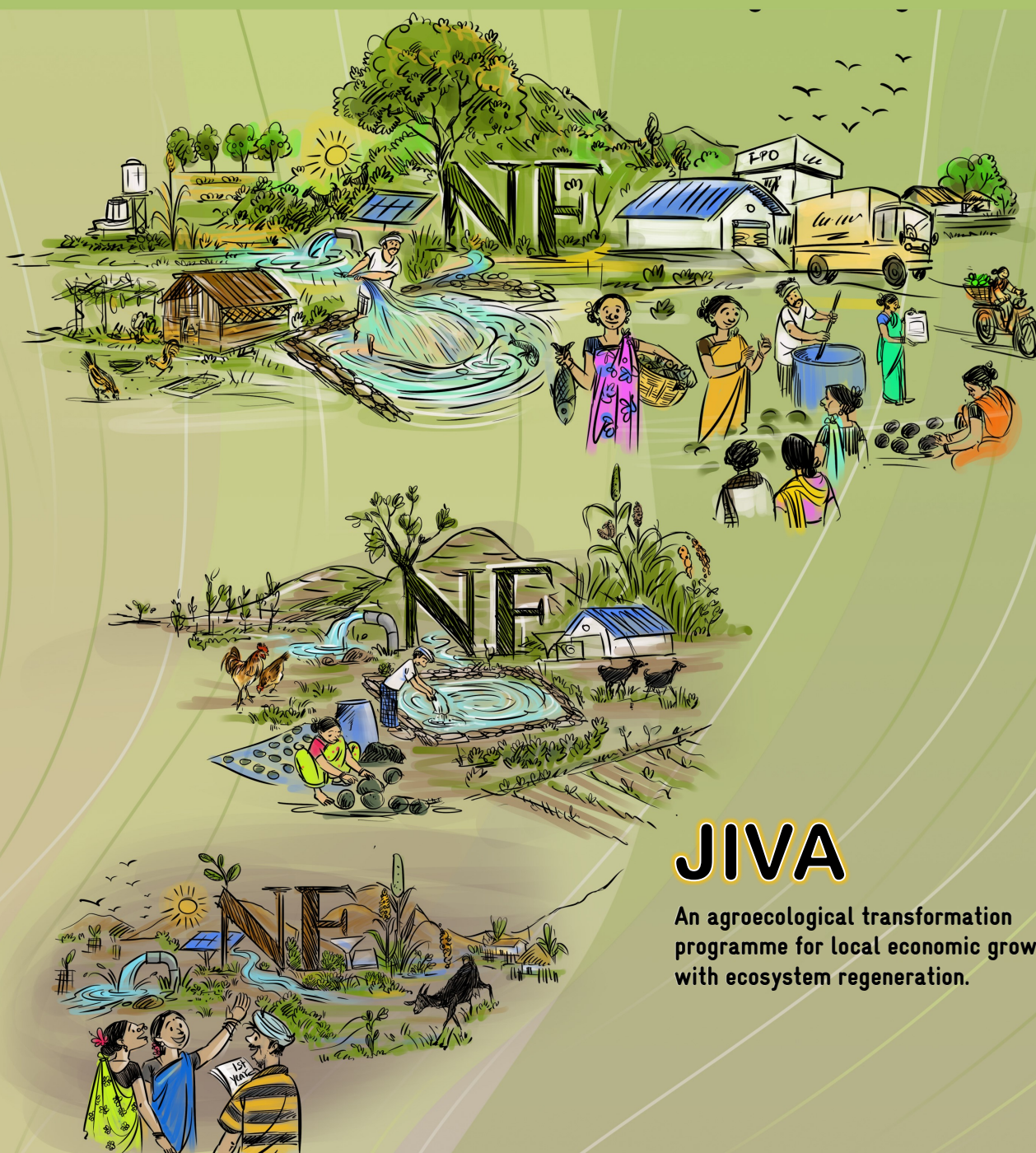


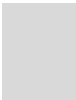
JIVA DARSHINI

OPERATIONAL MANUAL FOR JIVA: LANDSCAPE-BASED AGROECOLOGICAL TRANSFORMATION



JIVA

An agroecological transformation
programme for local economic growth
with ecosystem regeneration.



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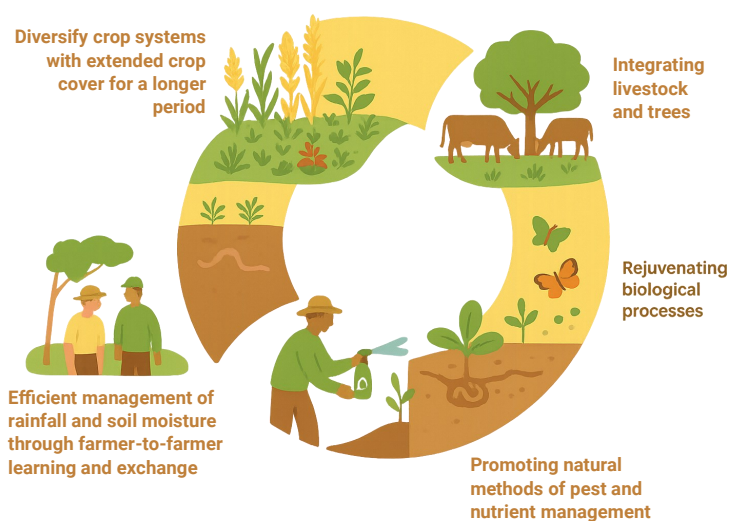
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ABOUT JIVA

JIVA is an innovative programme funded by NABARD supported by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, under the Indo-German Development Cooperation Project *Support to Agroecological Transformation Processes in India* (SuATI).

Initiated in 2023-24, JIVA fosters agroecological transformation by adding natural farming processes rooted with agroecology principles to the existing watershed and tribal development projects. Financial support from NABARD under the JIVA programme is provided to project implementing agencies to:



JIVA facilitates circular economy through recycling of crop residues, minerals and moisture, etc. as also supports enterprises for input supply and output management. Currently, the JIVA programme is being implemented by 49 Project Implementing Agencies across 20 states of India covering eight agroecological zones in vulnerable rainfed areas.

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List of Abbreviations

AIF	Agriculture Infrastructure Fund
BMZ	German Federal Ministry for Economic Cooperation and Development
CBO	Community Based Organisation
DDM	District Development Manager
DPR	Detailed Project Report
FPO	Farmer Producer Organisation
FSDD	Farm Sector Development Department
FSR	Feasibility Study Report
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
HO	Head Office
LPR	Learning Phase Report
MGNREGS	Mahatma Gandhi National Rural Employment Guarantee Scheme
MoA&FW	Ministry of Agriculture and Farmers' Welfare
MoRD	Ministry of Rural Development
MoS	Memorandum of Sanction
NABARD	National Bank for Agriculture and Rural Development
NF	Natural Farming
NFT	Natural Farming Transition
NFTP	Natural Farming Transition Plan
NRLM	National Rural Livelihood Mission
NRM	Natural Resource Management
NSKE	Neem Seed Kernel Extract
PCR	Project Completion Report
PGS	Participatory Guarantee System
PIA	Project Implementing Agency
PFA	Project Facilitating Agency
PMFME	Pradhan Mantri Formalisation of Micro Food Processing Enterprises
PRA	Participatory Rural Appraisal
PSC	Project Screening Committee
RO	Regional Office
RSC	Remote Sensing Cell
RSA	Resource Support Agency
RySS	Rythu Sadhikara Samstha
SHG	Self-Help Group
SOC	Soil Organic Carbon
SRI	System of Rice Intensification
SuATI	Support to Agroecological Transformation Processes in India
TDF	Tribal Development Fund
WDF	Watershed Development Fund



About the Operational Manual

Climate change, degradation of natural resources, declining farm incomes and growing nutritional insecurity pose serious challenges to rural livelihoods in India, especially in rainfed and tribal regions. While watershed and tribal development programmes have significantly contributed to strengthening natural and social capital over the years, there is a growing need for a transformational approach that moves beyond conservation towards regeneration and resilience.

The JIVA programme, funded by the National Bank for Agriculture and Rural Development (NABARD) with support from Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, under the Indo-German Development Cooperation project *Support to Agroecological Transformation Processes in India* (SuATI), responds to this need by promoting agroecological transition through Natural Farming. JIVA builds upon the achievements of watershed and wadi projects and introduces knowledge-intensive, community-driven practices that regenerate soils, conserve water, enhance biodiversity and improve farm-based livelihoods.

This manual, **JIVA DARSHINI**, has been prepared as a practical reference for Project Implementing Agencies (PIAs), field practitioners, community institutions, farmer resource persons and other stakeholders involved in implementing the JIVA programme. It presents the philosophy, principles and operational framework of JIVA and outlines step-by-step guidance for planning, implementation, monitoring and consolidation of Natural Farming Transition (NFT) at the community and landscape levels.

The manual explains the key driving components of JIVA, including farmer capacity building, crop diversification and intensification, regeneration of soil and water resources, integration of livestock and fisheries, strengthening of local support systems, nutrition-sensitive agriculture, stimulation of local circular economies and encouragement of local innovations. It also details institutional arrangements, implementation phases, participatory planning processes and evaluation mechanisms.

Drawing from field experiences and agroecological principles, this manual emphasises behavioural change, community ownership and location-specific solutions rather than a “one-size-fits-all” approach. It recognises farmers as innovators and knowledge holders and places women and community institutions at the centre of the transformation process.

Through this manual, JIVA seeks to support a gradual yet sustainable transition towards natural farming systems that are resilient to climate risks, economically viable and ecologically regenerative. This document seeks to serve as a guiding tool for practitioners and policymakers in fostering healthy landscapes, strong local economies and improved well-being of farming communities.

Building Community Resilience to Climate Change

Communities have immensely benefited from watershed, wadi and tribal development programmes of NABARD.



- Natural resources have improved with intensive soil and water conservation measures; soil erosion and runoff have reduced; farmlands and orchards have developed.
- Social resources have strengthened with organised communities; watersheds/wadi committees/farmer producer organisations (FPOs)/farmer clubs and self-help groups (SHGs) have proved effective.
- Community institutions have improved their capital base (share capital, revolving/maintenance fund and linkages with financial institutions).
- Community level leadership has emerged; technically trained human resources are available.
- Physical infrastructure and vegetation have improved.
- Productivity enhancement and livelihood concerns are addressed to an extent.



However, there are still gaps and challenges in community resilience to withstand climate change effects and changing ecosystems.



Challenges

- Land degradation
- Loss of biodiversity
- Poor productivity
- Food and nutrition security
- Input-intensive monocropping
- Declining net returns
- Economic distress of farmers

JIVA provides such a transformational shift.

A transformational approach is necessary to address these current climate change challenges.

- It is a new programme of NABARD, providing a transformational shift at grassroots level, addressing emerging concerns and ensuring long term sustainability of the natural resource management (NRM) programmes.
- It is an agroecological transformational approach devised with successful natural farming (NF) principles.
- It leverages the pre-existing social and natural capital in watershed and wadi projects.

