality and quantity	35
Reduction in post harvest loss	16
Better aggregation	27
Access to markets	22

In the FGD, participants (GMCL) stressed on the role of the project in finding newer buyers and enabling farmers who did not get a premier earlier in realising better value for their produce. Another partner NGO, RCDS felt that dairy farmers were able to get a better value of their produce as the UPNRM project led to an increase in price of Rs. 4 – Rs. 6 per liter. Loksathi reported increase in the production of maize by 14%, increase in cotton production by 40 to 50% (from 6 quintals per acre to 10-14 quintals per acre) and for ginger from 2000 quintals to 6000 quintals. Other benefits were higher returns because of access to various group certification schemes/ fair trade labeling etc. Better grading and sorting of produce also ensured that farmer groups could target specific buyers according to the buyer requirements (GMCL). Direct procurement by buyers/ removal of intermediaries was cited as another reason for increase in price. Coffee and pepper which were sold at Rs. 65 and Rs. 330 per kg were sold at Rs. 88 and Rs. 400 per kg respectively after the project (WSSS).



### 3.6 Innovations:

The respondents were asked to rate the interventions with respect to the degree of innovation on a scale of 1 to 4, 1 being the lowest and 4 the highest highlighting some of the innovative practices in each of the sectors. The table below summarises innovative practices employed in each of the sectors.

Sector	No. of projects	Innovations practices adopted (Average scale)	Specific remarks
Agriculture	34	4	Crop planning, integration, seed treatment
Agro Forestry	10	2	Integrated cropping
Agro Processing	9	2	Grading and packaging
Animal Husbandry	35	2	Insurance, Buy back arrangements
Drinking Water	2		
Efficient Cook stove	3		
Efficient Irrigation	27	3	Drip irrigation
Fisheries	3	4	Scientific management practices of pond and fish culture
Marketing	17	3	Product segmentation
NTFP	7		
Organic Farming	8	3	Bio-pesticide, bio-fertiliser
Renewable Energy	1		Solar based interventions
Sericulture	1		
SRI	2	3	Efficient water usage
SSI	2	3	Drip irrigation, crop plantations
Waste Management	3		

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# CONCLUSIONS

A stakeholder workshop was organised towards the end of this exercise to validate the findings of the questionnaire survey carried out earlier. In the FGD, respondents highlighted the single- most defining aspect of UPNRM as follows:

1. Loan without collateral
2. Supporting role for NGOs
3. Discovery that trust percolates down (in case of collateral free loans); better confidence for loan-based programmes
4. Ability to leverage scalability, improve both product and market diversity and improved productivity
5. Sustainability
6. Confidence of the beneficiaries
7. Transparency

They stressed on the need for greater emphasis on forward linkages for the value chain and provision of working capital loans. Some of the partners felt that NABARD's crop loan and Kisan Credit scheme should be recast in an UPNRM type programme while others felt that there was a need for integrating climate change concerns and climate adaptation techniques in future versions of the programme.

Some of the channel partners felt that a margin of 2% on the loan portfolio was too low for ensuring their organisational viability. Also, the type of project plays an important role when it comes to loan recoverability (For e.g, for drip irrigation project, the recovery rate is around 70% which increases to almost 100% for sprinkler irrigation projects as these are easier to repay because of smaller loan sizes. Increased bank linkages (in terms of higher loan amounts sanctioned), and greater support for value addition and marketing, thereby enabling primary producers to move up the value chain were mentioned as other required areas of focus for a future UPNRM phase.

A few other important lessons that UPNRM offers in loan financing of NRM projects have been enumerated below:

- Projects arising from NRM based production that are focused on marketing are significantly better in terms of value generated for households because of higher margins and also because of their role in moving the primary producers up the value chain. Therefore, the integration of NRM with production, production with post-harvest handling and marketing -offering scope for such projects to be linked with larger players in the value chains.
- At the stakeholder workshop it was seen that the participating organisations (channel partners) were almost unanimous in their confidence of doing similar projects as financial intermediaries. Thus, it provides ample scope for GIZ and NABARD to push for a Business to Customer model for such channel partners. This would provide a much-needed impetus to the provisioning of financial products and services to the unbanked and under-banked segments.
- Also, the partnerships with banks give a lot of encouragement for marketing UPNRM type of projects to banks. Future phases of UPNRM should explore this along with public-private-community partnerships for sustainable natural resource management and productivity enhancement of small farmers.
- It was also seen that in most of the projects, FPOs played a pivotal role in addressing challenges such as information gaps, setting up appropriate processes and improved access to investment, technology and inputs thereby ensuring project success. Looking at the crucial role played by these organizations in capacity building, FPOs and CBOs should be central to the planning of programmes like UPNRM.



# NOTES



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