**JIVA means,
"A living being or entity imbued
with a life force."**

Key Principles of the JIVA Programme - '3 Cs'

✂ Conviction for Natural Farming

✂ Capable Leadership

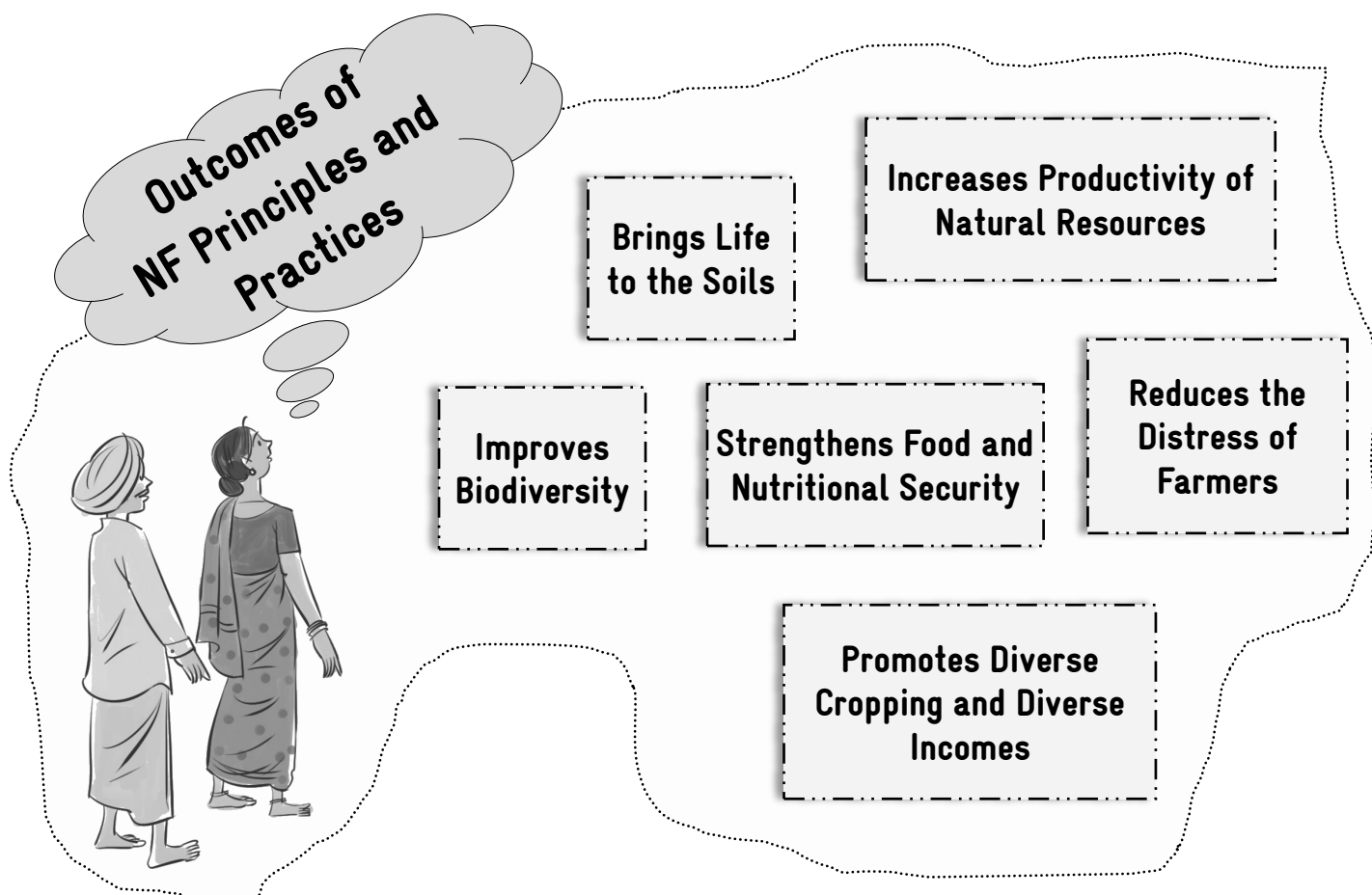
✂ Capacity Building



Why is Natural Farming Transition Important

Natural Farming Benefits

- Extends crop cover for a longer period with diversified crop systems.
- Rejuvenates biological processes and improves soil health.
- Integrates livestock and trees into crop systems, and improves incomes.
- Adopts natural methods for pest and nutrient management, and reduces costs and risks.
- Enables efficient management of rainfall and soil moisture.



This is the reason...

JIVA adopted the knowledge and skill-intensive approach of natural farming.

1

What is JIVA ?

JIVA Intends

- Changes in social relations.
- Empowerment of farmers.
- Adding value to local, short value chains.



JIVA Desires

Sustainability in natural resource use, food, nutrition and agriculture systems.

Enhancement and stabilisation of farm income.

Climate resilience and contribution to mitigation of climate change.

Enhancement of ecosystem services and natural regenerative processes.

Stimulation to local economy, strengthening its growth and employment.

Improved human wellbeing with healthy food and improved nutrition.



How is the Transition Made?

- Generating location-specific innovations/solutions.
- Scaling up by experienced farmers serving as resource persons.
- Building upon the strengths of women collectives, for mobilisation, as enterprise and leadership.
- Integrating crops and livelihood systems with livestock and forest production systems.
- Developing support systems (for inputs, services, credit, etc.) that make natural farming convenient for the farmers.

JIVA's Strategic Focus is on Behavioural Change at Farmer and Community Levels.

What does JIVA Require?

- Intensive engagement of the community.
- Behavioural change through knowledge exchange.
- Community dialogues and location-specific innovations.
- Consistent capacity building.



**Let us stop conventional monocropping patterns;
Let us avoid chemical-intensive, unsustainable agronomic practices;
Let us transit towards natural farming;
Let us build resilience to all the risks at the family, community and environmental levels.**



Where will it be Implemented?

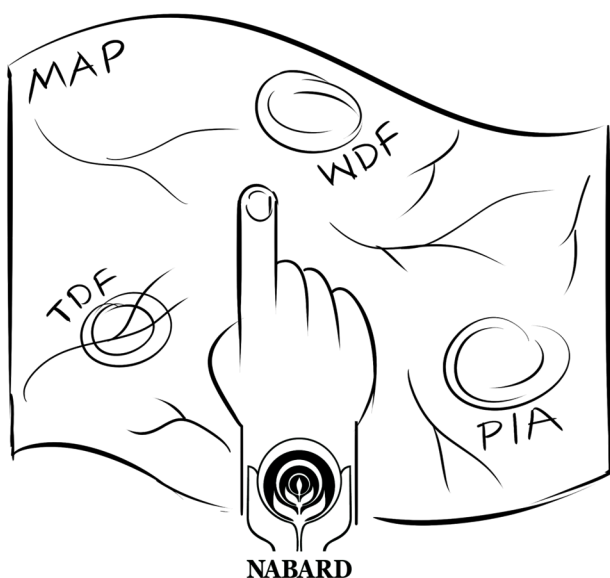
Criteria for Selecting Project Areas

- Higher rainfed areas.
- High tribal population.
- Different agroecological zones.
- Completed/nearing completion projects (assisted by NABARD and other government programmes).
- Community willingness.
- Prior experience of natural farming or presence of champion farmers.
- Existence of active local institutions, viz. watershed/wadi committees/FPOs/Community Based Organisations (CBOs)/SHGs.

- Completed or near completion watersheds.
- Wadi projects under NABARD's tribal development programme.
- Project areas supported by NABARD/the central and state governments.

Criteria for Selecting Project Areas

Eligibility of projects (with 60% or more score) as per the rating (as per Annexure 6 of Circular No: 44/FSDD-01/2019 dated 28/02/2019 for watersheds and Appendix B of Circular No: 156/FSDD-04/2020 dated 04/06/2020 for wadi projects).



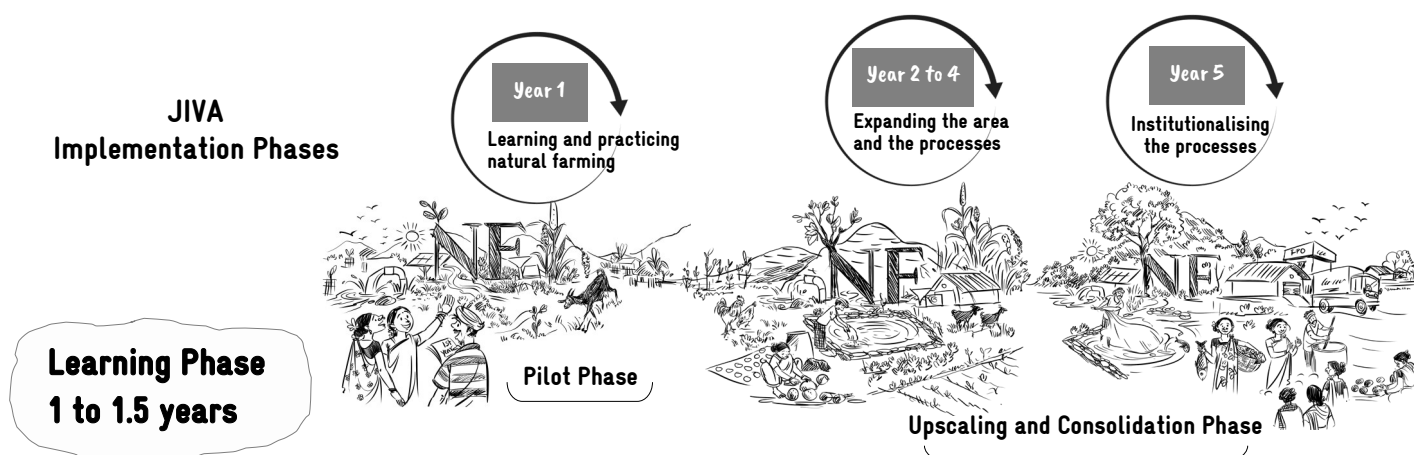
Criteria for Selecting Project Implementing Agencies (PIAs)

- In case of NABARD projects, preference is for PIAs which have facilitated watershed development fund (WDF)/tribal development fund (TDF) programmes.
- If such PIAs are unwilling, unavailable or do not have orientation towards natural farming then interested organisations having experience in natural farming are considered.
- In case of government-assisted projects, the PIA should be active in the area with experience/interest to promote natural farming.

The criteria for selection and rating of the PIAs will be the same as indicated in the WDF and TDF guidelines (as per Annexure 1 of Circular No: 44/FSDD-01/2019 dated 28/02/2019 for watersheds and Appendix A of Circular No: 156/FSDD-04/2020 dated 04/06/2020 for wadi projects).

How is JIVA being Implemented?

JIVA is being implemented in phases, over a total period of five years.



A Testing Ground for the Project Facilitating Agency (PFA) and the Community

to assess capacity, willingness and enthusiasm to continue with the natural farming (NF) transition pathway.

Enables Farmers to

the natural farming methods and practices, and the potential benefits.



Learn



Practice



Experiment



Observe

Focus on

establishing location-specific approaches to natural farming.



Women farmers



Different land types



Diverse crops

External Farmer Resource Persons guide the process initially.

Internal Farmer Resource Persons learn the NF methods and become resource persons for scaling up/ expansion within the area.

Evaluation Parameters

- Number of exposure visits and trainings.
- Number of trained women and lead farmers.
- Natural farming practices established in different land types/crop systems.
- Number and area extent of natural farming under lead farmers.
- Design of package of practices for the new crop systems.
- Number of practicing farmers evolved as resource farmers (including women).
- Extent of integration of nutrition gardens, livestock and trees with lead farmers.
- Extent of mobilisation of farmers, particularly of women.
- Preparedness of the community and their institutions to continue in the natural farming pathway.
- Extent of provision of support systems, viz. bio-input centres, local seed system, nursery, etc.



If the achievements on these parameters are found to be promising, the project will move into the next phase i.e. upscaling and consolidation phase. Accordingly, a detailed project report (DPR) will be prepared.

Upscaling and Consolidation Phase (Four Years)



Expansion Phase of Natural Farming Transformation

with intensified area and knowledge along with well-grounded and institutionalised support systems, enabled by strengthened local circular economies.

Natural Farming methods are spread to:

Minimum **200 ha** in case of **Watersheds**

200 to 500 acre in case of **Wadi Projects**

Continuation of Natural Farming by at least

75% of targeted households in the programme area.

Focus Areas

- Intensely engaging with farmers in supporting them to transit to natural farming practices.
- More number of farmer resource persons will evolve with the knowledge on natural farming; they may eventually extend their services as farmer resource persons even outside the project area.
- Expansion of support systems (diverse seeds, bio-inputs, nursery, fodder slips, equipment hire centres and market operations) through linkages with financial and government institutions.
- Consolidation of experiences through institutionalisation of the grounded interventions.
- Supporting the FPOs/SHGs and the enterprises/local entrepreneurs to strengthen their business lines.
- Volume of the local economy stimulated will generate support for the PFA to continue its support to the community institutions.
- Generating awareness and demand for locally produced natural farming products and development of specific value chain for such products.
- The PFA will transform its role into a support organisation.
- The community institution takes lead and ownership to extend its services beyond the project period.

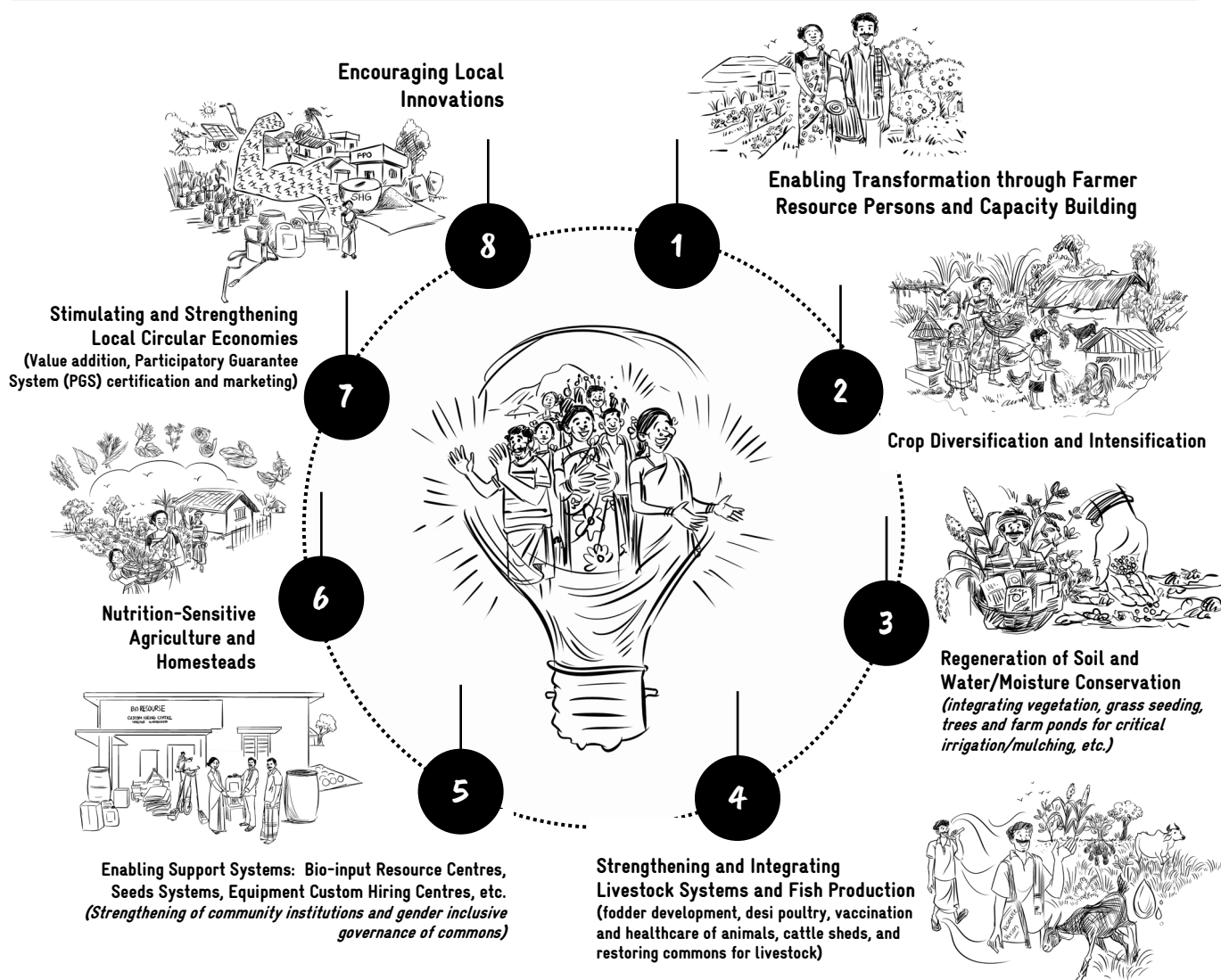


Evaluation Parameters

- At least 75% of households, especially women, are aware about the merits of natural farming practices.
- Superimposing a layer of interventions in alignment with agroecological principles in completed/near completion 200 ha in watershed projects and 200 to 500 acres in wadi projects.
- Training and capacity building for promoting natural farming, covering at least 200 farmers per watershed project and 200 to 500 families per wadi project.
- At least 75% of the targeted farmers achieve positive fodder balance with native fodder trees, grasses and fodder species integrated into the crop systems and commons regeneration.
- Increase in living income of 50% of targeted farmers, including women, by 50% over baseline.
- Increase by 50% over baseline in household consumption of nutritive, locally produced food.
- Local economies are strengthened through an ecosystem of support services to drive easy transition to agroecology; 30% of input and consumption expenditure were provided through local enterprises.
- Strengthening of community institutions.
 - 50% of credit needs of regenerative agriculture (with capacity to negotiate for institutional credit and ability to deal with natural farming value added markets) facilitated by community institutions.
 - Leadership roles to women and youth.
 - Management and maintenance of common natural resource assets and ensuring equitable and judicious use of resources.

Driving Components of JIVA

To mediate the natural farming transformational process and realise the desired impacts/outputs, eight key driving components are identified under the JIVA programme.



No to 'One Size Fits All' Approach in Interventions

- All the interventions under these components are contextual based on agro-climatic zones and local needs.
- Interventions have to be decided in a participatory manner involving the community and other stakeholders duly considering the sensitivity of agroecological aspects.

Component-wise Action Areas and Phasing

1

Enabling Transformation through Farmer Resource Persons and Capacity Building

JIVA is basically a farmer-driven programme with knowledge extension and a behavioural change approach. Identified resource farmers would initially experiment with the natural farming principles in their fields and subsequently extend their knowledge and experiences to other farmers in their villages to enable the transition process.



Action

- **Identification and capacity building of farmer resource persons:** Community level institutions anchoring the programme should identify and capacitate farmers as resource persons to engage them on natural farming methods. These institutions include watershed/wadi committees, FPOs, farmer clubs, women's SHGs, water user associations, institutions governing commons, panchayats and Gram Sabhas.
- **Engaging other farmers:** Resource Persons, in turn, will engage intensively with other farmers to support their transition to natural farming.



Phasing - Focus

Year 1



Strengthening the community institutions

Preparing the institutions for the natural farming transition, ensuring increased membership and share capital; proper maintenance of accounts, audits, governance, in order to get linked with financial institutions; incubate enterprises and enhance business.

Outreach to all the households

(particularly women and smallholders)

Supporting preparation of bio-inputs, demonstration of practices, etc. with allocation of budgets; taking support of external practicing farmers as resource persons to reach out to the community at large.

Hiring services of women resource persons

Taking the support of women resource persons to reach out to single women, women headed households, women wage workers, etc.; they will also engage with the SHGs and their federations in strengthening their institutional systems (at least twice in a week).

Year 2 to 4

Increasing confidence through experience

Each of the seven resource farmers identified by community institutions will take responsibility to intensively interface with 50 to 80 other farmers, enabling them to move to natural farming methods in three years' time. Starting with small plots, entire farms are brought into natural farming, with increasing confidence gained through experience.

Ensuring minimum area for natural farming

Each resource farmer will aim at fully convincing the targeted farmers and ensure that a minimum area of 200 ha and 200 to 500 acre is brought under the fold of natural farming under watershed and wadi project areas respectively.

Institutionalisation of natural farming

The interactions and support functions will be institutionalised into the watershed/wadi committees, SHGs, farmer groups and FPOs by the 3rd and 4th year; ensures wide spread knowledge base within the programme area.



Year 4 to 5

Enterprise support systems in place

By the 4th year, the enterprises on bio-inputs, rental farm equipment, seed systems, nursery, processing enterprises for production and local consumption, and necessary infrastructure for cleaning and grading, etc. would be well in place and operating in business mode.

Institutionalised systems with business plans

Watershed/wadi committee/FPOs will have institutionalised the systems to manage and govern the supportive ecosystem for natural farming with proper business planning and revenue generation.

No more requirement of resource persons

Farmer resource persons will no longer be needed in the 5th year with the intensive inputs to the community institutions; if required, these institutions will hire necessary human resources paid from their business income.

2

Crop Diversification and Intensification

Monocrops are exhaustive, and leave the soil barren and exposed to high temperatures post-harvest. Moreover, these crops do not support nutrition recycling for soils, humans and livestock. On the other hand, crop system diversification serves and ensures income security, nutritional security, fodder security, build-up of soil organic carbon (SOC), extended crop cover (over nine months) and access to markets throughout the year. Thus, the JIVA programme puts high emphasis on diversification and intensification of the crop systems.



Action

- **Community level institutions mapping the land and crop systems:** During the preparatory mapping exercises, the total watershed/wadi area is to be mapped; the land use and crop systems are to be delineated. An inventory of current practices under each typology of crop systems (both traditional and new) is prepared; it will provide a basis for introducing natural farming practices.
- **Scouting for experiences within the crop systems:** It supports the development of package of practices; sourcing (natural) farmer resource persons from those areas will be done to introduce the natural farming methods.
- **Evolving appropriate crop combinations:** The focus should be on local crop systems; it can be done by scouting for successful local trials, experimentation with experienced farmer resource persons, and learning from other farmers through such experiments.
- **Promoting crop intensification methods:** Modern and traditional methods like the System of Rice Intensification (SRI) and Navadhanya, that are appropriate for natural farming should be explored, experimented and scaled out among the farmers. Resources are provided for such experiential learning and location-specific innovations.
- **Diffusion of successful experiences:** Farmer groups can plan diffusion of those successful and locally tried out practices with all the members in their farm area; initially trying out in part of their farms and expanding to cover the entire farm by the 4th year.
- **Sensitising women on family nutrition:** The women resource persons shall plan to reach out effectively to the target households, sensitising women and women's SHGs and others on nutritional requirements; encouraging them to include production of vegetables, fruits, pulses, millets and oilseeds to the extent possible from their own farms.



Phasing - Focus

Year 1

Piloting location-specific crop combinations and crop intensification methods in the resource farmers' fields for experiential learning.

Year 2 to 4

Upscaling the experiential learnings in the identified remaining farmers' fields. Investments for this purpose may be met through convergence and budgets earmarked for the same.

Year 4 to 5

Consolidation and institutionalisation of the experiential and scaled up initiatives.

3

Regeneration of Soil and Water/Moisture Conservation

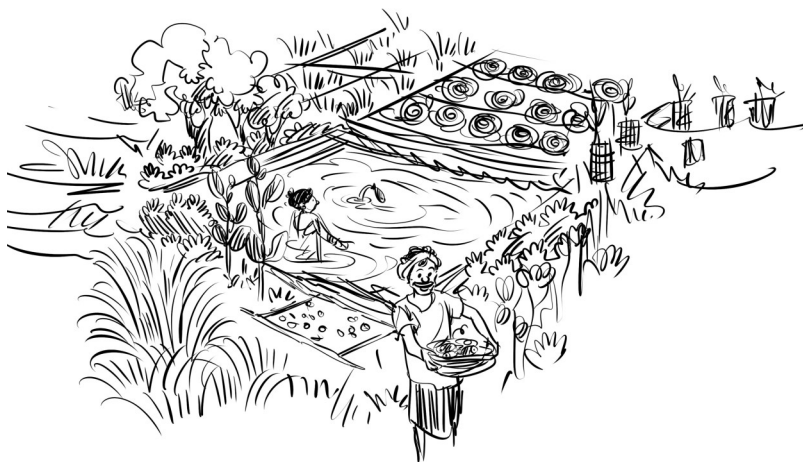
Watershed and wadi projects envisage a level of completion of soil and water conservation measures.

Over time, there could be requirements for maintenance and repairs; also, there would be gaps in treatment. JIVA enables to plan for addressing the gaps in infrastructure for critical water resource development. Additional farm ponds, artificial recharge of wells/borewells, micro irrigation, and new wells/borewells can be planned, primarily through convergence with the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)¹. Critical investments which are not permissible or forthcoming under MGNREGS like lined farm ponds, water distribution pipeline, new wells/borewells on a sharing basis, artificial recharge of wells/borewells and other biological measures could be planned with JIVA budgets.



Action

- **Soil health improvement:** Soil organic matter is essential for all the cultivated land, commons and fallows, for their good health. Improving soil organic matter is best done through in situ measures. The measurement of soil organic carbon, pH, macro and micro nutrients through soil testing in the fields of lead farmers is critical for measuring the impact of proposed transition to natural farming on physio-chemical properties of soils.
- **Sowing mix of multi-crop seeds:** As part of land preparation, application of *drava jeevamrutam* (DJ) and incorporation of the biomass of multi-crops (produced in about 45 days) into the soil would be effective in improving soil organic matter.
- **Biomass based measures:** These include grass seeding, seed dibbling, stem cuttings, bund plantation, multi-tier tree plantation in the field and soil mulching, mostly in situ and crop systems linked. These measures support soil health and are also useful for reclamation of fallow lands and fodder production.
- **Eco-integrated farm ponds:** Multi-functional farm ponds provide good ecological niches at the landscape, distributing moisture. Integrating tree crops on bunds, irrigating small plots of intensive vegetable cultivation in the adjoining plots, and where feasible, using the ponds for fish seedling/fish production shall be taken up. These initiatives are suitable to areas with relatively adequate rainfall where water storage capacity in ponds exceeds five to six months.
- **Regeneration of commons:** After identification of common lands and the dependent families during the mapping exercise, appropriate initiatives shall be taken up, using natural farming methods, to enable their protection and regeneration. Conservation of soil and water harvesting are important starting points in commons regeneration. These initiatives shall be a part of the MGNREGS, as a part of convergence.



Measures such as identifying root stock of native species and enabling them to grow, clearing of invasive species, regenerating native palatable grasses and other vegetation, tree seed dibbling, etc. are found to support natural regeneration of commons. Regeneration of commons plays an important role in achieving fodder self-sufficiency and shall be a part of the fodder security plans.

¹ The Viksit Bharat–Guarantee for Rozgar and Aajeevika Mission (Gramin) Act (VB–G RAM G), 2025, replaces MGNREGA with a new statutory framework aligned with Viksit Bharat 2047.



Phasing - Focus

Year 1

Piloting initiatives for soil health improvement, moisture conservation, etc. in the fields of resource farmers; showcasing integration of biomass through rootstock of native species, grass seeding, seed dibbling, etc.; critical gap filling of plantations and water resource development in the form of lined farm ponds and other investments in wadi projects; identification and mapping of commons and their uses; a broad plan for governing and restoring them; ecological baseline for groundwater, biomass generation and biodiversity.

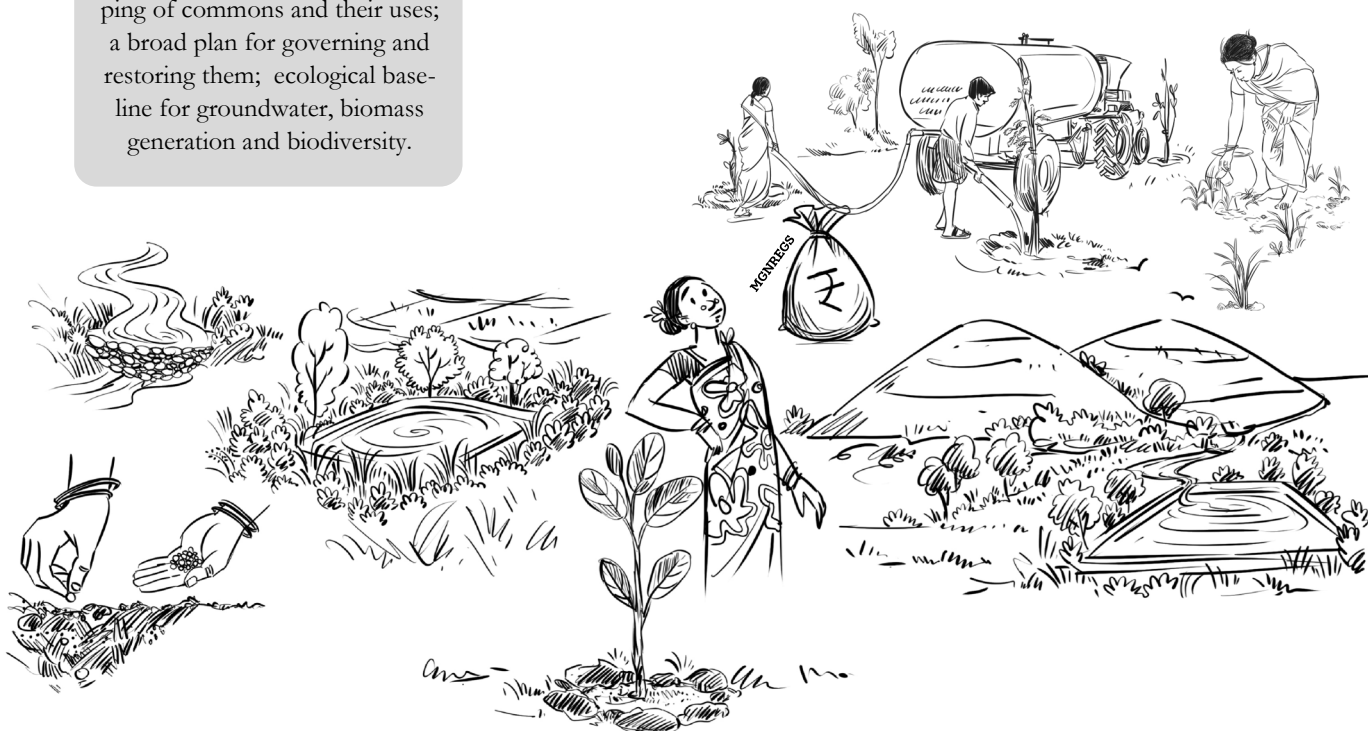
Year 2 to 4

Upscaling the activities taken up in the 1st year in the identified balance farmers' fields; investments for this purpose need to be met from MGNREGS; limited funds from the project may be used for critical investments.

Implementation of the plans for restoration of degraded commons, and rules for their judicious use should be firmed up and implemented.

Year 4 to 5

Consolidation and institutionalisation of the initiatives taken up for soil health improvement, water and resource development; commons management in an effective manner in the entire targeted project area.



4

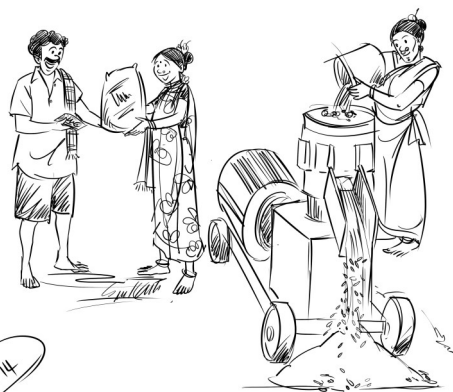
Strengthening and Integrating Livestock Systems and Fish Production

Livestock plays a key role to sustain agriculture and improve the incomes of the farmers. Easy access to quality healthcare services and higher fodder availability encourage farmers to invest in livestock and in improving the livestock economy. The JIVA programme envisages that any investments in purchasing livestock, if required, will be sourced through convergence with the National Rural Livelihood Mission (NRLM) or SHGs, bank loans or farmers' own investment.



Action

- **Plans for introducing livestock rearing:** These are to be prepared duly involving banks and the identified farmers or farmer groups. The special refinance scheme of NABARD may be linked to bank finance for livestock rearing.
- **Setting up support systems for livestock:** The areas of action are focused on setting up support systems for vaccination, primary healthcare and nutrition, and hygiene shelters to reduce mortality, morbidity and risk. Such services for all small ruminants and backyard poultry shall be streamlined through FPOs/CBOs, with trained vaccinators paid for their service. The services can be linked to the Department of Animal Husbandry and Dairying for sourcing vaccines, training of health workers and convergence with other programmes. Vaccination of backyard poultry can best be done by women residing in the villages.
- **Achieving fodder self-sufficiency:** Meeting the fodder deficits and increasing fodder resources can be achieved by bringing fallows into fodder cultivation using natural farming methods, especially in rain-fed lands. Fodder budgeting exercises are key to participatory fodder improvement plans for small ruminants and cattle. Tree fodder development and grasslands improvement are the other strategic investments. Integration of fodder and feed requirements of backyard poultry and livestock into crop systems is another measure to improve the feed and fodder base resulting in increased nutrient flows in the ecosystem.
- **Ensuring access and availability of drinking water for livestock:** Drinking water has to be ensured in the village and in grazing areas, especially for small ruminants.
- **Building circularity in local economy:** The backend services and input requirements for livestock and backyard poultry can be taken care by estimating the demand for inputs and promoting enterprises such as feed mills. Convergence may be mobilised for these activities, however, budget provision under strengthening of the local economy can also be effectively used.
- **Optimising fish production potential:** Several water bodies with seasonal or perennial water spread area were developed/renovated in the watershed projects. These water bodies offer good potential for fish production. Local availability of fingerling or advanced fingerling for stocking supports in making the best use of the seasonal water spread area. Nurseries can be established to supply fish seed to all these water bodies. Moreover, related technical training and field support can be extended in collaboration with the Department of Fisheries. The fishing gear, pH test, fingerlings, initial feed, etc. could be planned and integrated as a part of the JIVA programme.





Phasing - Focus

Year 1

Piloting initiatives in the fields of resource farmers:

This involves integration of fodder plots, fodder trees, grass seeding, etc.; providing vaccination, healthcare services to the livestock by trained personnel; Wherever trained personnel/veterinary care services are not available, special training programmes targeting youth and women as 'Pashu Rakshak' may be planned and organised. These services could be effectively linked to the Department of Animal Husbandry and Dairying through convergence; support services for backyard poultry and fisheries development shall also be planned and integrated.

Year 2 to 4

Upscaling the pilot initiatives in the fields of other farmers:

The investments for this purpose may be mobilised from the MGNREGS and budget earmarked for this purpose. Vaccination and healthcare services may be availed from the Department of Animal Husbandry and Dairying. Services related to backyard poultry and fisheries development are to be integrated and institutionalised into the community organisations, with proper convergence with relevant departments.

Year 4 to 5

Consolidation and institutionalisation:

All the initiatives taken during the last four years are consolidated and institutionalised in an effective manner in the entire targeted project area.



5

Enabling Support Systems: Bio-Inputs, Seeds and Farm Equipment

Easy availability of bio-inputs, diverse seeds, plants through nurseries, fodder slips, equipment on a rental basis through community institutions is vital for the success of the JIVA programme. The success of the programme lies in the effective functioning of these support systems.



Action

- **Bio-input resource centres:** Locally made bio-stimulants such as *jeevamrutham*, *panchaganya*, waste decomposer, and botanicals like Neem Seed Kernel Extract (NSKE), used for pest and disease management, need to be available to farmers easily at a low cost. Micro-enterprises shall be promoted to produce these required bio-inputs, with proper systems of collection and storage of animal dung/urine. The assets for establishing the unit shall be purchased by the FPOs/SHG federation and given to entrepreneurs/practicing farmers under a contract. Such enterprises are best led by women with marketing support from FPOs.
- **Diverse seed systems:** Diversity in crop systems and multi-crop systems require diverse seeds (both varietal diversity and crop diversity). The SHG/FPO shall establish a system multiplying the required seeds of chosen varieties for sale locally after assessing the potential demand, involving farmers interested in seed production. The foundation seed can be sourced from formal sources such as agricultural research institutions. The FPOs need to be trained in organising seed business; budget allocations are for critical infrastructure and to meet critical working capital requirements.
- **Equipment rental centres (custom hiring centres):** The PIA will facilitate a process of identifying such equipment/implements related to natural farming methods that make the work of farm-workers easy and more productive. The SHG/FPO may establish a rental facility for such equipment, tying up with an entrepreneur/practicing farmer who manages it on a profit-sharing basis. The equipment should facilitate manual labour and animals to perform farm operations at ease for the benefit of small-holder farmers.
- Establishing these support service systems need intensive facilitation, proper protocols, sharing agreements and accounting systems. The PFA needs to invest in strengthening the community institutions in business planning, linkages with financial institutions, and technical backstopping. A maximum of 25% of the budget under this head may be used for these purposes (taking support of experts in preparation of business plans, technical backstopping and establishing of protocols, making agreements, accounting systems, etc.).





Phasing - Focus

Year 1

Identification of areas requiring enabling support systems for bio-inputs, seeds and equipment; and also potential SHGs/FPOs/entrepreneurs to take up the activities. Orientation and training of the identified community organisations/entrepreneurs. Preparation of the business plan for few key activities (e.g. bio-inputs, nursery, seed, fodder slips, machine rental service, etc.);

Extending financial support for taking up the activities envisaged as above.



Year 2 to 4

Upscaling the potential activities to establish support systems in other areas, to cover more area and more number of farmers.

Year 4 to 5

Consolidation and institutionalisation of the initiatives taken during the last four years.



6

Nutrition-Sensitive Agriculture and Homestead Gardens

People in rainfed areas and tribal areas, women in particular, are endemically malnourished. Natural farming practices support in building healthy local ecosystems that contribute to nutrition and health of people. Accordingly, the JIVA programme promotes appropriate crop systems that address nutritional requirements of farmers' families.



Action

- **Integrating household nutritional requirements into crop systems planning:** Encouraging farmers through demonstrations on ways to meet annual household requirements of diverse pulses, millets, fruits and vegetables, and even oilseeds from diversifying crop systems (without reducing income).
- **Promoting *poshan vaticas*/nutrition gardens in the homesteads:** Nutrition gardens/kitchen gardens are often specific to the agroecology, local consumption patterns and the way habitations are structured. Promoting homestead vegetable gardens to provide diverse vegetables for household consumption throughout the year will contribute substantially to nutrition and reducing the costs. Consumption of uncultivated/non-conventional/wild vegetables or leafy vegetables is also gaining ground. Such local traditions can be documented and brought back into household consumption. This effort needs to be led by women.



Phasing - Focus

Year 1

Piloting demonstrations will be attempted initially on the farm-lands and backyards of identified lead farmers.

Year 2 to 4

Upscaling the pilot initiatives to other targeted farmers.

Year 4 to 5

Consolidation and institutionalisation of the initiatives.



7

Stimulating and Strengthening Local Circular Economies

Crop diversification brings in many commodities into the ecosystem that can be consumed locally. The lack of processing facilities such as small dal mills, dehullers, etc., and small business facilities for storage and supply over the year hinder local consumption. Appropriate economic opportunities need to be enabled for input and service enterprises, and value addition. Promotion of input related enterprises on bio-inputs, seeds, nursery and equipment are provisioned under the JIVA programme.



Action

- **Promoting consumption within project areas:** A key area of focus in stimulating local circular economies is to take up initiatives that retain the value within the area and circulate it among the community to the extent possible. The external inputs and outputs should be kept to the minimal. The percentage of local consumption expenditure that is tapped by the internal enterprises is a metric for success. Quality and diversified food grown naturally is best consumed locally, first by the households and then by the community. Appropriate efforts should be made for this. Promotion of various value added products, establishing their markets in the Gram Panchayat, block and district levels is important. Leveraging the women's SHGs/FPOs, their enterprise ability and financial linkages can best be used for these purposes. Required orientation and training can be provided to the identified SHGs/FPOs/entrepreneurs.
- **Enabling market ready produce:** A basic aspect of market participation is to have proper cleaning and grading facilities for the produce; clean drying, storage facilities and linkages with finance enhances the capacity to negotiate in markets. The provisioned budgets under this component can be used to set up such basic post-harvest facilities. These can be owned by FPOs and operated by individual entrepreneurs on a profit sharing basis. The Agriculture Infrastructure Fund (AIF) and the Pradhan Mantri Formalisation of Micro Food Processing Enterprises (PMFME) schemes of the Government of India could also be leveraged. Effective business plans are to be made for the identified processing, value addition and marketing activities. Enabling support systems, like formation of clusters, creation of awareness about package of practices and requirements, and facilitating certification of produce, shall be taken up.



Phasing - Focus

Year 1

As the crop systems will evolve in the first year in the fields of lead farmers, the activities under this component may be taken up in the second half of the first year. Otherwise, these activities may be planned as a part of the second phase.

Year 2 to 4

Upscaling the potential activities as also other business activities.

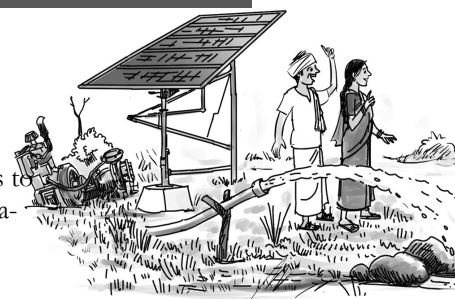
Year 4 to 5

Consolidation and institutionalisation of the initiatives.

8

Encouraging Local Innovations

Natural farming is highly location-specific and needs contextual innovations. Provision is made in the project budget for innovations. The innovations budget for the project will be pooled at the regional (50%) and national level. During the planning and implementation process, the PFAs may propose any specific innovations to access this budget; the decisions will be taken up on the merit of the proposals. Innovations may be taken up preferably as a part of the second phase.



How to Plan for JIVA?

The JIVA programme is implemented in two phases, and consequently project planning is undertaken in two parts.

Strategic Action Plan for the Pilot Phase

Planning for Natural Farming Transition in the Project Area

Based on the assessment of implementation under the pilot phase, the project will graduate to the second phase, i.e. upscaling and consolidation.

1. Strategic Action Plan for the Pilot Phase

This should be done after the selection of projects and implementing agencies, with active involvement of community and the local institutions. Keeping in view the natural farming transition process, it should focus on piloting local and agroecological specific interventions with identified farmers in selected villages of the project area. The strategic action plan for the pilot phase consists of the following critical processes.

- **Consolidation and updating base data:** The planning exercises taken up in the watershed and wadi projects in the form of Feasibility Study Reports (FSRs)/Detailed Project Reports (DPRs) have generated household and plot-wise data. The project completion reports may provide the community, household and field level data. Recovering all such data and consolidating the data sets is an important first step. Then, updating of baseline data, viz. land use land cover, demographic details, climatic data, etc. needs to be done.
- **Institutional mapping:** This exercise involves three key steps. It involves profiling of various community institutions in the project area, assessment of their training needs and planning for capacity building of institutions, relevant to the JIVA project components.
- **Landscape mapping:** The objective of this exercise is to understand and map the local landscape and its agro-ecosystem. Prepare a Google Earth map of the project area, preferably with a layer of revenue map. Take a large format print (about 6 ft. x 3 ft.) of this map for participatory rural analysis (PRA) exercises in the project area. The Remote Sensing Cell (RSC) of NABARD would act as a backend support system for working with maps and supporting the field level planning.
- **Crop systems mapping and cluster formation:** This exercise contains three critical processes; identifying, delineating crop systems and analysis of such crop systems; formation of clusters and identification of lead farmers.
- **Delineating typologies of crop systems:** Land types, soils, cropped area, irrigation status and potential typologies of crop systems and their particular relation to land/soil types, etc. are to be identified and delineated. The identified details need to be mapped on Google Earth to estimate the extent of the typologies; these details need to align with land ownership, using a cadastral map.
- **Crop systems analysis:** This exercise is intended to assess the current crop systems, practices, input usage, yields, economic returns, market linkages, value chains, critical dependencies, pain points, etc. Information related to time trends of crop systems, indigenous crop systems, current practices, and details of farmers who practice natural farming methods/innovations, etc. need to be captured and analysed.



If the implementing agencies do not have required capacities to use GIS maps, they can use cadastral maps, and watershed delineation and revenue (in case of wadi projects) maps.

Cluster Formation

Clusters are the basis for planning the natural farming transformation, implementation and assessment in the JIVA programme. For this, crop system typologies are to be grouped as clusters in watersheds. In the case of wadi projects, the project area is to be divided into suitable clusters using Google Earth and village revenue/cadastral maps.

- **Identification of lead farmers; options for crop diversification and bio-inputs.**

- ◊ *Identification of lead farmers:* These are resource/innovative farmers who initially steer the process of natural farming transition. Identification of these lead farmers is done along with characterisation of the cluster-wise crop systems and related trends. Lead farmers are to be identified within each typology.
- ◊ *Identifying options for crop diversification and bio-inputs:* As part of this, an exercise with identified lead farmers in each of the crop systems typology is to be done, properly facilitated by an experienced, practicing farmer resource person. The potential community institutions for preparing the required bio-inputs will also be mapped in this process. Compilation of the information will provide detailed tables on crop systems (typology) based clusters, critical areas of interventions, number of farmers involved, etc. to scope the size of action required. Thus, this exercise will arrive at crop diversification options in each crop system/land use typology; natural farming practices including livestock and tree integration to be introduced in each of the crop system; and, institutional arrangements for the supply of inputs and equipment required for demonstrations.

- **Natural resource mapping:** It entails further elaborating on the resource mapping using Google Earth maps. Local streams, waterbodies, commons, cultivated and fallow lands shall be mapped in this process. All the NRM works undertaken, critical needs for maintenance and reassessment of the water resources availability, especially those in proximity to identified lead farmers' fields will be identified.

Who are Lead Farmers?

- **Preferentially, farmers who are already practicing non-chemical farming either fully or partially, with diverse crops and owning indigenous cattle; and**
- **Farmers who are interested in experimenting and generating local experience in natural farming.**



Interventions with a Limited Focus in the Pilot Phase

- **NRM assets maintenance plans:** These shall be developed by resource users, involving the respective sub-committee of the Gram Panchayat; Any critical infrastructure gap that cannot be funded through MGNREGS can be taken up under JIVA within the budget provisions or by using the available maintenance fund in case of common lands.
- **Water budgeting and fodder budgeting:** Water budgeting needs to be done with a clear focus on outputs identified in farmers' fields. The emphasis should be on provision for critical life-saving irrigation; water for integrated farms and *poshan vathikas*/ nutrition gardens at homesteads; drinking water for human and livestock consumption; regulatory norms on groundwater extraction, restricting water-intensive crops, etc. The key elements of fodder budgeting are details of livestock resources, assessment of fodder requirements, fodder availability across the year, and estimating the deficits. An assessment of the expenses on fodder purchases helps in understanding the severity of the crisis. Accordingly, plans to achieve self-sufficiency in fodder shall be prepared with a focus on natural regeneration of commons, bringing rainfed fallow lands (seasonal or long term) into intensive multi-species fodder production using natural farming methods and integration of fodder crops/trees into crop diversification plans.
- **Regeneration of commons:** These action plans will review the status of soil and moisture conservation of the delineated common lands, current pressures on them, and ways of protection and natural regeneration aided by seed dibbling of local species or broadcasting of grass seed.

Assessment of the Learning Phase

A detailed plan for the upscaling and consolidation phase is built upon an assessment of achievements of the learning phase. Therefore, the assessment of the learning phase is a key step in moving forward. It covers two aspects: submission of the learning phase report (LPR) by the PFA, and an on-field participatory assessment by a designated team.

- **Submission of the LPR:** Each PFA needs to submit the LPR, consolidating the learnings from the interventions. It should be prepared through a participatory workshop with the resource farmers, external farmer resource persons, the watershed committee and the PFA team. The PFA may evaluate the results and suggest a Go/No-Go decision in terms of whether it is feasible to achieve transformation as envisaged in the JIVA project.
- **Participatory Assessment of the Learning Phase:** Based on the LPR, a team consisting of the District Development Manager (DDM), NABARD, a representative from the Regional Office (RO), a team member of the resource support agency (RSA) Watershed Support Services and Activities Network (WASSAN), a designated person from the PFA organisation, and the external farmer resource person will do an on-field assessment through participatory exercises. The participatory exercises include a transect walk across the locations/farms where initiatives were taken up, discussion with individual farmers and an exercise with the JIVA committee, practicing farmers and resource farmers on the learnings from the first phase experience.

Deliverables of the Learning Phase

- At least 30 farmers spread around the different villages practice natural farming methods partially or fully and field days in these farms bring over 100 farmers to closely observe the results.
- At least seven farmers take up natural farming intensely, and are trained further in communication skills and concepts of natural farming. They are ready to serve as farmer resource persons, and to extend their time and services to other farmers in facilitating natural farming transition.
- At least 75% of the targeted households are aware of the natural farming methods and are sensitised on the benefits of moving towards natural farming. In case of wadi project areas, it pertains to only tribal households.
- Commons are identified and mapped, and rules developed to regenerate or restore them. A convergence plan is built for investment on commons.
- Suitable crop systems are evolved to align with the given agroecological zones.
- Integration of trees and livestock with diverse crops in respect of farms of lead farmers.
- Ensure handholding and facilitation of community institutions to take up input supply activities for the promotion of natural farming on a pilot basis.
- Diverse nutrition gardens and on-farm gardens are established covering the lead farmers.

Submission of the Assessment Report

The assessment report will be submitted under the signature of the DDM indicating achievements on the deliverables. The report clearly recommends a Go/No-Go decision on continuation of the JIVA project into the next phase. The report will be submitted to the RO with a copy to the Farm Sector Development Department (FSDD).

The RO will take a decision on continuation of the programme and sanction the budget for the detailed natural farming transformation planning exercise.



Learning Phase Report

- The details of activities taken up in each of the eight themes of JIVA.
- The extent and nature of engagement with the farmers, including the activities taken up by the external farmer resource persons.
- The delineation of sub-regions and the location of farms, along with a list of farmers who have been engaged in the first phase.
- Names of potential farmer resource persons who can be resource persons for the upscaling phase.
- The natural farming crop system models taken up and reflections on the results of the models on what worked and what did not work.
- A broad strategy for moving forward.

2. Planning for Natural Farming Transition in the Project Area

The Natural Farming Transition Plans (NFTP) are landscape based, and these plans are built upon the learnings from the initial NF practices and preparation of the community for larger transformation. They provide a basis for the approval of upscaling and consolidation phase budgets. After the successful completion of the learning phase, planning should be done for the entire project area. This planning framework entails:

- Participatory exercises using Google Maps/revenue maps, focus group discussions and limited surveys to generate required background information and baseline data.
- Arriving at specific plans along with the resource farmers, SHGs and the JIVA committee on the programme components along with budgets.
- The plans and data along with the proposed budgets will be captured into a web GIS-mobile platform for reducing the work involved. Each PFA team must identify two persons for intensive training on basic GIS and interfacing with the web portal; they will support the team in digitising the plans.
- Some of the data exercises carried out as a part of the learning phase preparatory plans are taken and incorporated into these exercises.
- The plans will be compiled into a comprehensive NFTP to be submitted for approval.



Planning Exercises Envisaged for the Preparation and Submission of the NFTP

- **Profiling and Characterisation of the Landscape, and Collection of Baseline Data**

1. Natural resources mapping.
 - a. Mapping of water resources:
 - streams and springs.
 - water bodies and their characteristics.
 - water resources infrastructure and their status.
 - b. Delineating fallow lands with type of fallows.
 - c. Delineating common lands and their status (biomass, degradation, usufructs).
 - d. Mapping of forest lands and their status (biomass, degradation, usufructs).
2. Land use mapping and arriving at crop system typologies and NF clusters.
3. Risk mapping for each of the typology/clusters.
4. Farmers' profiling with reference to NF.
5. Institutional mapping.
6. Profiling of local enterprises, and market linkages.
7. Listing of government programmes operational in the area.



- **Compilation and Submission of the NFTP**

1. Compilation of the participatory NFTP.
2. Ratification of the plan by the JIVA committee along with the farmer resource persons.
3. Submission to the RO/FSDD.

- **Arriving at Participatory NF Transition Plans**

1. Enabling natural farming transformation.
2. Crop diversification and intensification.
3. Regeneration of soils and improving moisture/water (private, fallow and common landscapes).
4. Strengthening and integrating livestock systems and fish production.
5. Enabling support systems: bio-inputs, seeds, nursery, fodder slips, custom hiring of equipment, etc. through community institutions.
6. Nutrition-sensitive agriculture and homesteads.
7. Stimulating and strengthening local circular economies.
8. Encouraging local innovations.

NFT Plan Report

The plans evolved along with the summary data and situation analysis shall be presented in the prescribed format.

Budget for the FSR Preparation

The total allocation for planning is INR 1.80 lakhs. With INR 0.45 lakhs used for preparatory planning, the remaining INR 1.35 lakhs are earmarked for the NFT plan preparation.



Timeline for the NFT Plan Preparation

The NFT plan typically takes 1.5 to 2 months' time.

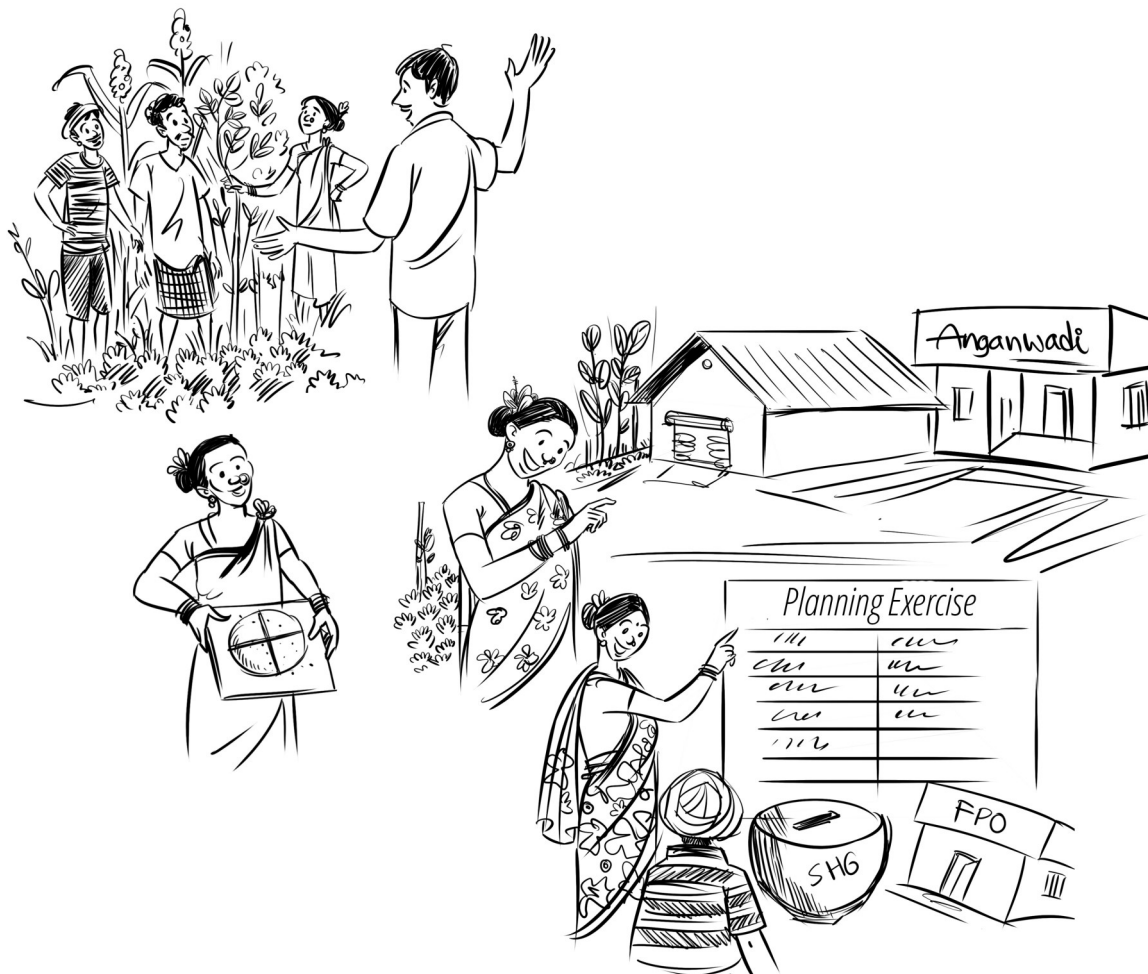
Initial period of 15 days for various data and the mapping exercises;
About 20 days for detailed plans in consultation with the larger community in blocks; About 20 days for summarising and preparation of the plan document.

Budget Allocations

The indicative cost for one project allocated for natural farming transformation over a period of five years under the JIVA programme along with the provision for the pilot phase and NF transition phase is given below.

Sl. No.	Components	Percentage distribution	Project Cost (in INR lakhs)		
			Pilot	Upscaling and consolidation	Total
1.	Enabling natural farming transformation through practicing farmers and capacity building of the community.	21	6.3	18.9	25.2
2.	Crop diversification and intensification.	8	2.4	7.2	9.6
3.	Regeneration of soils and improving moisture/water.	9	2.7	8.1	10.8
4.	Strengthening and integrating livestock systems and fish production.	8	2.4	7.2	9.6
5.	Establishing support systems through community institutions, bio-inputs, seeds, nursery, fodder slips, custom hiring of equipment, etc. through community institutions.	5	1.5	4.5	6.0
6.	Nutrition-sensitive agriculture and homesteads.	5.5	1.65	4.95	6.6
7.	Value addition, PGS certification, marketing/strengthening and stimulating local circular economies.	20	6.0	18.0	24.0
8.	Local innovations.	1	0.3	0.9	1.2
9.	Monitoring and evaluation.	1	0.3	0.9	1.2
10.	Participatory planning and DPR preparation.	1.5	0.45	1.35	1.8
11.	Management cost to PFA.	20	6.0	18.0	24.0
	Total	100	30	90	120

Institutional Arrangements for JIVA



JIVA is an agroecological transformation program. Such transformation induced during the project period with intensive facilitation has to continue, spread and sustain its momentum over a longer period to impact the entire landscape.

The elements of sustainability and scaling out lie in the community institutions – such as the FPOs, SHGs and their federations and more importantly the input and service enterprises.

Institutions that sustain, spread and continue the agroecological transformation are as follows:

Though the starting point in JIVA is with the Watershed/TDF committees formed earlier, they are mainly responsible for forming/strengthening the input, service and product enterprise ecosystem besides providing anchorage, leadership and extension support.

The programme will continue to be implemented by the **Watershed/TDF committees**. The leadership of these institutions need to be reconstituted with fresh meetings organised in the project area.

The Farmer Producer Organisations are central to these enterprises. The FPOs support farmers in growing their business and getting access to credit. Enterprises provide services, supply inputs, and open up market access for the community.

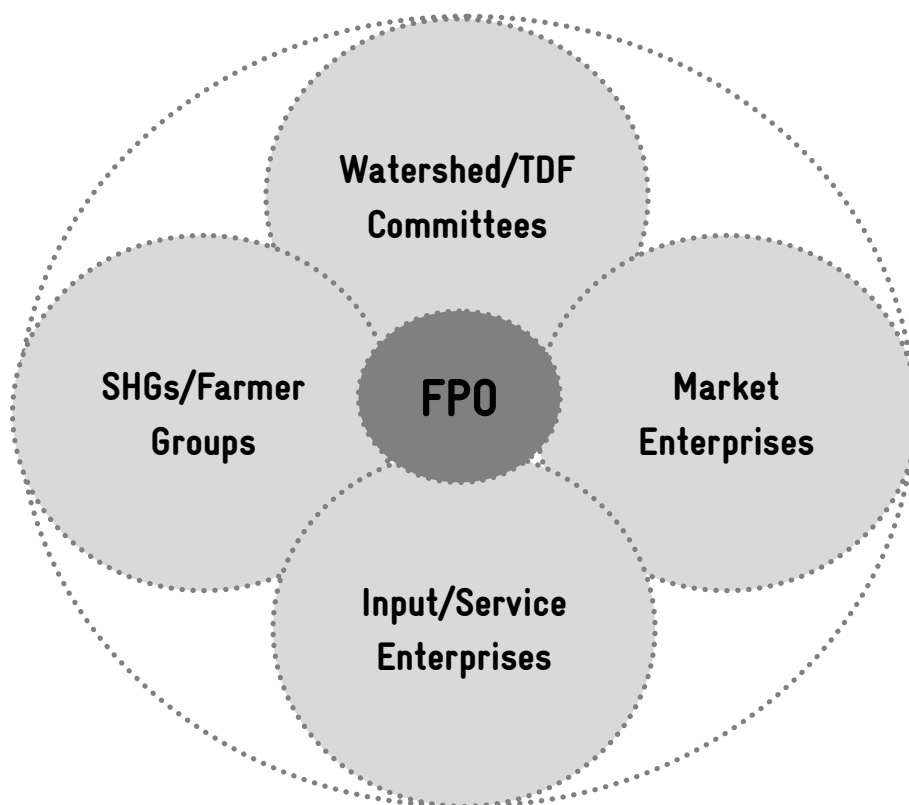
SHGs and their federations help members to get loans easily, link them to banks, and spread information within the community.

The Project Facilitating Agencies' (PFAs) main role is to induce, form, and strengthen the Watershed/TDF committees to implement the programme and facilitate evolution of the input/service/market-based institutions as detailed above. The PFA is also responsible for developing participatory plans, technical support, knowledge extension, developing local practicing Community Resource Persons and supporting the Committees in the implementation of the programme.

The PFAs are supported by the Resource Support Agency (WASSAN) in collaboration with GIZ. The RSA supports the PFAs through technical guidance, helps build capacity, and assists in designing and improving the programme.

The initial phase of the JIVA programme is supported by External Farmer Resource Persons from Rythu Sadhikara Samstha (RySS).

NABARD provides programme funding, monitoring and evaluation. While the DDM of the district closely supports the PFAs, the FSDD team at the Regional Office provides monitoring support. A Project Sanctions Committee in NABARD provides the sanctions and governance.



Institutions that sustain the momentum

Rolling Out JIVA

The sequence of steps in rolling out the JIVA programme include the following:

Learning Phase

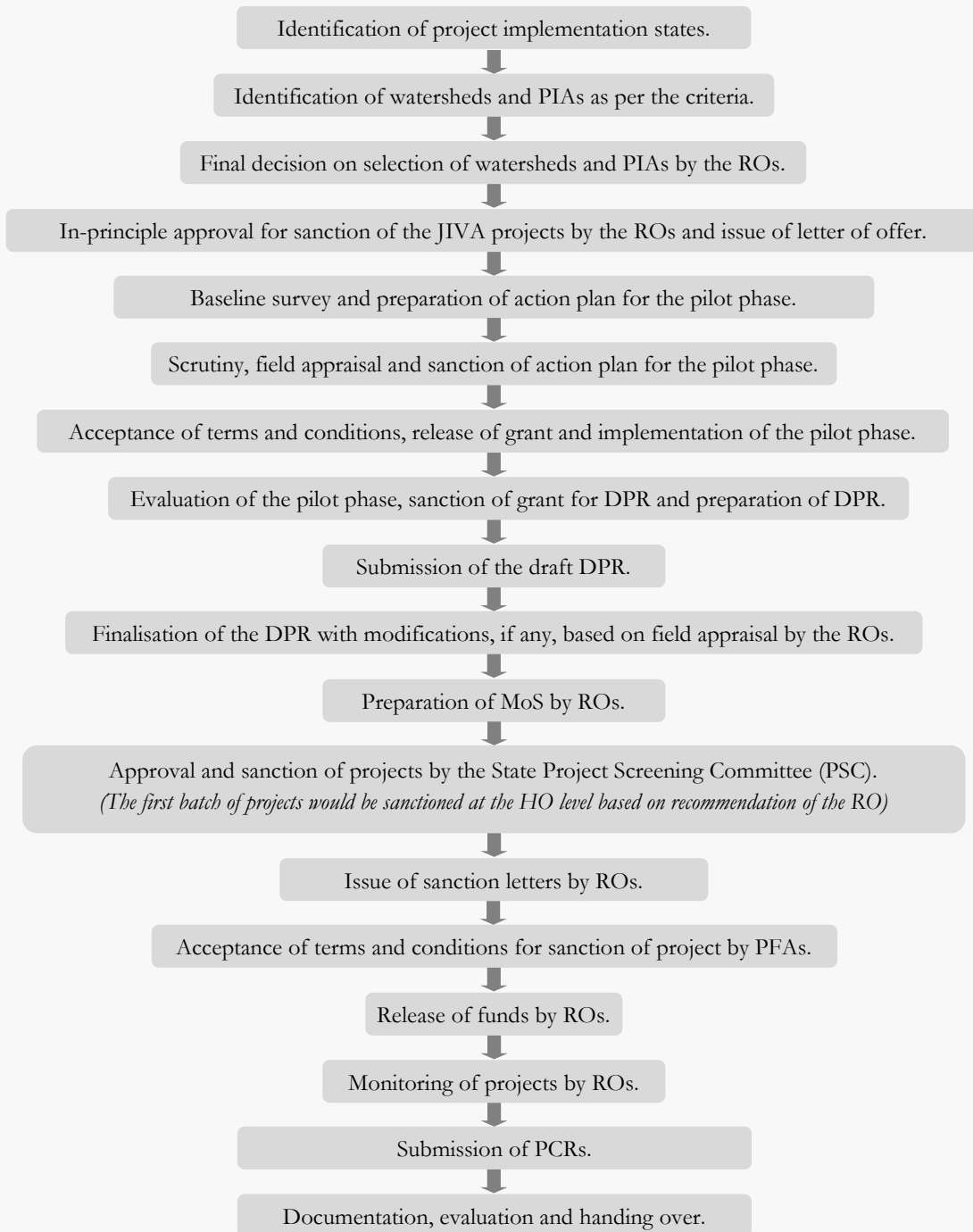
- Identification of project implementing states across different agroecological zones.
- Identification of completed/near-completion watershed/wadi projects and the implementing agencies as per the criterion/rating by ROs.
- Final selection of projects and implementing agencies by ROs and issue of letter of offer to the PFAs.
- Orientation of ROs and selected PFAs about the programme objectives, deliverables and finances. Providing guidance to ROs and PFAs about the JIVA planning process.
- Baseline survey and preparation of action plan for pilot phase.
- Desk scrutiny, field appraisal, preparation of the Memorandum of Sanction (MoS) by ROs for sanction of grant for the pilot phase by the Head Office (HO) for the first batch. Subsequent batches of projects would be sanctioned at the HO level.
- ROs to issue sanction letters to PFAs on receipt of sanction details from HO (for first batch).
- Issue of sanction letter for the pilot phase. On receipt of acceptance of terms and conditions by the PFA, the grant is to be released for the pilot phase.
- Implementation of the pilot phase by the PFA and request for grant for the DPR preparation by the PFA after six to eight months.
- Evaluation of implementation of the pilot phase, and sanction and release of grant for DPR preparation.

Upscaling and Consolidation Phase

- Submission of the learning phase report and on-field participatory assessment of the learning phase.
- Orientation of the ROs and PFA teams on planning process of the second phase of the JIVA programme. Supply of manuals/field guides for guidance of ROs and PFAs.
- Submission of the draft DPR; scrutiny and field appraisal by ROs; preparation of the Memorandum of Sanction (MoS) by ROs and handing over to the Head Office (HO).
- Sanction of second phase at the HO level (for first batch). Subsequent batches to be sanctioned at the RO level.
- Monitoring (web-based and physical) and evaluation of project activities on a regular basis.
- Submission of Project Completion Reports (PCRs).
- Conducting special impact evaluation studies.

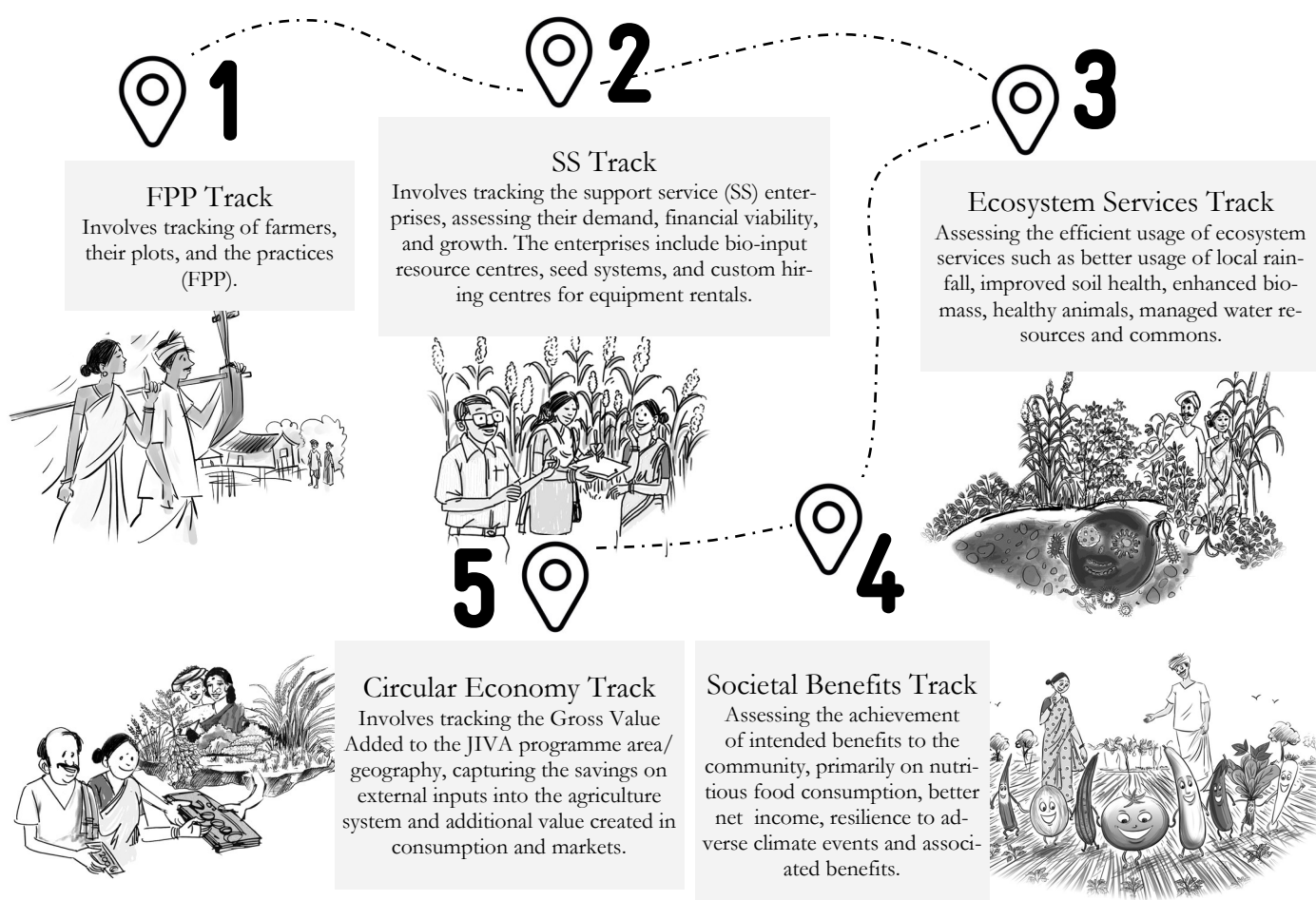


Process Flow for Sanction and Implementation of Projects



Monitoring and Evaluation

Monitoring the transformation pathways provides a feedback loop, a reflection on the effectiveness of practices, and supports in identifying emerging challenges and suitable course correction strategies. The natural farming transition under the JIVA programme is tracked in five ways.



The PFAs may recommend innovative ways of engaging multiple stakeholders in the community to participate, own and contribute to the NF transition. The PFAs must facilitate the development of an institutional mechanism for review, feedback, reflection, learning and course correction mechanisms at the JIVA committee level.

Weekly meetings

Organise meetings of farmer resource persons to review plans, achievements, and suggestions, aiding in early technical support identification.

Monthly meetings

Hold meetings of the JIVA Committee (initially fortnightly) to review the programme and its financial expenditure, and to authenticate expenses.

Field days

Organise field days to assess initiative performance, aiding in seasonal reflection and future planning.

Transition to Natural Farming through JIVA

The process of natural farming transition leads to a paradigm shift
from risks to revival of life.

Risks in Current Practices

- External and chemical based inputs; Inputs are readily available in the markets.
- Degeneration of soil nutrients forcing excessive external input application.
- Input-intensive and technology change is based in new inputs/machines etc., externally conceived.
- Monocrops and few varieties; low diversity; often leaving the soil barren and exposed after harvest.
- Crop yield is the driver; attempts to increase yields and gross returns; not much sensitive to household nutrition.
- Less amount of rain harvested and retained in soil profile; higher runoff from agriculture fields.
- Isolates production systems such as trees, dairy, poultry, fisheries, etc.
- Higher risks with increasing climate variability; less focus on improving ecosystem services; limited scope for nutrient recycling across production systems.



Revival of Life with Natural Farming

- Natural and locally produced bio-inputs/botanical extracts. Builds a circular economy on local inputs used and reduces the input requirements by building the regenerative capacity of the ecosystem.
- Natural farming practices build upon the regenerative capacity of soils and the ecosystem.
- Knowledge and management intensive; technological change is based on location-specific innovations.
- Diversified and multi-crop systems that cover soil for longer time (over nine months) and addition of good quantity of soil organic matter.
- Crop system productivity is the driver; Maximise net incomes and farm produce; nutritive food for households.
- Dense vegetation for longer time, harvests more rains and retains moisture for longer time in the soil profile.
- Integrates the production systems to recycle inputs among the production system.
- Enhanced resilience to climate variability; higher focus on improving landscape level ecosystem services such as stream flows, biodiversity, microbial activity, regeneration of commons, biomass in private lands and commons, and carbon sequestration. The nutrient recycling across production systems and the landscape reduces external inputs.

A. Pilot Phase Outputs

- Number of exposure visits and trainings.
- Number of trained lead farmers.
- Natural farming practices established in different land types/crop systems.
- Number and areal extent of natural farming under lead farmers.
- Design of package of practices for the new cropping systems.
- Number of practicing farmers evolved as resource farmers (including women).
- Extent of integration of nutrition garden, livestock and trees with lead farmers.
- Extent of mobilisation of farmers, particularly of women.
- Preparedness of the community and their institutions to continue in the natural farming pathway.
- Extent of provision of support systems, viz. bio-input centres, local seed system, nursery, etc.

B. Consolidation Phase Outputs

- Agroecological interventions integrated in 200 ha watershed areas and 200 to 500 acres wadi projects.
- At least 75% of targeted farmers achieve positive fodder balance through integration of native fodder trees, grasses, and commons regeneration.
- Living income of 50% of targeted farmers, including women, increases by 50% over baseline.
- Household consumption of nutritious, locally produced food increases by 50% over baseline.
- Local economies strengthened, with 30% of input and consumption needs met through local enterprises.
- Community institutions strengthened to facilitate 50% of credit needs, promote women and youth leadership, and institutionalise governance of commons and water resources.
- Training and capacity building conducted, covering at least 200 farmers per watershed and 200 to 500 families per wadi project.

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